

CONCRETE PIPE NEWS

The Magazine of the American **Concrete Pipe** Association



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Concrete Pipe News is published four times each year by the American Concrete Pipe Association. It is designed to provide information on the use and installation of precast concrete pipe products for a wide variety of applications, including drainage and pollution control systems. Industry technology, research and trends are also important subjects of the publication. Readers include engineers, specifiers, public works officials, contractors, suppliers, vendors and members of the American Concrete Pipe Association.

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Proper Concrete Pipe Installation Is Vital To Farmers in South Texas 12

The Rio Grande Basin is one of the most productive agricultural areas in the United States, with irrigated agriculture claiming more than 85 percent of its water. Concrete pipe is used for hundreds, if not over a thousand miles of irrigation pipelines. After withdraw of funding by the Bureau of Reclamation, pipelines in United Irrigation District were discovered to be leaking at an unusually high rate. Investigations proved that proper installation and jointing is required to conserve precious water.

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The 2007 winner of the Richard C. Longfellow Award was Rylan MacDow, Sales Manager of Shaw Pipe in Lantz Nova Scotia, Canada. Rylan was honored at the 2008 American Concrete Pipe Association Annual Convention in Carlsbad, California on March 19. His article, "Massive Quantity of Precast Concrete Drainage Products Used in Development of Brownfield Site" was published in the Summer, 2007 issue of *Concrete Pipe News*.



Standard 84-inch diameter RCP prepared for wet cast of pre-bed.
Photo Credit: Dennis Morrissey, Operations Manager Foley Products Company



American Concrete Pipe Association

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editorial

*Matt Childs, P.E.
President*

American Concrete Pipe Association



A Well-Known and Trusted Product – Concrete Pipe

Our annual convention held in Carlsbad, California celebrated the industry's rise to prominence over 100 years by breaking barriers of applied science and introducing advanced precast concrete drainage products built to last. This achievement could not have happened without a tight-knit community of producers who were prepared to advance and share the knowledge of buried pipe within a very competitive marketplace. Throughout our history, concrete pipe producers have worked together to jointly fund research and development and demonstrate advances in technology that have raised the standard for the production of concrete pipe, and ultimately the quality of pre-

cast concrete drainage products. Concrete pipe producers have long been strong community builders within the industry and without. Their commitment to work together and partner with contractors, specifiers and regulators to make better pipe is evidenced by the technological advances that have been made in the industry.

History has proven that concrete pipe's dependability and strength give people the assurance that it will perform in even the most demanding applications without risk of failure. Concrete pipe only gets stronger as it ages. Often, excavated pipe is tested to determine strength, and then reused on projects where the pipe meets loading and hydraulic requirements. Today's concrete pipe is recognized as a truly sustainable product, as producers are accommodating the three pillars of sustainable development in their business practice – economic growth, environmental balance and social progress.

Closely affiliated with sustainable development is the LEED® (Leadership in Energy and Environmental Design) Green Building Rating System™. Since LEED was introduced to assess and reward environmentally superior development practices, designers are considering precast concrete products in the areas of storm water and wastewater management, recycled content, and regional manufacturing. Concrete and precast concrete drainage products have so much more to offer. Our short-term challenge is to work with our industry partners to build common knowledge regarding the versatility of concrete pipe and boxes in contributing to LEED credits. This is a team effort that will involve all producers and concrete pipe associa-

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Feature Story

Pre-bed RCP Specified for Deep-Bury Application at World's Busiest Airport

By Chris Davidson, V.P. Operations
Foley Products Company

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When decisions are made about the design and construction of a new runway for the world's busiest airport, long-term performance of products and materials is a prime consideration. Located ten miles from downtown Atlanta, Hartsfield-Jackson Atlanta International Airport is considered the world's busiest airport, handling over 80 million travelers, 700,000 tons of cargo each year, and accommodating 976,307 flights in 2006. The City of Atlanta initiated the ten-year, \$5.4 billion Hartsfield Development Program in 2000 to enable the airport to meet future demands, predicted to be 121 million passengers by 2015. The program is the largest public works project in the history of the state of Georgia.

