

Storm Water Project Requires Room Size Catch Basins

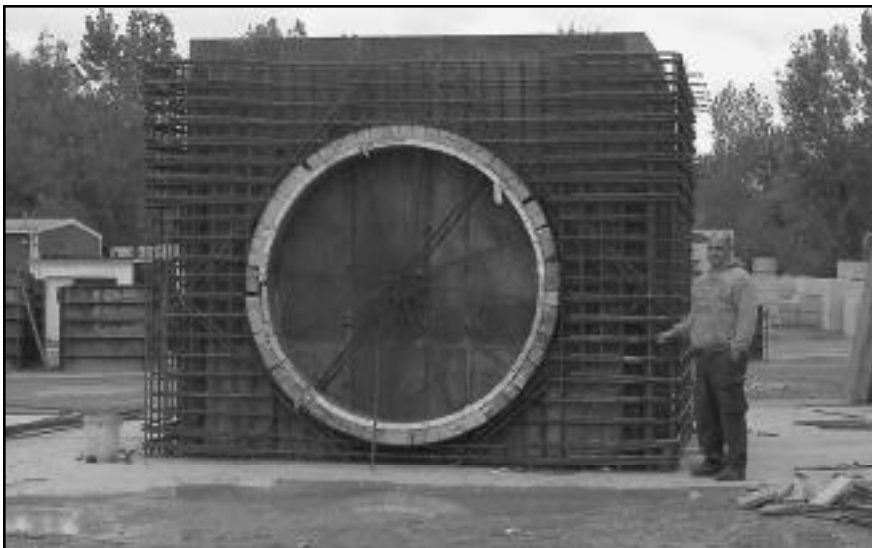


Catch basin walls and openings to human scale

Built like bomb shelters, and looking like the front entrance to a museum of modern art, these precast structures are designed to take a load! The owner, the Port Authority of New York and New Jersey, decided they needed to add an en-

tirely new storm water collection system to allow expansion at the Teterboro Airport. For ultimate flexibility, all parts of the system are designed for aircraft loading. In general, the Authority is very friendly to-

(continued on page 3)



Reinforcing cage over inner form being set up to pour

Photos by A & R Concrete Products

PCANY Annual Meeting, Group Dinner, and Bridge Design Workshop

PCANY members will convene for their annual business meeting at 1:00 pm on February 22 at the AGC Headquarters conference room, 10 Airline Dr., Albany. In addition to a review of the year past and a forecast of the year ahead, there is some outstanding old business regarding our fall meeting with the DOT to discuss. Mr. George Biro, with our Associate Member Stelcrete Industries Limited, will give a presentation entitled "Ramping up the quality of precast reinforcing".

Everyone is invited to socialize after the meeting with drinks and dinner, 6 pm at the Hilton Garden Inn, conveniently located near the Albany Airport. The Hilton is also the venue for the half day workshop on Bridge Design, scheduled to begin at 8:00 am the next morning, February 23. Registration with continental breakfast begins at 7:30 a.m. Since attendees will earn 4.0 PDH, and seating is limited, early enrollment is suggested. The workshop fee is \$45.

Workshop presenters are: Dr. Larry Feaser, PE of RPI, explaining and illustrating the changes and enhancements made to the PCANY Culvert Design Program, Vers. 3.1.0; Ralph Verastro, PE, Delta Engineers, talking about Land Development Bridges - Bridge types, design criteria, cost considerations, and best practices; and Rita Seradarian, PE, PCI New England, giving an overview with successful examples of the Accelerated Bridge Construction concepts ("get in, get out, stay out").

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Container Terminal Expansion Uses Precast Storm Water Trenches with Prepoured Inverts

At the Port Newark Container Terminal, where preloaded containers are moved to or from ships, wheel loads from the container hauling machinery are far above highway loads. These rolling cranes pick up three to five loaded containers, which can weigh 20 tons each. It follows that the storm water trenches running through their paved 15-acre expansion needed to be strong, had to be accurately built for water flow, and needed to be rapidly constructible in bad weather.

The typical piece was 20' long, 3' wide by 4' tall inside dimensions, with 12" thick walls. Almost 1000' were needed to complete the many runs traversing the site. Precast pieces were set on level poured footings, which helped to spread out the superimposed wheel loads, and simplified the preparation of the excavation bottom. Drainage flow was achieved with the trench invert prepoured within each precast unit. Joints between units were kept in alignment with dowels and sleeves, and made watertight using Volclay Waterstop field adhered and compressed in pre-formed keyways.

A & R Concrete Products, New Windsor, NY, already had the necessary trench and catch basin forms for these pieces, having previously supplied several similar projects. To speed the project, the Port contracted the first phase of this project directly with A & R, and then bid the remaining work publicly. D'Annunzio & Sons, Inc. of Clark, NJ, won the work, and installed the first phase, as well as purchased and installed the remaining work. Roger Souaid, Project Manager, said this system was easy to use, faster than forming and casting on site, limited his site labor needs, resulted in better quality, and, he noted, "precast is sometimes cheaper".

Deep catch basins at run ends were also precast, and were built with extra thick side walls notched to receive the trench pieces. All trench pieces and catch basins were plant fitted with a heavy grating, supplied by Neenah Foundry Co.



Precast storm water trench units ready for installation



Curing footing for trench runs up to catch basin

Photos supplied by A & R Concrete Products

A. Lester "Patt" Patterson

It is with sadness that we note the passing of our industry pioneer and good friend, Patt Patterson. Starting 33 years ago on his kitchen table, Patt started A.L. Patterson as a manufacturers rep company, and built it into the distribution, manufacturing, and service organization that we have come to rely on and enjoy today. All PCANY Members send their condolences to the Patterson families.

