Notes From The Director

In this issue we highlight yet another unique application for precast concrete. The use of precast panels as stay-in-place forms for cast-in-place concrete makes for efficient use of limited tower crane capacity in high-rise construction. It also significantly reduces forming cost due to the elimination of shoring.

We also continue to illustrate how the products and services provided to the industry by our valued associate members greatly enhances the quality and long term durability of precast concrete elements.

Warmest Regards,

Ronald E. Thornton, P.E.
Domino Sugar Building A—Brooklyn, NY

Submitted by David Wan, P.E. of Oldcastle Infrastructure.

The Domino Sugar redevelopment project is a high rise high end condo development in the west side of Brooklyn overlooking the East river to Manhattan. Building A is a cast-in-place (CIP) building which required a bridge section at the 27th floor to support 15 additional floors above to the 42nd floor.

Four (4) 10'-0" deep CIP girder beams are designed to support the 15 floors of building between two towers, but a precast solution was needed to be stay-in-place forming that was designed to support the construction loading of the work platform, 9" CIP topping and 10'-0" girder beams. The precast slab weight could not exceed the capacity of the tower crane (39,000 lbs at 115 ft radius). Thus, A 15" deep precast slab + 9" composite concrete topping was the ultimate solution. Precast elements included twenty (20) pieces of 15" thick x 43'-9" long x 4'-0", 3'-6" & 2'-10" wide solid slabs with a maximum pick weight of 32,900 lbs.

Project Credits:
Owner: Two Streets Management
Engineer-of-Record: Rosenwasser/Grossman Consulting Engineers
Contractor: Two Streets Management
Precast Manufacturer: Oldcastle Precast, Selkirk, NY
How Rebar & Mesh Supports Ensure Manufacturing Tolerances

By: Ronald Thornton, P.E.

ASTM standards for underground precast structures typically specify 1” minimum bar cover for walls and slabs, even those exposed to earth. Some may question the justification for such a liberal standard when similar cast-in-place structures often require at least 2” of cover to ensure corrosion protection and serviceability. However, ASTM standards are fully consistent with enhanced durability for several reasons.

Precast plants generally use smaller size coarse aggregate (3/4” max nominal size or smaller) in their concrete, which flows through tighter bar spacing and cover, particularly with the expanded use of self-consolidating concrete. Low water/cementious ratio and high early compressive strength result in a denser and less permeable matrix.

The benefit of products manufactured under plant controlled conditions cannot be overstated. Reinforcing steel must be accurately placed per the structural design and remain in place during casting. Quality control measures mandated by the NPCA Certification Program ensure that cages are inspected prior to concrete placement.

So how do we hold our cages within the tight tolerances prescribed by ASTM? Plastic chairs, wheels, spacers and slab bolsters come in a wide variety of shapes and sizes. These products are sturdy, non-corrosive, and relatively inexpensive, which allows them to be used liberally to ensure cages are stable and have the proper clearance throughout.

Coated metallic spacers are widely used, particularly in pipe products, to maintain spacing between cages. Metal spacers can have a dual role as shear reinforcement.

Associate members of PCANY providing bar and mesh supports and spacers include ALP Supply, Eastern States Steel, and Polylok/Zabel. Please check out all of our members in the PCANY Buyer’s Guide located on our website at www.pcany.org.
ACI-ENY to Provide Certification Program...
For Concrete Field Technician, Grade 1 at HVCC in Troy NY. Training will be April 25, 2019 with examinations the following day. For additional information and registration contact Ron Vaughn at 518-283-8637 or enyaci@aol.com.

ABCD-WNY Announces 2019 Spring Seminar
At Batavia Downs Gaming Center on March 15. Early registration ends March 1. (Information and Registration)

The Precast Show 2019...
Will be held at the brand new Kentucky International Convention Center in Louisville, KY Feb 28 to March 2, 2019. Visit www.precast.org/theprecastshow for information and to register.