Included in the expansion is a new fifth runway known as R10-28. Statistics show that Hartsfield-Jackson International Airport is one of the most delay-impacted airports in the United States. The new unrestricted air carrier runway is an attempt to cut these delays by half. Costing \$1.28 billion, the 9,000-foot runway is the first addition to the Atlanta airport since 1984.

The average fill at the site of the runway was 50 feet with a maximum of 80 (11 stories in some places). Approximately 21,000 feet of concrete drainage pipe was installed on the project, including 520 feet of 84-inch diameter C-wall pre-bed gasketed pipe. The pre-bed pipe was needed to accommodate a section of the storm sewer installation that would be aligned under 60 feet of fill. Eric Davidson, engineer/designer with Foley, worked with the contractor to develop the concept of the pre-bed pipe for the deep bury. Much of the drain pipe prevents groundwater from coming in contact with the subgrade of the runway.

Pre-bed pipe has an integral flat base that can be wet cast onto dry cast reinforced concrete pipe. Foley Products Company received the order from the pipe installation contractor, John D Stevens Inc. of Lawrenceville Georgia to supply the specially designed 84-inch diameter concrete pipe. The intent of the design was to be able to of-

Photo Credit: Dennis Morrissey,
Operations Manager
Foley Products Company



520 feet of 84-inch diameter pre-bed RCP



Pre-bed pipe homed into position.

fer a rigid product to the owner and stay within an economically feasible budget. The design allowed for the use of existing manufacturing equipment and eliminated the additional retooling that would have been required had a conventional pipe bedding been constructed in the field. Retooling would have meant investing in equipment that would produce thick wall pipe, and usually has to be built into the pipe price, since it may never be used again. Even with the sub trench installation that was specified, 60 feet of fill is a daunting challenge, especially when it is part of airport infrastructure that once built, has to be function uninterrupted for the life of the facility.

The pre-bed concrete pipe eliminated the requirement that the contractor compact the haunch area, and leave the zone below the pipe invert uncompacted. With standard heavy-wall pipe in a deep bury, the pipe can be over stressed if the haunch is not compacted, and if the bedding under the invert of the pipe is compacted. The square bottom of the pipe made it easier for the contractor to backfill and compact the pipeline, as if a box culvert were being installed. Due to the high stakes of pipe installations at airports, this design allowed Foley to take some of the installation quality control out of the field and put it in its plant and pipe product. The pipe was placed on a crush and run bed, then homed using a smaller version of the Komatsu PC650 that set the pipe in the trench.

Foley Products was able to produce and ship the pre-bed pipe within a short period to meet the contractor's schedule for installing the pipe. The company was able to produce the pipe in its dry cast facility one day, and then lay the pipe down the next day in its wet cast plant to pour the pre-bed. Production of the pipe from start to delivery took only 14 days. Dennis Morrissey, Operations Manager, handled all aspects of the production process from the dry cast pipe to the wet cast pre bed. The project started in August and ended in November of 2006.



Pre-bed pipe prepared for shipment.

Pre-bed concrete pipe is not a commonly used precast concrete drainage product, but has applications where soils are unstable, or where deep fill applications raise concerns with loads and local soils mechanics. The versatility of concrete and the availability of precast concrete products widen the choices available to contractors and specifiers for buried infrastructure with a proven long service life. Concrete pipe is an appropriate choice for airport projects due to the durability of concrete.

