Lakelands Concrete Products has partnered with CrystalStream Technologies to meet the exact needs of project engineers, owners, and developers in the market for highly efficient and cost-effective storm water treatment options. These past few years have been tough economic times, and owners and developers are encouraging their design engineers to cut project costs by any means possible, including cutting the project footprint. The combination of expanding storm water requirements and regulations across New York State and the need for project cost savings has led to increased interest in product options/solutions.

Precast concrete has long been at the forefront of development when it comes to products that can handle the strenuous structural requirements found in handling the storm water environment. Thus, precast concrete emerges as the housing structure of choice with a product that has been lab tested, field verified, and widely accepted as the system of choice of both Engineers and Contractors.

CrystalStream Technologies is comprised of a series of aluminum or stainless steel components housed within a single cell or double cell concrete structure. A unique feature of the product is that it is delivered to the site completely assembled, and typically set directly into the excavation. Assembling the product at the precast plant assures the work is done in a favorable, controlled environment, thus eliminating many field variables. It is for this reason that the CrystalStream internals carry a five-year warranty.

The CrystalStream product is specifically designed for each individual project, meaning it is sized for your project, not selected from a brochure. With every design, engineers receive a site-specific hydraulic report, a CAD drawing, and a pdf version of the drawing designed specifically to the supplying precaster’s mold capabilities. It is for these reasons that CrystalStream Storm Water Units are being increasingly used for projects across the state. Our thanks go to Chad Biond, Lakelands Concrete Products, for this information.
Photo Quiz – What Do You See?

Ed Pennypacker, Jepco Sales, LLC, suggests there is a lot in this photo. It is part of the treatment system used at the Concrete Sealant Inc. plant. It re-uses toilet flushings to flush toilets. In the event there is too much recycled water the excess is dispersed to a drip drain field. In the first year of operation, 75 gallons were dispersed to the drip system. In this picture, notice on wheels the gasoline powered vacuum test rig. Every tank passed both vacuum and water testing to meet ASTM C-1227. Notice the level. Every tank is installed level, or it will not work correctly. Concrete risers are wrapped with Conseal External Joint Wrap, CS-212. The risers were included in the vacuum testing. No ground water can infiltrate the system (similar for all precast tanks and vessels). Orange primer around the opening makes a secure seal when the concrete riser is mounted on the tank. CS-102 butyl gasket makes the joint watertight. Orange primer (CS-75 water-based primer) glues the wrap around all the mid-seams – no infiltration here! The tall pole is used to check for depth of burial and to maintain grade alignment between the various vessels.

Not shown is the concrete recirculating sand filter. In this design, sewage leaves the toilet and is captured in a septic tank. On a timed basis, a dose of raw sewage is sprayed onto the sand filter. In this way, it is aerated. As the sewage settles and filters through the sand a host of aerobic bacteria digest the waste. Eventually, the partially-treated sewage returns to join the untreated sewage in the septic tank, where those very hungry aerobic bacteria join the anaerobic bacteria. The sewage is digested, cleaned and returned to a near-pure condition in this process.

In addition, Ed Pennypacker, JEPCO SALES, LLC, invites your attention to two pertinent videos from Concrete Sealants, intended to further improve quality in the onsite industry. They are located at: http://conseal.com/index.php?option=com_content&view=category&layout=blog&id=41&Itemid=24

Installation of Local Storm Water Treatment Unit

Kistner Concrete Products supplied this NYSDEP approved precast concrete structure for a recent storm water system installed in Orchard Park, NY. Installation took only 1 day.

Benefits of these systems compared to alternative storm water treatment systems are easy maintenance, easy pump out access, unaffected by flash fluid fires, low cost/small footprint, shallow sump depth for easy installation and low maintenance.

Project credits: Engineer: GPI; Owner & Contractor: Cimato Bros.; Storm Water Treatment Designer: Environment 21, LLC. Thanks to Mike Kistner, Kistner Concrete Products, for this information.
Horizon Bay Congregate Living Facility - Tampa, FL

March 2011, Tampa, FL — Oldcastle Precast, Inc. had the unique opportunity to manufacture and install one of their cutting-edge precast products — Storm Capture Module System, a subsurface storm water detention structure, specifically engineered and designed to accommodate both the storm water storage capacity demands and the load-bearing needs of the land use above them, at the new Horizon Bay Congregate Living Facility located in Tampa, Florida. The Horizon Bay project needed to be able to capture stormwater and pipe it to 6,572 CF of stormwater detention under the parking area to absorb and detain the storm water and allow water to slowly infiltrate into the ground assisting in recharging the groundwater.

Limited available site space necessitated the use of an underground storm water detention structure beneath the facility parking lot. Underground detention was the only practical choice according to design engineer Fuxan Engineering of Odessa, FL. An overflow pipe led to storm sewers, but the majority of the storm water would be infiltrated back into the ground; a common Low-Impact-Development (LID) practice in Florida that serves to help recharge the aquifer. The Storm Capture Module System — a Green Infrastructure System — provided a much better value proposition to the Owner and Engineer in place of the plastic underground storage chambers originally proposed for the site.

The Storm Capture Module system is ideally suited for this type of underground detention application due to its stand-alone, traffic bearing design which does not rely on final paving and associated stone underlayment for structural capacity.

You Want Shapes? We Got ‘Em

Joe Amoia, A & R Concrete Products, (and current President of PCANY) suggested we ought to remind our readers that precasters precast ... almost anything. That is, in case this wasn’t clear from reading the very diverse projects we portray each month. A & R Concrete Products makes box culverts, drainage structures, sanitary structures, utility structures, and wall panels. The PCANY website similarly lists the broad range of products available from our members. Call on any of them for assistance at any time.
WANT TO BE FEATURED IN A FUTURE ISSUE? It's easy! Send in your photos, facts, and amplifying story for inclusion in a future issue.

WANT TO INSERT A FULL PAGE PAID ADVERTISEMENT? Contact us - members only, generally.

Lunch and Learn - presented in your office, with lunch included. The PCANY website lists a lot of choices, and all include professional education credits for engineers and architects. Call us.

ACI Grade 1 Field Testing Technician Certification

The next training and exam session is scheduled for April 26 & 27, 2012 at Hudson Valley Community College. If you have any questions contact: Ron Vaughn at 518-283-8637.