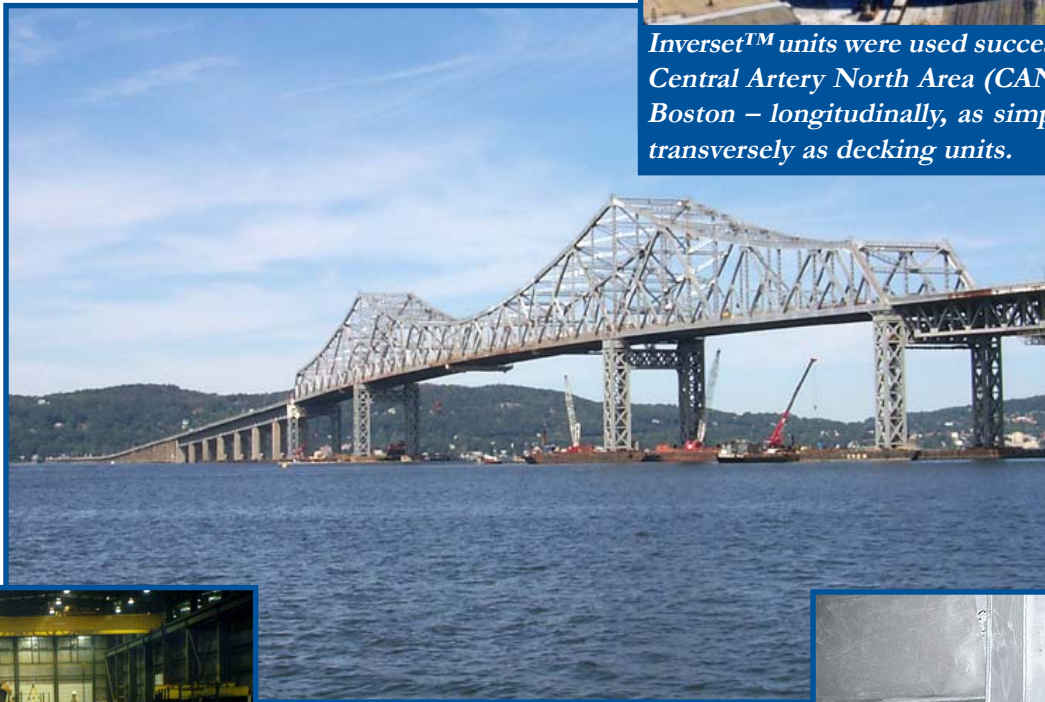


PRODUCT PROFILE

PRECAST CONCRETE STEEL COMPOSITE SUPERSTRUCTURE (PCSCS) UNITS



Inverset™ units were used successfully on this Central Artery North Area (CANA) project in Boston – longitudinally, as simple spans and transversely as decking units.



TAPPAN ZEE BRIDGE, TARRYTOWN, NY

Inverset™ units replaced portions of 80 spans on the West Deck Trestle in a series of overnight closures.



CAST RIGHT SIDE UP



OR UPSIDE DOWN

THE FORT MILLER CO., INC.

A FORT MILLER GROUP COMPANY

P.O. Box 98
Schuylerville, NY 12871
Tel (518) 695-5000
FAX (518) 695-4970

E-mail
info@fortmiller.com

Web
www.fortmiller.com

WITH ALL PCSCS UNITS YOU GET:

- Long-lasting modular superstructure units
 - High performance concrete
- “Traffic-ready” surface
- A continuous steel frame
- Faster installation
- Units ready to use upon erection
- Year-round installation
- Modular replacement in future years

PCSCS MODULAR UNITS TO FIT ANY NEED



INVERSET™

THE PRECOMPRESSED (CAST UPSIDE DOWN) ALTERNATIVE UNSURPASSED FOR DURABILITY

INVERSET™ units are manufactured using a unique inverted casting process that precompresses the concrete deck. The finished deck surface is the most durable part of the deck slab because it was the bottom of the deck during casting and therefore the most dense. These two features combine to yield a **crack-resistant deck of the highest durability**. Fort Miller has produced nearly 750,000 s.f. of these high quality Inverset™ units for projects in seven Northeastern states since 1988.



Railroad Overpasses

QUALITY ADVANTAGES OF CASTING UPSIDE DOWN

- Concrete deck in compression
- Bridge units are crack resistant
- Deck is more dense and durable
- Reduced superstructure depth



Pedestrian Bridges



SAGAMORE RESORT BRIDGE BOLTON LANDING, NY

This three-span Inverset™ bridge was erected in two stages, one day per stage, in May of 2001. The structure was designed as three-span continuous for live load using web continuity plates as shown in the upper right photo. Existing water, sewer and electrical lines were maintained, undisturbed, while specially designed Inverset™ units were erected around them. Precast balustrades and approach slabs were also used to reduce construction time.



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INVERSET™

RICHVILLE ROAD BRIDGE
MANCHESTER CENTER, VT



Longitudinal joints may be eliminated by using a “loop-on-loop” closure pour.



VERTICAL CURVES



SKEWS UP TO 60°



MULTIPLE STRINGER UNITS

The entire replacement of this critical bridge took 11 days. In addition to minimizing traffic interruption, the use of Inverset™ units greatly reduced the danger of construction debris falling into the pristine Battenkill River in Manchester, VT. The use of a waterproof membrane with an asphalt wearing surface provides long service life.