Project:	Airfield Recycled Materials Management Atlanta, Hartsfield-Jackson Atlanta International Airport
Owner:	City of Atlanta
Consulting Engineer:	Simpson Gumpertz & Hagar Inc. Boston, Massachusetts Timothy J. McGrath
Contractor:	John D Stevens Inc., Lawrenceville, Georgia
Producer:	Foley Products Company Newnan, Georgia
Quantities:	520 feet of 84-inch diameter C wall pre-bed gasketed RCP

Foley Products Company was established in 1981 as a division of The Concrete Company of Columbus, Georgia. Today, Foley Products Company is considered the largest supplier of precast concrete manholes in the southeast United States. With facilities in Newnan, Georgia, Winder, Georgia, Clanton, Alabama and Adairsville, Georgia, the company manufactures, sells, and delivers precast concrete manholes and catch basins, precast concrete communications and electric manholes, reinforced concrete pipe, box culverts, and arch pipe, and special precast concrete products. Foley's resale product line includes cast iron rings and covers, grates and frames, flexible manhole connectors, joint sealant, racking packages and numerous items for the underground utilities industry.

Concrete Pipe Used for Largest Stormwater Detention Facility in Michigan

By Robin Wolf, Director of Marketing and NovaBrik Sales Manager
Premarc Corporation
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Star International Academy is an independent school in the City of Dearborn Heights, which admits students from diverse cultural and ethnic backgrounds to its college-preparatory program. It provides an educational environment that enables the various ethnic traditions, values and experiences of its students to enrich and nurture one another.

In 2007, two large reinforced concrete pipe stormwater detention systems were installed under a parking lot used by students and faculty at the Academy. The installations were part of an extensive renovation project, including storm sewers and the stormwater detention facilities. Together, the detention systems comprise the largest reinforced concrete pipe stormwater detention facility in Michigan.

72-inch diameter RCP used for stormwater detention facilities.



The first detention system was designed to hold approximately 57,500 cubic feet of stormwater runoff and the second was designed to hold approximately 27,500 cubic feet. JAD Engineering Services, Inc., in West Bloomfield MI, was assigned the design of the school upgrades, including the detention systems. Established in 2000, the company provides civil engineering services for residential, commercial and institutional projects throughout the Detroit area. The design engineers were Jawad Defoni, president and Salem Y. Jiedou, P.E. The preliminary concept developed by JAD consisted of a 72-inch diameter reinforced concrete pipe.

DiPonio Contracting was contracted by the school to construct the infrastructure. Started in the late 1980s by Michael DiPonio, the company expanded from site work to sewer and site utilities work in 1995 when Frank DiPonio inherited the business from his father.

The Premarc Corporation was hired by DiPonio to provide the pipe and design for review and approval by JAD. When all site parameters, storage capacity, hydraulic and structural requirements were considered, Premarc's engineers, with more than 65 combined years of experience, designed a two-system facility with monolithic fittings. Premarc's participation in the engineering of



Photo Credit: DiPonio Contracting, Inc.

the facility, assurance of high quality products, competitive prices, and the ability to provide on-time deliveries prompted DiPonio Contracting to choose Premarc.

Since the project was located in Dearborn Heights in Wayne County, it fell under the Stormwater Ordinance of Wayne County. Under the ordinance guidelines, all stormwater detention systems, which empty into a county drain, are required to have plans and pipe materials reviewed and inspected by Wayne County. According to

Detention systems consisted of six rows of 72-inch diameter RCP.



Paul Gluszak, P.E., Division Testing Engineer, Wayne County has its own quality control based system of acceptance, because county engineers have seen pipe materials fail long before they reach their projected service life, even when material certifications were supplied. Gluszak says, "Our testing and material inspection ensures contractors pulling permits get a better product without creating a liability for the tax payers."

Limited space for construction of the detention systems was a significant consideration as it affected the movement of equipment on site and delivery of construction materials including the precast concrete pipe. Only two days worth of construction materials could be stored on site at any time. MDOT Class

II sand was used as backfill and all insitu soils had to be excavated and hauled from the site.

