



# THE CONNCRETE TIMES

Summer/Fall 2011

The Connecticut Concrete Promotion Council (CCPC) of the Connecticut Ready Mixed Concrete Association  
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## DIRECTOR'S MESSAGE

The Connecticut Concrete Promotion Council continues to promote concrete and its multiple applications throughout Connecticut through numerous workshops and installations. Our "new" products and placements at highly visible statewide venues such as Connecticut's State Capitol in Hartford, Subway Sandwich's World Headquarters in Milford and the Goodspeed Opera House in East Haddam have been given a highly receptive response in the marketplace. These sites are all examples of pervious concrete in various types of placement.



The "Q" Bridge in New Haven is an example of concrete outbidding other construction materials like steel for the most extensive project in Connecticut DOT history. The discussion of history moves me to a recent announcement of the 50-year-old Beard Concrete Company joining the 113-year-old L. Suzio Concrete Company. Needless to say, the Connecticut concrete industry is well aware of the contributions of these two very old and successful operations that have been responsible for many very visible concrete placements in the State. CCPC also wants to wish Bob Beard and Jim Beard a successful future and congratulations on a very distinguished concrete career.

On a very sad note, long-time CCPC member Ed Chatey, owner of the mobile mixer business Concrete Anytime LLC, passed away in July. He will be sadly missed by concrete industry friends.

Although the economy has shown a very uneven growth, we are happy to note that once again the construction industry is very resilient.

All the best,

*Jim Langlois*

## ON THE CONCRETE SCENE

### CCPC/CT ASLA/SUBWAY PARTNER IN A CONCRETE WORKSHOP



The Connecticut Concrete Promotion Council joined with the Connecticut Section of the American Society of Landscape Architects and Subway Sandwich to present a workshop featuring ACI 330 (Design and Construction of Concrete Parking Lots) and the value of Pervious Concrete in "green construction."

This well-received program was held at Subway Sandwich's World Headquarters in Milford, Connecticut, and featured the construction of 60,000 SF of pervious concrete. Eighty architects and designers were in attendance for programs presented by Doug O'Neill, National Resource Director for NRMCA, and Jim Gordon of Codespoti & Associates. Jim's group was responsible for the selection of pervious in Subway's parking facilities, and he discussed the advantages of pervious when dealing with the mitigation of stormwater runoff.



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## FOR THE RECORD



### AT THE CAPITOL: Washouts of Concrete Mixers Will Not Be Prohibited in Modified Construction Stormwater General Permit

by Matthew Hallisey,  
CCIA Director of Government Relations &  
Legislative Council

In its General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities, the state Department of Energy and Environmental Protection initially prohibited washouts of concrete trucks, as part of additional control measures to minimize the discharge of pollutants when disposing of waste on construction sites. Such a ban would have imposed significant burdens for the ready-mixed concrete industry. CCIA, on behalf of CRMCA, expressed concerns in comments on the GP to the agency. A ban on washouts would leave concrete producers and contractors to find expensive alternatives to dispose of typical waste materials on a construction site following delivery and placement. It was not clear whether the GP prohibited washing down the chute or the inside of a mixer drum. For ready-mixed concrete producers, jobsite washdown of the chute is a standard, necessary practice to clean concrete buildup and debris; if a producer waits to rinse equipment offsite, the material can harden and damage the chute and associated equipment.

CCIA argued that the prohibition should be modified and limited to jobs where the department has proof that washout of concrete trucks adversely affects water quality in Connecticut. Applying it to every job site may unnecessarily require on-truck washout systems, which are labor-intensive and would drive up the cost of construction projects. Higher costs without any demonstrable environmental benefits would contravene the state's policy of streamlining permit and enforcement processes, fostering job growth and creating a successful business climate in Connecticut.

Fortunately, DEEP has significantly revised the proposed GP. While it still requires approval, the most recent revised draft GP would not prohibit washouts of concrete trucks on site.

The new process, while still restrictive, is intended to be modeled after the U.S. EPA regulation on washouts, according to the agency. The proposed language states that washouts of applicators, containers, vehicles and equipment for concrete must be conducted in a designated, flagged-off washout area. Surface discharge of wastewaters is not permitted and the washout has to be performed outside any buffer and at least 50 feet from any waters. Washwater must be directed into a container or pit designed to minimize overflow during rainfall or after snowmelt.

Additional controls are required for washout areas: liquid wastes cannot be dumped in storm sewers. Hardened concrete waste must be removed and disposed whenever it exceeds one-half the height of the container or pit. Weekly inspections of containers must be performed to ensure structural integrity, adequate holding capacity, and to check for leaks or overflows, which, if present, must be repaired. Maintenance procedures and a record of maintenance and inspections must be included in the Pollution Prevention Plan.

While the new requirements for concrete washouts in the GP may be laborious and add costs, the proposed revision is clearly more acceptable than an outright ban.

