An elder community in Massachusetts is now served by two large septic tanks and the pump chamber shown here. The pump chamber sends doses from the septic tanks to a grade sand filter, which drains back to the second septic tank. After several passes, a timed dose is sent to final distribution.

Ed Pennypacker, Jepco Sales, writes: “In this case, the “inner” row of sealant is CS-102, 1 1/4 size. It is glued with CS-300 primer to the face of the male portion of the box (spigot). The outer seal is CS-235 rapid expanding sealant, which was placed on CS-300 primer on the female (bell) portion. Note the continuous bead. The black primer was applied a long time previous to this day. It is CS-50 primer. Yes, there is primer on primer in this case.

The finished septic tank pump chamber was vacuum tested before the precaster left the site. *It passed.* Thanks to Ed Pennypacker for these photos and facts.
Croton Water Treatment Plant, Bronx, NY

The Croton system is the oldest portion of New York City’s water supply network and will include the city’s first filtration facility. The largest single construction contract in New York’s history ($2B) is scheduled to go on line in 2012 – it will represent a significant step in improving the water quality on the system that began service in 1842.

The Croton Facility is being built entirely underground and requires deep excavation and extensive rock boring to provide the necessary water tunnels. The Moshulu Golf Course Driving range will be restored on top of the structure when completed. Oldcastle Precast hollow core plank, in a variety of span lengths, was used in several applications for the mega project. The filtration system is designed to meet all current and anticipated future water quality regulations and goals. In addition, the project is intended to maximize the use of Croton water that can be conveyed to New York City residents.

Oldcastle Precast Building Systems manufactured more than 1,100 pieces of 12” hollowcore plank. The slabs vary from very short 7’-7” to 21’-8” in length. The short spans provide floor and roof assemblies in the facility corridors on the subterranean level. The project team consisted of Engineers - Metcalf & Eddy and Hazen & Sawyer, Contractors - Skanska USA and Tully Construction, Owner - NYC DEP, and Oldcastle Precast. This was taken with permission from an Oldcastle Precast Building Systems Case Study.

A Historic Installation at the Historic Letchworth State Park

Starting at 7:00 am, clear weather, and a 200-ton Krupp Hydraulic Crane, four 10,000 gallon precast concrete ‘gasketed-Watertight’ septic tanks were set and ready for backfill. The following day, three more tanks were installed, and the next day, the final two tanks were set before noon. These nine new tanks were installed around the High Banks Campgrounds section of the park to replace many under sized and under designed existing tanks. The project was fast tracked to fit between a very popular weekend event at the park and the impending winter weather. Quentin Call says “Kistner Performs ... always comes thru on the tight schedules.”

These large “Kon-Tanks”, available from 10,000 gallons to 500,000 gallons plus, are plant manufactured under controlled conditions with offset gaskets meeting tolerances of 0.0100. Gasket material and waterproofing foam complete the proprietary redundant joint sealing process, thereby providing a large capacity segmental tank to serve for generations. Thanks to Mike Kistner, Kistner Concrete Products, for this article and pictures.

A.D. Call Excavation Inc., under direction of Quenton Call & Brian Grice, who skillfully managed the project overseeing the masterfully prepared sites, were pleased with the days work! Photos by Kistner Concrete Products
Storm Capture™ Detention/Retention Systems...
Two Innovative Solutions

Ideal for Low-Impact Development applications, the Storm Capture Module and Storm Capture Chamber systems combine the time-tested benefits of structural precast concrete with added sustainable features to provide detention/retention for any size applications. Specifically designed for traffic loading situations (parking lots), they provide maximum storage capacity in a small footprint while offering easy access for long-term maintenance.

From Oldcastle Precast, the Storm Capture Module systems provide a low-profile, easy to install system that can be laid out in a variety of patterns to accommodate your site. Modules can be a stand-alone stormwater infiltration BMP or part of a total stormwater-management or rainwater-harvesting system. These systems can be either open bottom for infiltration and groundwater recharge or closed bottom for detention/retention/reuse.

Listed benefits include: Economical solution of simple to assemble modules; Maximum storage capacity in small footprint; Ideal for low impact development; Designed for traffic loading with minimal cover; Easily accessible for maintenance; Stand alone or part of treatment train solution for total stormwater management; Can increase the storage capacity of ‘permeable’ pavement systems. Standard sizes range from 6x12x2 to 6x12x5. Thanks to David Wan, Oldcastle Building Systems for this article.

Member Name Changes

Randy Snyder advises that as a result of recent changes in ownership, NPC, Inc. is now Trelleborg Pipe Seals Milford, Inc. Contact him for pipe-to-manhole and pipe-to-pipe connectors, internal joint seals, FlexRib-frame chimney seals, Liner end seals, pipe gaskets, and corrugated pipe adaptors.