Dimensions from the top of the roadbed to the top of pipe varied from 18 inches to 36 inches. The dimensions for the stormwater detention system were 340 feet x 54 feet and 163 feet x 54 feet respectively. Each of the two detention systems consisted of six rows of 72-inch diameter ASTM C-76, Class IV pipe. The larger detention system had six rows of 72-inch diameter pipe with each row being approximately 340 feet in length. The smaller detention system had six rows of 72-inch diameter pipe, each row being approximately 163 feet in length. At the ends of each detention system, 72-inch diameter x 48-inch diameter precast horizontal tee fittings and short sections of 48-inch diameter pipe were used to connect rows of 72-inch diameter pipe. The ends of each row of 72-inch diameter pipe in both of the two detention systems were plugged using precast bulkheads, creating two entirely separate precast detention systems. In corners of the detention systems, 72-inch diameter x 48-inch diameter precast manhole tee fittings were installed to provide for access, inspection and maintenance.

Because the project was a school site, an accelerated construction schedule was required since construction had to begin and end while the school was operating at a reduced capacity during the summer. The project was bid in February. Construction had to be underway by June with completion by September 1.

In areas prone to heavy rainfalls or flash flooding, underground detention systems allow for the collection and storage of stormwater that can later be discharged into the municipal system at a controlled rate. In arid regions, stormwater is stored for use during times of little or no precipitation. The benefits of underground storage facilities are as numerous as the configurations and materials used to build them.

Project:	Stormwater Detention Facility Dearborn Heights City of Dearborn, Wayne County, Michigan
Owner:	Star International Academy City of Dearborn, Wayne County, Michigan
Consulting Engineer:	JAD Engineering Services, Inc West Bloomfield, Michigan Jawad Defoni, President Salem Y. Jiedou, P.E.
Construction Manager:	E. Gilbert & Sons, Inc. Utica, Macomb County, Michigan Mr. Michael Beaugrand
Contractor:	DiPonio Contracting, Inc. Shelby Township, Macomb County, Michigan Frank DiPonio
Quantities:	1,488 feet of 12-inch diameter C-76 Class IV RCP 600 feet of 15-inch diameter C-76 Class IV RCP 284 feet of 21-inch diameter C-76 Class IV RCP 208 feet of 24-inch diameter C-76 Class IV RCP 112 feet of 30-inch diameter C-76 Class IV RCP 2,976 feet of 72-inch diameter C-76 Class IV RCP 48 sections of 72-inch diameter fittings at 8-foot lay lengths
Producer:	Premarc Corporation. Durand, Michigan

The Premarc Corporation is Michigan's largest precast concrete pipe manufacturer. Founded in 1927 in Durand, Michigan by the Marsh family, the company first operated in the Flint and Lansing area. It now has facilities in Cadillac, Grand Rapids, Clarkston, and Durand. Premarc's delivery fleet supplies the entire lower peninsula of Michigan and extends into Indiana. Products include precast reinforced concrete sanitary and storm sewer pipe, manholes, catch basins, wet wells, and pump stations. Bridge products include concrete boxes, and prestressed bridge beams. For more information, see www.premarc.com.

Precast Concrete Box Culvert Designed for Coldwater Fishery and Access to Hydroelectric Dam

By Bob Turnour

Munro Concrete Products Ltd.

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A twin precast concrete culvert was installed on Highway 634 in Northeastern Ontario to accommodate the biological needs of the coldwater fishery of Brownrigg Creek and the load of a deep-bury installation. An existing twin 3000 mm diameter corrugated steel culvert had reached the end of its service life, and the upper part of one of its conduits had deformed. The culvert was no longer structurally functional and had to be replaced.

Highway 634 is a long and isolated bush highway that connects the Abitibi Canyon hydroelectric dam on the Abitibi River at the community of Fraserdale with the rest of the province. It also serves the small community of Smooth Rock Falls at its southern terminus where it connects to Highway 11. The 80-kilometer highway is a vital north-south link for northern communities and access road to a major hydroelectric plant owned by Ontario Power Generation.



3000 mm x 2400 mm box unit offloaded for installation.

Photo Credit: Stan Dodds,
Ministry of Transportation
Ontario



First concrete cell installed as CSP conduit is decommissioned.