INVERSET'S RECORD OF EXCELLENCE

- Over 145 quality bridges since 1982
- Over 750,000 s.f. on 90 bridges in seven Northeast states
- Approved and installed in 12 states
- Used for numerous “weekend” and “overnight” installations
- Performing successfully on interstate, state, county and private highways
- Meets or exceeds all AASHTO requirements

MINIMIZING ERECTION TIME AND INCONVENIENCE TO THE TRAVELING PUBLIC

ONE WEEKEND BRIDGE REPLACEMENT TECHNIQUE (FRAMED CONSTRUCTION)



PRE-ASSEMBLY

To minimize work required during installation weekends, the contractor, Modern Continental, elected to preassemble the units at Fort Miller's yard. During this process all units were placed in their exact (relative) location. Connection angles were placed, drilled, and marked for future installation. In all, 2,144 holes were predrilled to assure proper fit and minimize erection time.

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THE TIME ADVANTAGE OF PCSCS UNITS

- Rapid Installation
 - Erection time of one hour per unit
 - Erected overnight, weekends, between trains
- Year-round installation
 - Extends construction season





STAGE 1 INSTALLATION

Starting around midnight, November 9, 2001, the North half of the first level was removed. New Inverset™ installation began about 9:00 pm on Saturday and was completed on Sunday, November 11 at about 10:00 am.



INSTALLING NEW BENT BEAM

The existing center pier, (shored right) was replaced with a new bent. A “slot” was cut in the existing superstructure after it was properly shored. The new bent beam was installed while traffic was using the shored- up structure.



REPLACING THE MIDDLE LEVEL

The first level of this NYSDOT structure, carrying Long Island Expressway over 58th St., in Queens, NY, needed to be replaced in weekend closures – while four lanes of traffic used the second level and two lanes of traffic used the other half of the first level.



STAGE 2 INSTALLATION

The South half of the first level was replaced during the weekend of November 16, 2001. As in stage 1, units were delivered to the first level as shown above. Available clearance for crane booms was verified using 3-D modeling techniques.

SHORED COMPOSITE (CAST RIGHT SIDE UP)

RT. 9 BRIDGE OVER NEW YORK STATE THRUWAY TARRYTOWN, NY



A span of 120.5 feet and a skew of 45 degrees was possible on this bridge that was prefabricated using the Shored Composite construction method. Units weighing as much as 128 tons were shipped to the job site on special hauling rigs.

THE ADVANTAGES OF SHORED COMPOSITE

- Longer spans possible
- Haunches give more fabrication flexibility
- Reinforcement for the parapet can protrude from deck
- Composite for all loads

TRIBOROUGH BRIDGE, BRONX APPROACH QUEENS, NY

STEEL AND STEEL COATING OPTIONS

- Weathering Steel
- Painted (to any specification)
- Galvanized or metalized



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PRECAST CONCRETE SOLUTIONS





**KING'S HIGHWAY BRIDGE
BROOKLYN, NY**



INTEGRAL ABUTMENTS (SUPERSTRUCTURE INTEGRAL WITH BRIDGE SEAT)

Moment-carrying-capacity at the abutment was developed on this bridge by setting Inverset™ beams on adjustable bearing plates that were rigidly attached to the bridge seat with anchor bolts as shown in the photo left. Further capacity was developed when a field closure pour was cast around the ends of the beams. Note holes for rebar in the web of the beam.

SEMI-INTEGRAL ABUTMENTS (SUPERSTRUCTURE INTEGRAL WITH BACKWALL ONLY)

The backwall in this design is cast around the ends of the beams and is not tied into the bridge seat. Conventional bearings are used under the beams. Closed-cell foam seals the joint between the backwall and the bridge seat. The waterproof seal is completed by covering the backwall and bridge seat with a waterproof membrane. The backwall may be notched to support the approach slab as shown in photo, right, or plain as in photo on far right. The lower right photo shows the backwall from the bearing side.



**I-87 BRIDGE OVER RT. 100,
YONKERS, NY
NYS THRUWAY AUTHORITY**



HEATH RD. BRIDGE, COLRAIN, MA

The bearing backwall on this bridge extends below bottom of steel beams and rests on strips of neoprene.

BEARING BACKWALL (INTEGRAL BACKWALL SERVES AS BEARING SURFACE)

NORTH STREET BRIDGE, AUBURN, NY

The bearing backwalls on this bridge were fabricated with block-outs for utilities that were maintained in place during construction.



TIME SAVING ACCESSORIES

PRECAST APPROACH SLABS



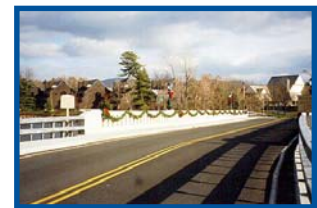
**SAGAMORE RESORT BRIDGE
BOLTON LANDING, NY**

Precast approach slabs (Super-Slab™) are set on a carefully prepared subgrade. Inverted dovetail slots, shown in the center photo above allow the slab to be set down over longitudinal dowels protruding from the bridge deck, above left. Once the slab is in place, the dowels are grouted and bedding grout is pumped beneath the slab to fill any voids. Super-Slab™ can be put into service in as few as three hours following installation.

PRECAST BALUSTRADES (TEXAS RAIL)



HEATH RD. BRIDGE, COLRAIN, MA



STYLES TO FIT YOUR NEEDS

Precast balustrades are designed and fabricated specifically for each project. Precast units are temporarily shored in their correct position and attached to the deck with a loop-on-loop type closure pour. Precast parapets may be plain concrete, as shown in photo on left and above right, exposed aggregate as shown above center, or colored to match the nearby structures.

PRECAST BRIDGE PARAPET

SINGLE SLOPE OR SAFETY SHAPE

Bolt down precast parapet is available in single slope as shown in the photo on right or safety shape as shown in photos below. On the Long Island Expressway (LIE) project, right, the parapet was put into service the day after it was installed. This parapet system has been tested and approved by the Deputy Chief Engineer of the New York State DOT.



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