## SETTING NEW SITES

### RESEARCHING SUSTAINABILITY

from Douglas O'Neill, LEED® AP  
National Resource Director

National Ready Mixed Concrete Association  
Phone: 585.436.8310 /doneill@nrmca.org

Durability, Light Reflectivity, Locally Produced and Recyclable are just some of the sustainable aspects of concrete. You build it right the first time and you don't need to keep rebuilding – That's the essence of sustainability. Those who represent the concrete industry have known these attributes for some time, yet somehow the word hasn't spread very far as there are still people that have some misperceptions about concrete and its production and how it effects our environment.

As the MIT Concrete Sustainability Hub moves into its third year, some of the significant research results are being talked about by the sustainability community. The five year study at MIT on the environmental impact of Portland cement concrete has already provided a number of interesting findings.

The research team at the Hub has developed a cutting edge LCA model that takes into account many aspects of the construction and use phases of a structure and pavement that had previously been left out of other less transparent models. The team used their new life-cycle model to capture the cradle-to-grave carbon emissions of paving materials. A comparative analysis of the carbon emissions of asphalt and concrete pavements over a 50-year lifetime has been conducted, with a focus on the operating, or "use phase," of the life-cycle. The team's initial findings indicate that concrete pavements can lead to potentially significant vehicle fuel efficiency savings over asphalt pavements.

For commercial buildings, based on initial research, which compared 12-story structures in both warm and cold climates, the added thermal mass afforded by the use of concrete when compared to steel yields annual heating, ventilation, and air conditioning (HVAC) energy savings of between 5% and 6% depending on the climate.

As the research continues, more information can be found at <http://web.mit.edu/cshub/index.html> and also at <http://whataretherealcosts.org> and <http://www.greenconcrete.info/>.

The Suzio Family, owners of The L. Suzio Concrete Company, Inc., and James Beard, owner of Beard Concrete Co. of Derby, Inc., are pleased to announce that as of August 2011, The Beard Concrete Companies have joined The L. Suzio York Hill Companies.



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## STRATEGIES FOR SUCCESS

Schedule, registration forms, and information  
available at CCPC office.

**CCIA ANNUAL  
MEMBERSHIP MEETING**  
Aqua Turf, Plantsville, CT  
12/7/2011, 5:00 PM

**WORLD of CONCRETE**  
Show, Las Vegas, NV  
1/23-27/2012

**NRMCA ANNUAL CONVENTION**  
Savannah Marriott Riverside, Savannah, GA  
3/4-6/2012

**Announcing  
the first Annual Concrete  
Specialty Contracting Award**

CCPC will cosponsor with CRMCA a new  
award to be bestowed at the February 16, 2012  
AGC Build CT Awards Night.

Nomination applications are available at CCPC in Wethersfield, CT

## PRESCRIPTIVE VS. PERFORMANCE SPECIFICATIONS

### What is a Prescriptive Specification?

A prescriptive specification is one that includes clauses for means and methods of construction and composition of the concrete mix rather than defining performance requirements. Many times intended performance requirements are not clearly indicated in project specifications and the prescriptive requirements may conflict with the intended performance. The producer is always called on when the mix does not perform even though this is in conflict with the basic premise of a prescriptive specification as clearly indicated in ASTM C 94, Specification for Ready Mixed Concrete. For example, a low water-cementitious materials (w/cm) ratio at high paste content might increase the potential for shrinkage and cause more curling in a concrete floor while the intent was to reduce it. This might also cause a stiff mix that will adversely affect placing and finishing.

Many project specifications include prescriptive limits on w/cm ratio as a surrogate for durability. The intent is to reduce permeability of the concrete. There are many ways to achieve this with the use of supplementary cementing materials and admixtures. The typical process of working with a w/cm limit is to start with water content as required for a target slump and the local aggregates. The cement content is

then calculated. Conforming to a low w/cm ratio generally drives the cement content higher which leads to higher costs. Alternatively, admixtures can be used to reduce the paste content in the mix.

For the most part, maximum w/cm ratio is included in prescriptive specification to ensure durability, which is generally affected by the permeability of concrete. Generally, as w/cm ratio decreases, an electrical charge passed through hardened concrete (a measure of permeability) decreases. Alternatively, cementitious components of the mix can also be varied to decrease permeability. Different combinations of portland cement and supplementary cementitious materials (SCM) such as fly-ash, slag, silica fume and other pozzolans can drastically affect permeability.

This is not to say that w/cm ratio is not important. It is a parameter concrete producers use to design concrete mixtures. It should not however be a specification requirement. Furthermore, w/cm ratio cannot be measured or enforced on the jobsite by a reliable test and a specification requirement that cannot be enforced is not effective.