Replacement of the culvert with a precast concrete structure was specified because of the proven service life (durability) of precast concrete boxes, low maintenance of the culvert over the design life of the project, and the ease of installation of the units. Early purchase of the concrete box units from Munro Concrete Products Ltd. in Utopia, near Barrie, provided the Ministry of Transportation with additional time to complete any remaining engineering work associated with the tender for the road works.

The culvert was installed one cell at a time to maintain single lane traffic on the roadway. Being a twin culvert configuration, the water flow was maintained through one of the existing steel conduits while the new precast cell was installed. The water was then diverted through the first precast cell while the second corrugated steel pipeline was removed and replaced by the second

precast cell. A small weir installed at the inlet of one of the 3000mm x 2400mm cells allows a high water level during seasonal periods of low flow to provide for the passage of trout and other wildlife. The 36 units required for the twin-cell structure were shipped to the site, two units per load. The contractor was able to offload the units and place them directly into the trench for installation.

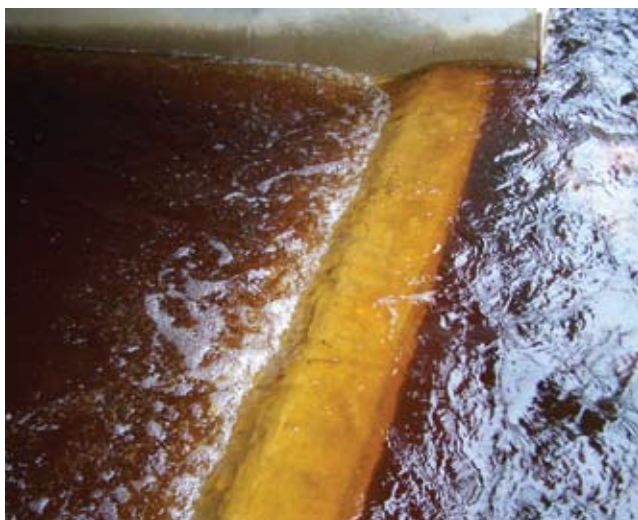
In-water work associated with installation of the culvert could not take place between September 1 and June 15 of the following year because of construction restrictions placed on the creek associated with the biology of the fishery. The tender closed on July 3, 2007, with the contractor mobilizing on site by July 19. Poor soil conditions led to complications and delays in constructing the detour. Consequently, an extension was required for in-stream operations, which were completed on September 4. Restoration of the roadway, removal of the detour, final trimming and installation of all silt mitigation measures were completed on November 9, 2007.



Completed twin cell precast concrete culvert.

Although standard sized, the boxes were specially designed to the Canadian Highway Bridge Design Code to accommodate additional reinforcement and to meet the engineering design of the structure to carry the heavy loads of the road and traffic. Once installed, the culvert had to perform for at least the design life of the road and require low maintenance, because the highway must be open year-round for emergency and service vehicles, as well as local traffic.

- Project: Supply, Delivery and Unloading of Precast Concrete Box Culvert Brownrigg Creek
- Owner: New Liskeard District, Northeastern Region
Ministry of Transportation Ontario
- Producer: Munro Concrete Products Ltd.
Utopia Ontario, Canada
- Quantities: 36 units of 3000 mm x 2400 mm precast concrete boxes



Small weir installed at inlet of one cell.

Founded in 1957, Munro Concrete Products Ltd. produces drainage and water transmission products. Its 25,000 square meter manufacturing facility, located 75 kilometers north of Toronto, is the largest single combined gravity and pressure pipe plant in Canada. Reinforced concrete storm and sanitary gravity pipe, box culverts, maintenance holes and catchbasins are manufactured by one of three machines, a Schlüsselbauer Exact 2500, Hawkeye Auto VUP and a Hawkeye PipePlus. Munro has the world's largest pipe tipper (capable of tipping and depalletizing 120 inch pipe) and the largest MBK wire making machine in North America. Munro Concrete Products Ltd. utilizes a variety of equipment, all totally enclosed in an overhead crane serviced area to produce lined and embedded precast concrete pressure pipe.

