



## *Levee System Holds Strong Under Record Levels of Pressure*

*Above: The Susquehanna River rose quickly, flowing into Wilkes-Barre, September 9, 2011*

Since record-keeping began 150 years ago, the Susquehanna River Basin has proven one of the most flood-prone watersheds in the nation, draining 27,510 square miles of New York, Pennsylvania and Maryland – where nearly four million people call home.

The Agnes Flood of 1972 left the Wyoming Valley with over \$1 billion in damages and 25,000 homes and apartments in need of substantial repair. Consequently, a decision was made to move forward with a levee system designed to protect affected people and property in the case of another disaster of that magnitude.

The atmosphere was tense on the morning of September 8th, as many Luzerne County residents prepared to evacuate their homes along the River. The possibility of flooding was nothing new to residents, as many could recount memories from flooding in 1972 and as recently as 2006.



This time, fingers were all crossed in hopes the waters of the Susquehanna River could be contained within the Wyoming Valley Levee System – 15 miles of levee raised by various means, including earthen levees, sheet pile, concrete, MSE walls and stop log flood gates across roadways – which had never before been tested to the magnitude expected during those tense days in September.

*Left: The floodgates are put in place as the water rose near Market Street Bridge*

From 1997 to 2002, Borton-Lawson completed survey and design of structural, mechanical and automation components through numerous work orders under an Indefinite Delivery Indefinite Quantity (IDIQ) Contract with the U.S. Army Corps of Engineers, Baltimore District. Work included structural retrofit design for 21 Corps of Engineers and Wyoming Valley Sanitary Authority pumping stations; restoration and remanufacturing of 42 pumps and motors ranging in size from 15,000 GPM to 75,000 GPM capacity; mechanical, electrical and controls equipment to operate the pumping stations; survey and hydraulic analysis of many streams tributary to the Susquehanna River; and numerous retrofits to relief culverts, pressure conduits, stop logs and other incidental infrastructure within the levee system.

This extensive knowledge of the system proved invaluable, as some of Borton-Lawson's finest volunteered to help monitor and provide insight into the integrity of the system. Volunteers and emergency personnel worked day and night, often without any breaks or sleep, to make critical decisions, inspect/address problems and monitor river levels to ensure the safety of the people and property in the protected areas. >>>

FROM THE  
**President's Desk**

In our fast-paced world, there aren't many things more fulfilling than service to others. Our country as a whole may be facing bleak economic times, but for Borton-Lawson, we have been experiencing unparalleled growth. We are all very thankful for the work we have, and are actively welcoming new hires and clients joining our firm.

I continue to marvel in this expansion within our firm, and was recently asked by a fellow employee, "How many of us really understand what is happening in the world around us – outside of Borton-Lawson?" Sometimes we may not appreciate and be thankful for all we have, and that's why our employees are actively encouraged to help those who less fortunate.

A majority of Borton-Lawson's employees give personal time to charities of their choice – a virtue I am especially proud of. Although it's impossible to recognize all volunteer activities specifically, I'm glad to have the opportunity to recognize a few in this issue of our newsletter.

With the recent flooding throughout the Wyoming Valley and its neighboring communities, some of our clients and friends were drastically affected. We are proud of our employees who worked around the clock, behind the scenes, with emergency personnel. They made tough calls under pressure, and helped to prevent a worst-case scenario as the flood water rose. Others were on the front lines sandbagging, and some donated items to a local toy drive. I'm proud to say that Borton-Lawson headquarters are set in a great community whose citizens came together to help each other during this tough time.

We are all very fortunate, although circumstances may not always be picture perfect. But as we approach the holiday season, it's a perfect time to reflect on what we do have - and to get out there and do our best to make the community a little brighter for others who may not be as lucky.

Thanks for growing with us.

**Christopher Borton, P.E.**  
President, Borton-Lawson

## ***Levee System Holds Strong Under Record Levels of Pressure Cont.***

The levee system did the job and did it well – but it was not perfect. Throughout the 15-mile stretch, problems did arise, such as boils and gasket failures. As seen in the photos below, taken near the Wyoming Valley Airport and Forty Fort soccer fields, boils formed and could have resulted in instability and sinking of the foundation. Quick decisions were made and the affected areas were back-filled to create stability and protection.



One of the most publicized chapters of the 2011 flood story was the failure of the gauge used to record the river crest. As the waters rose, the gauge was inundated with water and pressure, causing the electronics to malfunction. This resulted in a faulty crest report of 38.5 feet; the actual crest was later determined to be an astonishing 42.66 feet.