Prescriptive specifications also lead to higher costs. The bidder with the lowest overhead—which usually means lowest investment in quality control, research and development—is often the one that can bid the lowest and profit the most at the lowest bid. An engineer might think he has established a level playing field with a prescriptive mix, but in fact he is encouraging low quality. For this reason, engineers often revert to more prescriptive specifications that are extremely conservative (over-designed) to compensate for low quality leading to higher costs. If the engineer specifies the desired performance and relies on the expertise of the concrete contractor and concrete producer to deliver an optimized mix, it can often be delivered at lower cost and higher quality.

### What is a Performance Specification?

A performance specification is a set of instructions that outlines the functional requirements for hardened concrete depending on the application. The instructions should be clear, achievable, measurable and



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# SETTING NEW SITES

## PERVIOUS CONCRETE INTRODUCED AT HARTFORD JOB CORPS ACADEMY

Pervious concrete has become a part of the curriculum at the Hartford Jobs Corp Academy located on Flatbush Avenue in Hartford, Connecticut. During the month of October, 2011 a student group of 20 participated in the placement of pervious concrete in the roadways and walking paths of the Academy. The students received a hands-on education from a NRMCA Certified instructor in the placement and properties of pervious. The instructor is employed through a competitive contracting process with the U.S. Department of Labor.

Currently, there are 200 young adults between the ages of 16 and 24, from the Greater Hartford area, who are trained for various opportunities in the job market. The Director of the Academy, Ms. Tami Schweikert, was very pleased to have her students learn a trade that could result in positive environmental impact. CCPC member Tilcon Connecticut supplied the pervious concrete to this project.



# SETTING NEW SITES

## GOODSPEED OPERAHOUSE PAVES ITS STREETS IN PERVIOUS

The Goodspeed Opera House in East Haddam, Connecticut is moving forward with its Actor Housing project after a very complicated process involving many regulatory agencies. Concerns by the Inlands /Wetlands Administration regarding stormwater runoff were addressed giving impetus to the use of pervious concrete.

The project was designed by the URS Corporation and had the Atlantis Building Company, Inc. as the general contractor. Concrete Curb Crafters of Ct, Inc. located in Naugatuck was the pervious concrete contractor and the concrete was supplied by the L.Suzio Concrete Company of Meriden. There was approximately 23,000 square feet of pervious and 2000 square feet of traditional concrete. The project utilized a laser screed for the placement.

Please refer to the Goodspeed Opera House website for details of the project.



enforceable. For example, the performance criteria for interior columns in a building might be compressive strength and weight since durability is not a concern. Conversely, performance criteria for a bridge deck might include strength, permeability, scaling, cracking and other criteria related to durability since the concrete will be subjected to a harsh environment.

Performance specifications should also clearly specify the test methods and the acceptance criteria that will be used to verify and enforce the requirements. Some testing may be required for pre-qualification and some might be for jobsite acceptance. The specifications should provide flexibility to the contractor and producer to provide a mix that meets the performance criteria in the way they choose. The contractor and producer will also work together to develop a mix design for the plastic concrete that meets additional requirement for placing and finishing such as flow and set time while ensuring that the performance requirements for the hardened concrete are not compromised. Performance specifications should avoid requirements for means and methods and should avoid limitations on the ingredients or proportions of the concrete mixture.

The general concept of how a performance-based specification for concrete would work is as follows:

1. There would be a qualification/certification system that establishes the requirements for a quality control management system, qualification of personnel and requirements for concrete production facilities.
2. The specification would have provisions that clearly define the functional requirements of the hardened concrete.
3. Producers and contractors

will partner to ensure that the right mix is developed, delivered and installed.

4. The submittal would not be a detailed list of mixture ingredients but rather a certification that the mix will meet the specification requirements, including pre-qualification test results.
5. After the concrete is placed, a series of field acceptance tests would be conducted to determine if the concrete meets the performance criteria.
6. A clear set of instructions outlining what happens when concrete does not conform with the performance criteria.

*Source: NRMCA Research and Engineering P2P Initiative*



The poster features a green and yellow color scheme. At the top, the text "NRMCA Annual Convention" is written in a large, bold, green font. Below this, there are silhouettes of a person holding a tray, a person in a hard hat, and a person in a suit. At the bottom, the dates "March 4-6, 2012" and the location "Savannah Marriott Riverfront, GA" are displayed in a bold, green font.

**NRMCA**  
**Annual Convention**

**March 4-6, 2012**  
**Savannah Marriott Riverfront, GA**



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# *Your* **CONCRETE TIMES CONNECTION**

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Pervious  
Announcing the First Annual Concrete Specialty  
Contracting Award

**Credit: Newsletter Concept and Design:  
Ann Beaudin and Andrea Beaudin**

## WELCOME NEW MEMBERS

### **Builder’s Concrete East, LLC**

Steve Aiudi, P. O. Box 133, Willimantic, CT 06226

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Plant locations: 79 Boston Post Rd., Willimantic, CT and 60  
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*To become a member of a growing professional  
trade organization, contact Jim Langlois at CCPC  
860.529.6855*