Proper Concrete Pipe Installation Is Vital To Farmers in South Texas

By Jose Pena • Hanson Pipe & Precast, La Feria plant • 956-367-7170

The Rio Grande Basin is one of the most productive agricultural areas in the United States, with irrigated agriculture claiming more than 85 percent of its water. Beginning in Colorado, the Rio Grande flows through New Mexico, delineates the 1,200-mile border of Texas with Mexico, and discharges into the Gulf of Mexico. It is the fifth longest river in North America and, along with its tributaries, serves as the Texas-Mexico border region's main source of water.

The Lower Rio Grande Valley was used principally for producing cattle throughout the 1700s and 1800s, but it wasn't until the end of the 19th century that irrigated agriculture appeared and grew to be the dominant industry. Irrigation networks became widespread without a legal or financial foundation. Farmers eventually assumed leadership and established legal, well-organized irrigation districts to ensure future water supplies.

There are 28 irrigation districts within the Lower Rio Grande Valley. In addition to ensuring water supplies, the irrigation districts locate underground pipelines, detect leaks in canals and pipelines, measure irrigated acreage, resolve boundary disputes, and install pipelines. Concrete is used extensively in the irrigation districts for lining canals and producing pipelines to protect precious water from evaporation before it reaches the irrigated fields. The South Texas irrigation districts have an extensive system of engineered networks, including 24 major pumping stations, 800 miles of large water mains and canals, 1,700 miles of pipelines, and 700 miles of laterals that deliver water to

agricultural fields and urban areas. Yet, many of these key components are more than 100 years old, and in need of repair or replacement.

Recognizing the long-term water needs of South Texas, Congress enacted "The Lower Rio Grande Valley Water Resources Conservation and Improvement Act of 2000." In that Act, Congress authorized water conservation projects for irrigation districts relying on the Rio Grande River for supply of agricultural irrigation, as well as municipal and industrial water. The Bureau of Reclamation administers the Act. Established in 1902, the Bureau brings water to more than 31 million people, and provides one out of five Western farmers with irrigation water for 10 million acres of farmland that produce 60% of the nation's vegetables and 25% of its fruits and nuts.

Replacing canals with concrete pipelines reduces water losses due to evapotranspiration and seepage, and eliminates open ditches which have become health and safety concerns. Concrete pipe improves operational efficiency of the irrigation networks because the joints are watertight and the pipelines are the best long-term choice considering life cycle costs.

Old deteriorating canals can have water loss rates as high as 90 to 1200 acre-feet per mile per year. (An acre foot is a unit of volume used to reference large-scale water resources. One acre foot covers one acre of land with one foot of water.)

After The Lower Rio Grande Valley Water Resources Conservation and Improvement Act

Photo Credit: Erica A. Vasquez Photography, Denton, TX

of 2000 was enacted, the Bureau of Reclamation ceased funding rehabilitation projects in the Irrigation Districts and the districts themselves were required to fund rehabilitation of the pipelines and canals. At the same time that the funding model changed, the market was opened to contractors that had greater experience installing culverts than irrigation pipelines. Subsequently, standards and techniques used for installing culverts were applied to miles of pipelines.

The common standard for installing irrigation pipes is The ASAE (American Society of Agricultural Engineers (ANSI/ASAE S261.7 February 1989). It is restricted to pipelines with vents or stands open to the atmosphere or closed pipelines operating at less than 20 feet of head. It is not intended to serve as a complete set of design criteria and construction specifications. The standard applies to pipelines with mortar joints (ASTM C118) and rubber gasketed joints (ASTM C505). Pipe produced by the La Feria facility arrive on site with rubber gasketed joints to make the jointing of concrete pipe easier for the contractor.

United Irrigation District (UID) is one of the 28 irrigation districts. Leakage tests were performed on several newly constructed concrete pipelines. The District discovered that some pipelines had experienced unexpected water losses. High levels of exfiltration are an unusual characteristic of a properly installed precast concrete pipeline, especially when pipe is used from an American Concrete Pipe Association Q-Cast prequalified plant.