Unfortunately, the levee system was not in place to protect all areas in close proximity to the River, and significant loss was experienced by some of our close friends, clients and members of the Borton-Lawson family. Please keep them in your thoughts and continue to donate what you can to organizations like the Red Cross, whose staff members are working long hours to assist in the local efforts of rebuilding our affected communities.



The next steps in the effort to keep our Valley safe will require an extensive inspection of the levee system and repair of any damages. The U.S. Geological Survey recently installed a new and elevated stream gauge for the Susquehanna River in Wilkes-Barre that will provide accurate river level readings up to 48 feet. Focus will also be placed on development of better protocol in the case an event of this magnitude occurs in the future.

## **Major Players**

U.S. ARMY CORPS OF ENGINEERS | LUZERNE COUNTY FLOOD PROTECTION AUTHORITY | VOLUNTEERS  
EMA PERSONNEL | EMERGENCY RESPONDERS | PUBLIC SAFETY ENFORCEMENT | BORTON-LAWSON  
MERICLE | LOCAL MUNICIPALITIES | POLITICAL LEADERS | MEDIA | MANY MORE.....



< Traffic was recently moved onto the new Lehigh and Pohopoco bridges, for which Borton-Lawson’s transportation team provided alternate design plans. Designing two sets of dual structures utilizing prestressed concrete beams in place of curved steel saved the PA Turnpike Commission over \$7 million. The team worked through all necessary approvals, including final TS&Ls, pier approvals, environmental permitting and the required Joint Permits. With strict focus on schedule, constructability and sensitivity, the bridges were completely re-designed and constructed one year ahead of schedule. Project completion, including demolition of the old structures, is scheduled for next year. Additionally, two state records have been set — largest caissons (11’6” diameter) and longest prestressed concrete beam (168’). Most importantly, the new bridges will provide safe, seamless traffic flow through this heavily traveled route of the Pennsylvania Turnpike.

Borton-Lawson received the first two work order assignments from the Pennsylvania Turnpike Commission from their recently awarded open-end contract. These projects include the mainline bridge elimination at MP A-113.35 in Luzerne County and mainline paving / reconstruction from MP A-59 to A-68 in Lehigh County. These assignments are fast-paced with anticipated design completion dates of six and 12 months, respectively. Borton-Lawson will team with Geo-Explorers and Monaloh Basin Engineers to complete the work orders.



< Borton-Lawson wrapped up a white box design for three tenant spaces at the University Corners building in Wilkes-Barre. Renovation work included ceiling, toilet room, HVAC, electrical, ADA accessible entrance and painting. Highlights of the space included reclamation of the original brick as a feature wall and an angular ceiling design with a modern feel to accommodate ductwork.

Borton-Lawson is on the winning team, along with Anderson-Eckstein and Westrick (AEW), for two traffic signal corridor optimization projects advertised by the Macomb County Department of Roads (MCDR) in southeast Michigan. The Macomb County Department of Roads (MCDR) is on the leading edge of traffic signal operations and has plans for 12 more corridor optimization projects of this type. Three contracts have been awarded so far this year.



< We have also been selected by the County of Lehigh to perform a rehabilitation design of the Devonshire Road Bridge over the Little Lehigh Creek in Salisbury Township, Lehigh County. The existing three-span, masonry arch structure will have the bituminous pavement removed, moment slab/parapets repositioned and tied together, weep holes installed to relieve hydrostatic pressures in the spandrel fill and a new pavement surface constructed. These repairs will enable the historic bridge to last for years, without having to incur the expense of replacing the structure in its entirety.



< Borton-Lawson has teamed with Sasaki Associates Inc. to develop the Master Plan for Moon Lake Park, a 650-acre park in Plymouth Township, Luzerne County. The team has used public input in developing a strategy for revitalization of the park with proposed uses including an archery range, summer sports camps and snow tubing. Currently, the park lands are available for hiking, mountain biking and fishing. The goal of the proposed improvements is to create a self-sustaining park system, generating revenue for facility maintenance from those who use and enjoy the park.