Visit www.pcanyc.org for more information on:

- precast concrete products and their application
- precast concrete producers with links to their websites
- precast concrete association of New York, PCANY

Storm Water Outlet Control Structures



Unloading storm water controlled outlet structure

Precast concrete structures fill many needs. Large paved areas, as required at this Self Storage Facility built by Sun-Up Enterprises in Poughkeepsie, contribute significant storm water run off. To prevent damaging flows into municipal storm sewers, this business was required to build an on-site storm water detention system. The design called for hundreds of feet of large diameter pipe bedded beneath the property to accumulate the storm surge. This system ties into precast structures that serve as control outlets to insure controlled low flow leaving the site.

Most major projects in developed municipal areas include similar storm water control systems. Many are built with underground concrete "rooms" to store water; standard precast products used for these applications are boxes, vaults, arches and culvert sections. All PCANY producer members, like A & R Concrete Products for the project pictured here, can supply products for these needs. Storm water detention facilities are major investments; using readily available standard precast units helps control this cost.



Installing detention facility controlled outlet structure

Photos by A & R Concrete Products

Catch Basins (continued from page 1)

wards using precast concrete products, and they have many detailed standards for their applications. But, considering the magnitude of storm water to be collected, treated, and handled over this expansive acreage, they had no standard precast units of this size to show on plans, since the PA's largest was 8' x 8'. Therefore, these catch basins were designed and bid as cast-in-place construction.

A & R Concrete Products, located in New Windsor, NY, working with their technical consultant, Delta Engineers, detailed the work as precast, and proved to the Authority that this was doable. With inside dimensions up to 10' x 12', walls 14" thick, and separate base slabs and roof slabs 18" thick, it required one truck to transport any single piece (three trailers for each catch basin were required). And since every piece shipped was over-width, especially the base slabs at 14'-4" x 16'-4", each load also required escorts. Butyl rope seals were used for water tightness between parts.

To fulfill two separate site contracts running concurrently, A & R built over 30 drainage structures; the last two 10 x 12's, and the tallest of the structures, will be delivered late this winter. Lou Hutcherson, Project Manager for general contractor Anselmi and DeCicco on the project pictured, feels that precast kept the project on schedule, on budget, and relatively unhampered by bad weather. Noting that big pipe openings mean big pipes, he stated that they used Class 5 concrete pipe, 6'-6" inside diameter, with 8" thick walls (aircraft rated). Since the storm water collected will eventually end up in local drainage streams, the system utilizes five Storm Septer units to clean the flow, each enclosed in a 14' diameter precast structure.

Calendar of Coming Events:

- March 30-31** PCI Zone 5 Meeting, Bethlehem, PA
- April 5-9** PCI Committee Days, Chicago, IL
- April 17-20** ACI Spring Convention, New York, NY
- April 20-24** ASCE Structures Congress, New York, NY
- May 16-18** PCI QC Levels I/II, Nashville, TN
- Sept. 23-26** NPCA IOC (Industry Outlook Conference), Sarasota, FL

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PCANY MONTHLY NEWSLETTER

Page 4

Newsletter focus changes monthly

For several years, this newsletter has featured different parts of our industry each month. This issue's planned topics were the areas of storm water systems, waste water systems, and septic systems. During other months, we highlight building systems and hollow core, bridges, box culverts and three-sided bridges, parking garages, and miscellaneous, such as sound walls. This by no means covers the entire range and scope of the precast concrete industry; it is meant to give us some coherence and direction in coverage. All stories, all projects, all products will fit somewhere.

But we had no story on septic systems – a huge market for some precasters, but an “out of sight – out of mind” system for most people. It is worthy to note that the PCANY Septic Tank Group of manufacturers, associates, and professionals has been meeting regularly over the past 15 months to establish a Certification Program For Water and Wastewater Products, a Concrete Tank Installation Guide, and to draw up recommendations for the State Health Department, County Health Departments, and other local and regional governing bodies, concerning recommended changes to regulations and codes related to on-site waste disposal. This is a surprisingly large “underground” industry, and we are in the midst of a national movement of many and diverse groups to improve it, for the sake of our environment, public health, and property values. To that end, this is the Mission Statement of the Septic Tank Group:

We, as a group of precast concrete septic tank producers, material suppliers,

consulting engineers, regulators, inspectors, installers, contractors, and other interested parties, have the following mission:

(1) To function as an industry group to create, adopt and manage an “Approved Manufacturers Certification Program”, in compliance with a specific Quality Control/Quality Assurance program, with a goal to produce and deliver precast concrete septic tanks that are watertight, are designed with a structural capacity appropriate for the installation, and which exhibit a high level of quality within all related manufactured products and their accessories, throughout New York State.

(2) To promote and market the advantages to the earth's environment in general and public health of New Yorkers in particular, and real estate values in participation, which become the resultant benefit of a mandatory program requiring proper installation exclusively of tanks listed under this Certification Program.

(3) To develop industry standards, guidelines, and recommendations which further affect on-site waste water recycling, such as septic tank installation requirements and recommendations for contractors, septic tank operations and maintenance manuals for homeowners (with such items as simple “dos and don'ts), and further related items.

(4) To act on behalf of the Precast Concrete Septic Tank Group by appearance before or representation within Committees, Boards or other activities which relate to the importance of the concrete septic tank to the on-site wastewater treatment industry.