Representatives of Hanson's La Feria facility contacted Tito Nieto of the United Irrigation District for permission to investigate the pipelines. The informal investigation focused on construction methods and standards, as

there was no question about the performance of concrete pipe produced by Hanson at La Feria.

After Hanson representatives discovered that the concrete pipe was being improperly homed, the UID used its in-house staff and equipment, assisted by representatives from Hanson's La Feria facility, to install irrigation pipelines according to the Installation Guidelines of the American Concrete Pipe Association.

Since discovery of the improper installations, UID has installed several pipelines exhibiting no exfiltration. Installation does make a difference. At a meeting of the irrigation districts, Tito Nieto of the United Irrigation District said rehabilitation projects, which include canal and pipeline improvements, have been responsible for less water loss in his district, down from 25 percent to 15 percent. District employees, with in-house dollars, undertook all improvements. "The more money put in the ground, the less water loss," concluded Nieto.

Project:	Irrigation pipelines United Irrigation District Hidalgo County, Texas
Owner:	United Irrigation District
Producer:	Hanson Pipe & Precast La Feria, Texas Plant
Quantities:	Miles of 12-inch diameter to 60-inch diameter reinforced and nonreinforced concrete pipe.

Hanson Pipe & Precast is the largest manufacturer of concrete pipe and precast products in North America. The company has participated in some of the nation's largest public works, airport and highway construction projects. State Departments of Transportation, major cities and counties, public authorities, the Army Corps of Engineers, major airports and numerous private entities are among Hanson's customers. Hanson is part of the HeidelbergCement Group, which employs 70,000 people across five continents. HeidelbergCement is a global leader in aggregates and has leading positions in cement, concrete and heavy building products.

Longfellow Award Won by Shaw Group's Rylan MacDow

Every year, a Concrete Pipe News author is honored with the Richard C. Longfellow Award. The tribute is presented to the author of an article that most effectively demonstrates innovative and effective use of concrete pipe. The award is presented in memory of Richard Longfellow who had an outstanding career with Cretex Companies, Inc. based in Elk River, Minnesota. He significantly influenced the philosophy and goals of the ACPA, and played a leading role on technical matters. He was responsible for drafting a new concrete pipe design manual and initiated Concrete Pipe News. As a Director of the Association, he was the force behind the establishment of the \$ 1 million concrete pipe test program at Northwestern University to establish industry-wide standards for product quality. For more than 20 years, Dick Longfellow was the spirit of the ACPA.

The 2007 winner of the Richard C. Longfellow Award is Rylan MacDow, Sales Manager of Shaw Pipe in Lantz Nova Scotia, Canada. Rylan was honored at the 2008 American Concrete Pipe Association Annual General Meeting in Carlsbad, California on March 19. His article, "Massive Quantity of Precast Concrete Drainage Products Used in Development of Brownfield Site" was published in the Summer, 2007 issue of Concrete Pipe News. The article explains how a large quantity of concrete pipe was used in the infrastructure of Dartmouth Crossing, a 500-acre Brownfield development in Dartmouth, Nova Scotia. Among other precast concrete drainage products and structural components, the project required nearly 11 kilometers of concrete pipe in 16 different diameters and various classes. Concrete pipe was the only product that was readily avail-

able, providing design flexibility and ease of installation within a rigid construction schedule.

MacDow joined the Shaw Group in 1997 and became Sales Manager for the Shaw Pipe Division in 2003. He is a 2008 graduate of the Economics & Political Science programs at Saint Mary's University in Halifax. Rylan is a civic-minded professional participating on numerous industry association boards, including; the Nova Scotia Road Builders Association (Director), Construction Association of Nova Scotia (Director), Better Business Bureau (Director), and Nova Scotia Construction Curling Association Executive (President 2008). In addition, he is active within his community, volunteering with the Nova Scotia Special Olympics and participating as an Executive Member of his local homeowners association.



editorial

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tions in the USA and Canada. It is important to demonstrate full support of initiatives with successful records of accomplishment for contributing to a healthy environment and construction practices that are in themselves...sustainable.