## New Clients

NAZARETH AMBULANCE | HIDDEN OAKS FOUR LLP | US TRUCK & PARTS, INC  
THE CROSSINGS PREMIUM OUTLETS | WILLIAMS LAUREL MT MIDSTREAM  
AMERICAN EAGLE PAPER MILLS | COUNTY OF LEHIGH

## Herman Van Fleet, III, AIA, ACHE Welcomed as Senior Architect

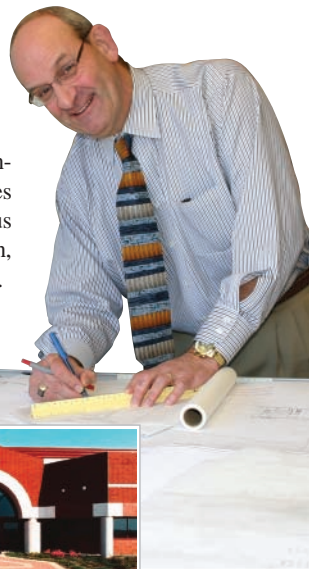
Herman joins Borton-Lawson as a Senior Architect with a concentration in health care design and concepts. Mr. Van Fleet possesses over 27 years of experience in the field of architecture, with previous employment at A.I. DuPont Hospital for Children, Wilmington, D.E., as the Senior Health Care Facilities Management Consultant.



A.I. DuPont Hospital Hybrid Cath Lab, Delaware ▲



Jetson Direct Mail ▲



“Herman’s deep understanding of the industry and specialized experience make him a superb choice to join our Architecture team.”

— Babur R. Mian, Chief Operating Officer

Herman is a licensed architect in Pennsylvania and is NCARB certified. He is also a member of the American Institute of Architects, National Council of Architectural Registration Board, Health Care Leadership Network of the Delaware Valley, Delaware Valley Health Care Council, IBC International, Pennsylvania Society of Architects and National Trust for Historic Preservation.

Mr. Van Fleet received a bachelor’s degree in architecture/building engineering and advertising design from Syracuse University. He has also continued his education through the University of Pennsylvania’s Wharton School of Business and the Pennsylvania State University. He will be working from Borton-Lawson’s Bethlehem office.



Lisa Clementoni (Environmental Resources) coordinated a hands-on demonstration with approximately 20 children (ages 7-11) at the Wonderful World of Water Camp at Hillside Farms in Shavertown this September. The event was offered by the PA American Water Company. Participants learned about watersheds, how activity on the land affects the quality of water in rivers and streams, and what they can do to help protect and preserve their watershed. Her demonstration involved a macroinvertebrate study — looking for bugs in a stream — to determine the water quality of Toby’s Creek.

## Employees Donate Toys to Help the Flood’s Smallest Victims

Terry Ostrowski, P.E. (Civil) garnered the help of Borton-Lawson employees to collect toys for the Plains Township children who were affected by the recent flood. The drive at Borton-Lawson lasted for a week, ending on Wednesday, September 28th. Toys, books and school supplies were delivered to the township municipal building for distribution.



## Welcome New Hires!

Linda Beltrami	Accounting
Brian Akelaitis, P.E., Esq.	Architecture/Facilities
Todd Borger	Architecture/Facilities
Matthew Pasukinis	Architecture/Facilities
Benjamin Pippenger	Architecture/Facilities
Keith Schutter	Architecture/Facilities
Herm Van Fleet III, AIA, ACHE	Architecture/Facilities
James Bennett	Civil
Lee Borthwick, P.E., LEED AP	Civil
Richard Cotter, P.E.	Civil
Kayleigh Gatti, E.I.T.	Civil
Richard Ellis, P.E.	Civil
Brian Kutz, P.E.	Civil
Paul McClellan, P.E.	Civil
Robert Phillips	Civil
Bond Reinhardt, E.I.T.	Civil
Deanna Schmoyer, P.E.	Civil
Paul Spence	Civil
Benjamin Whitmer, E.I.T.	Civil
Radia Benetos	Corporate
Catherine Sachs	Corporate
John Morgan	Engineering Technology
Steven Hawk	Environmental
Joseph Surra	Environmental
Joseph Compton	Inspector/Observer
Patrick Race	Inspector/Observer
Stephen Shimko, P.E., P.L.S.	Inspector/Observer
Richard Winters	Inspector/Observer
Jeffrey Oakley	Information Technology
Stephen Adair	Survey
David Andrews, L.S.I.T.	Survey
Thomas Kolesa, P.L.S.	Survey
Kurt Crawford	Transportation
Joshua Dolphin	Transportation
Eric Dudkowski, E.I.T.	Transportation
Damian Gaiski-Weitz, E.I.T.	Transportation

## Accomplishments:

Congratulations to **John Rauch, P.E.** (Civil) who recently earned his Pennsylvania Professional Engineer’s license.

**Matthew Anderson, P.E.** (Transportation) has earned his certification as a Professional Traffic Operations Engineer® (PTOE).