Thomas J. Casino, PE, advises that Earth Tech/AECOM is now simply AECOM.
Welcome New Associate Member Riefer Construction Products, Blasdell, NY

President Chris Riefer writes that they can help members with the following lines: BETOCARB® Calcium Carbonate (high-performance mineral admixture for self-consolidating concrete); chemical admixtures, macro & micro fibers from Sika Corp; form release agents, patching compounds & repair materials, curing compounds & sealers, epoxies, and grouts from Kaufman Products; Fortress Stabilization (pre-preg carbon fiber grid reinforcing); from Butterfield Color – dry & liquid integral colors, acid & water-based stains, concrete texturing systems; SynTech synthetic acid for removal of concrete from forms and equipment, from Environmental Manufacturing Solutions; Fusion anti-stick mixer coating; BomanKemp equipment, from Environmental Manufacturing Solutions; Fusion anti-stick mixer coating; Boman Kemp based stains, concrete texturing systems; SynTech synthetic acid for removal of concrete from forms and equipment, from Environmental Manufacturing Solutions; Fusion anti-stick mixer coating; Boman Kemp Basement Window Systems.
WALKER-JONES SAND FILTER
WASHINGTON, D.C.
OCTOBER 13, 2009

PRECAST BOX CULVERT TANK
GILLESPIE & SON, INC.
CHESTERTOWN, MD    21620
BEFORE THE FIRST PIECE IS PLACED, THE SITE IS PREPARED WITH A LEVEL BASE OF STONE SEVERAL INCHES THICK. COLORED LINES INDICATE WHERE THE BOX SECTIONS WILL BE PLACED. ELEVATION TO THE PRE-CAST SUMP IS DOUBLE CHECKED TO MAKE SURE EVERYTHING IS EXACTLY WHERE PLANNED.

DOUBLE CHECK THE BASE TO PREVENT PROBLEMS AS THE PIECES ARE JOINED. THIS STRUCTURE MEASURES 7 X 7 INSIDE AND IS 34 FEET FOUR INCHES LONG. DELIVERED IN FIVE SECTIONS, THE TOTAL WEIGHT IS ABOUT 125,000 LBS.

LABORERS PLACE CONSEAL CS-102 BUTYL GASKET ON THE TOP EDGE OF THE SUMP. THE FIRST SECTION OF THE FILTER WILL SIT ATOP THE SUMP. BUTYL GASKET WILL SEAL THE JOINT. THE WHITE FILM IS REMOVED TO EXPOSE THE BUTYL. IN THIS CASE A TOTAL OF FOUR PIECES WAS USED TO MAKE A CONTINUOUS GASKET.
HARRY WHITE (WHITE HAT) , GIL-LESPIE FIELD TECHNICIAN, DIRECTS THE LOWERING OF THE FIRST PIECE.

ONCE THE SECOND PIECE IS IN PLACE, THE PROCESS OF DRAWING THE TWO TOGETHER BEGINS. HOOKS ATTACHED TO INSERTS IN EACH SECTION ARE CONNECTED BY CHAINS AND A COME-ALONG. CLOSES THE JOINT.

POST-TENSIONING CABLES THREAD THROUGH CAST IN SLEEVES IN EACH OUTSIDE CORNER OF THE BOX SECTIONS. A STRIP OF HARD BOARD COMPOSITE PLACED BEFORE THE LEADING EDGE OF THE SECTION IS READY TO RECEIVE THE NEXT SECTION. IT PREVENTS STONES FROM BEING DRAWN INTO THE JOINT AS THE PIECES ARE PULLED TOGETHER.
HARRY WHITE AND WOODY MURPHY, GILLESPIE CREW LEADER, CHECK THE ALIGNMENT OF THE FIRST TWO PIECES TO MAKE SURE EVERYTHING IS EXACTLY WHERE IT SHOULD BE.

THE FIRST THREE SECTIONS ARE DRAWN TOGETHER BY TENSIONING THE CABLES. THIS ALLOWS ANOTHER CHECK TO MAKE SURE ALIGNMENT IS GOOD.

AS THE FOURTH PIECE IS LOWERED, THE TENSIONING CABLES ARE THREADED THROUGH THE SLEEVES. THE HARD COMPOSITE STRIP IS READY TO RECEIVE THE SECTION. NOTE THE INTERIOR WALLS IN PIECES NUMBER THREE AND FOUR. THIS STRUCTURE IS DESIGNED HOLD A SAND FILTERING SYSTEM THAT CLEANS STORM WATER.
WHEN ALL FIVE SECTIONS ARE READY, TENSIONING TO 30,000 LBS IS APPLIED TO EACH CABLE. AT FIRST, EACH CABLE IS PULLED TO 10,000 LBS. IF ALIGNMENT IS GOOD, THE CABLES ARE PULLED AGAIN TO 30,000 LBS.

WOODY Installs CABLE CHUCKS WHICH GRIP THE CABLE. THEY ALLOW TIGHTENING, BUT LOCK TO PREVENT LOOSENING.

TENSIONING PULLS THE SECTIONS TOGETHER. CONSEAL EXTRUDES FROM THE JOINTS UNDER THE PRESSURE. AT LEAST 50% JOINT COMPRESSION IS NEEDED TO ASSURE WATERTIGHT JOINTS. IT IS NOT POSSIBLE TO SQUEEZE ALL THE CONSEAL FROM THE JOINT. THE CHAINS REMAIN FROM EARLIER WHEN THEY WERE USED TO HELP PULL THE SECTIONS TOGETHER.
THIS SHOWS THE FLOOR JOINT BETWEEN SECTIONS THREE AND FOUR. FINAL TENSIONING HAS NOT BEGUN.


FINALLY, FINISHED! INSTALLATION TIME WAS A LITTLE UNDER FOUR HOURS.

Thank you to Ed Pennypacker, JepCo Sales for sending this article in.