Concrete producers have developed highly versatile products whose technology and applications are readily understood. There is little risk of failure in a precast concrete pipe or box application. Contractors, specifiers and regulators know concrete pipe and trust it. The quality of product and performance standards have taken a giant leap forward, making concrete a preferred material for many traditional sanitary and storm sewer applications. Precast reinforced concrete pipe and boxes have created niche markets, such as geothermal air exchange, utility galleries, waterfront groynes, marine walls and small dams, animal and pedestrian crossings of rail lines and highways, tunnels for railways and raw material conveyances, storm water storage and retention chambers, small bridge structures, jacking and tunneling applications, marine outfalls and fresh water intakes. Applications for concrete pipe and boxes are limited only by the imagination of the designers.

The concrete pipe industry has succeeded in communicating to its audiences through technical marketing. Times are changing more quickly than we may want to admit. Our audiences are getting younger, as students who enter college and university programs aimed at management and design are expected to have a well-grounded

knowledge of structural engineering and production methodology at the time they graduate. Gen X and the emerging "Millennials" receive and absorb information differently than the Boomer generation. We have to be able to reach out to all of our audiences, so they can receive, hear, and understand what we have to say. Our communications need to change with the times.

The current economic slowdown is threatening the competitiveness of concrete pipe, as municipalities and government agencies eye ill-considered alternatives such as HDPE, CSP and PVC for the nation's sewers and culverts to address their own cost-cutting measures forced by declining revenues. The concrete pipe industry has emerged strong from such market conditions in the past. This has been done by working with contractors, specifiers and regulators to improve standards and modify the ones that do not serve the public well. Producers continue to embrace new technology and engage in research and development to manufacture pipe, as well as ways to reduce operating and overhead costs. The legacy of concrete pipe as a well-known and trusted product is the basis for building a stronger community of professionals who will deliver a modern infrastructure free from risk of failure. ☺

NEW ACPA MEMBERSHIP CATEGORY OPEN TO PROFESSIONALS

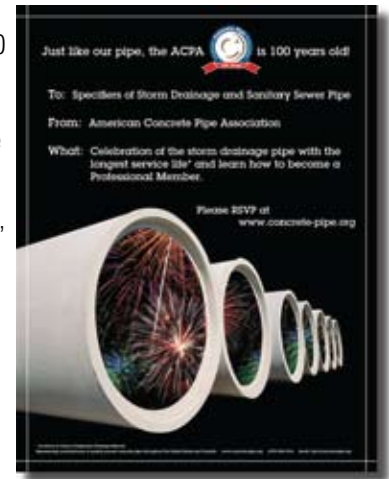
The American Concrete Pipe Association marked its centenary in 2007 by opening its membership to professionals who work within the precast concrete pipe and box industry. Professional membership is limited to any individual, firm, partnership or corporation which is actively engaged in specifying, designing or providing consulting or other professional services to the ACPA, its members, or the precast concrete pipe and box culvert industry, as defined by ASTM Committee C-13. Professional membership is not available to companies that would be included in Active, Associate, or International Membership. Acceptance as a Professional Member is at the sole discretion of the ACPA's Board of Directors.

Benefits of membership include:

- access to technical support
- access to marketing information and research
- access to experts in the concrete pipe industry
- opportunity to shape research projects of precast concrete pipe and box sections
- discounts on continuing education through Short Course Schools, Concrete Pipe University, webinars, and on-line training
- discounts on ACPA marketing and technical resources from the ACPA Resource Catalog (member prices)

- gaining insight into industry trends and issues
- subscription to Concrete Pipe News quarterly publication
- receipt of electronic newsletter, e-ProNews

The ACPA is encouraging Professional Members to become involved in charting the future of the Association by participating on committees, and creating services and products that have even greater value for users of reinforced concrete pipe and boxes. The cost of Professional Membership is \$150 per year. Details of the new category and an application form are posted on the ACPA's website at www.concrete-pipe.org under "Become a Member."



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