**Carl McGloughlin, P.E.** (Transportation) recently completed the Basic Bridge Safety Inspection course to be a Certified Bridge Safety Inspector in accordance with PennDOT standards and a bridge safety inspection team leader in accordance with FHWA standards.

**Brian Akelaitis, P.E., Esq.** (Architecture/Facilities) was recently promoted to Director of Projects. In this position, he will oversee project management across all business units to focus on enhancing our professional services on a firm-wide basis.

# Historic Charm with a Modern Twist



The original Frantz Bridge, located in Lehigh County, was a three-span, masonry stone arch structure built in 1887. It stood strong for over a century and a half, but when environmental wear and public use got the best of the bridge, the route was closed.

... *Time to reinvent a classic.*

Years later, Borton-Lawson was selected as the prime consultant for preliminary engineering and final design of the new Frantz Bridge. The proposed structure, a single span, prestressed concrete, PA I-beam bridge, would feature a detailed stone-patterned formlining application to the abutments, wing walls and parapets, blending historic and modern elements.

Historic mitigation was performed and cost constraints carefully monitored. In the fall of 2010, the original one lane Frantz Bridge was demolished, and construction began on the proposed two-lane structure.

The new Frantz Bridge effectively connects two sections of S.R. 4025 (Kistler Road) over Jordan Creek, Lowhill Township. This \$1.84 million infrastructure investment promotes a smooth traffic flow through nearby developments and significantly lessens time for emergency responders. Use of a single span structure reduces the likelihood of scour, collection of debris and sedimentation at piers and has restored the creek to its original, low-flow state.

Officially open for use in August 2011, the new structure has breathed new life into a traffic route that had all but disappeared.



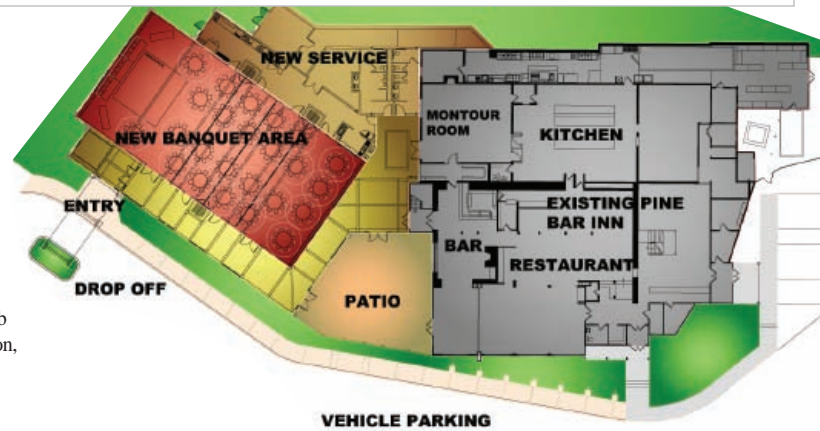
Project Cost:  
\$1.84 million

Contractor:  
Loftus Construction,  
Loftus, NJ

## Groundbreaking Held; Construction Begins

A groundbreaking ceremony was held at the Geisinger Pine Barn Inn property, Danville, PA, on Tuesday, August 30th to showcase design plans and officially initiate the start of construction. The Banquet Hall at the Pine Barn Inn will increase by an additional 8,566 SF with the capacity to seat 225 guests once the project is complete. The Borton-Lawson team, working side-by-side with on-staff architects at Geisinger, designed the addition to preserve the popular patio area and incorporate state-of-the-art technology, making it functional not only for weddings and banquets, but also for corporate meetings.

The property has been owned by Geisinger since 2007, and this project, complete with renovations to the existing building, will round out at an estimated \$2.8 million. Estimated completion is summer 2012.



**Photo, top, left-right:** Dan Freeland, Regional Director of Operations, Shaner Corp.; Ronald Miller, Mahoning Township Supervisor; Patrick Endler, AIA, LEED, Architect, Borton-Lawson; Frank Trembulak, Executive Vice President and Chief Operations Officer, Geisinger Health System; Bruce Thomas, Associate Vice President, Guest Services, Geisinger Health System; Christina Delong, Mahoning Township Supervisor; Norman Mael, General Manager, Pine Barn Inn; Bob Davies, Chief Support Service Officer, Geisinger Health System; and William Earlston, Mahoning Township Supervisor. **Photo, bottom:** Rendering of Pine Barn addition.



**Borton  
Lawson**

**ENGINEERING  
ARCHITECTURE**

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