

THE STAINLESS REBAR STANDARD



Kevin Cornell, Editor July 2010

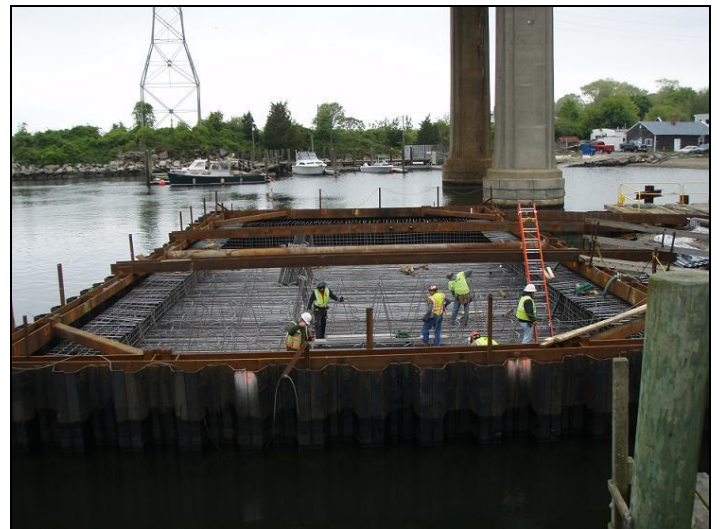
Largest single bridge contract in RIDOT's history uses stainless steel for pier construction

Stainless steel supplied by Salit Specialty Rebar was specified for the new Sakonnet River Bridge that spans the Sakonnet River in eastern Rhode Island. The bridge carries nearly 40,000 cars per day on RI 24 and RI 138 between the communities of Portsmouth and Tiverton. By the late 1990s, the bridge's design had become obsolete, and transportation planners began to develop a plan for its future. In 2003, the Rhode Island Department of Transportation (RIDOT) announced plans for a \$163.7 million replacement bridge to be built immediately south of the existing 53-year-old span.

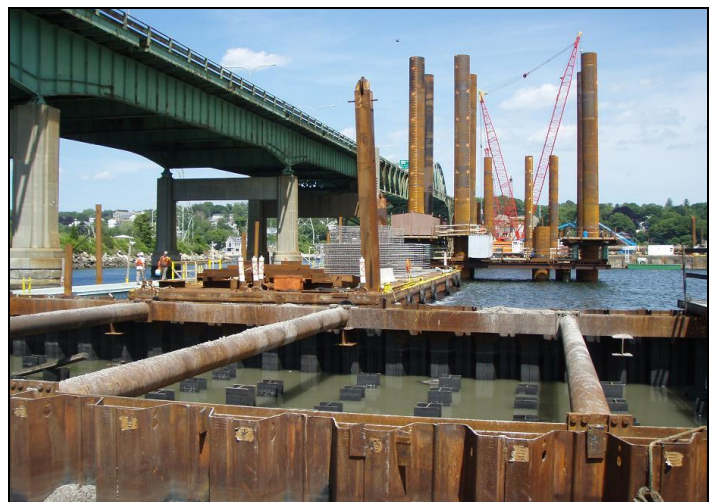
Groundbreaking for the 2,265-foot-long, 96-foot-wide four-lane bridge took place in April 2009. The bridge is expected to open in 2012. Rhode Island-based Commonwealth Engineering and Consultants is the lead designer. Cardi Corp. won the bid to build. Barker Steel LLC (a Harris Rebar Company) received the steel shipment from SSR. The existing bridge will operate during construction.

The new bridge will alleviate a weight restriction, and replace a vital transportation link for Newport County. In addition, the bridge includes a 13-foot-wide bicycle and pedestrian path on its north side.

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Reinforcing of footing of Pier 7 being assembled with cut and bent stainless steel from SSR. (Photo: Barker Steel LLC)



Overview of project from Pier 3 footing (Photo: Barker Steel LLC)

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The bridge will maintain the minimum vertical clearance of 65 feet over the river.

The span being replaced has extensive corrosion in all structural components thereby resulting in the weight restrictions that caused some traffic long detours. Structural elements critical to the integrity of the structure and the safety of the public were repaired, but deterioration of stringer ends, crossbeams supporting the deck joints, floor beam connections, steel bent columns, main girder flanges, bracing elements, and truss elements continued.



Rebar being assembled on site (Photo: Barker Steel LLC)

There are five piers being constructed that require stainless steel up to elevation 18.00. The column and hammerheads of the piers were specified galvanized material. Stainless steel is being used on five of the nine piers because they are along the water's edge or placed directly in the salty ocean water of the river. The bridge deck was specified galvanized rebar. RIDOT was seeking a reinforcing material that was corrosion resistant below the water and high surge line.

Salit was chosen to supply 1,557,910 lbs. of 2205 Duplex rebar cut to length and pre-bent, based on the location of its facility in Niagara Falls, NY in close proximity to the job site, and the ability of Salit Specialty Rebar to meet volume demands and fabrication requirements.

Salit Tube & Steel Inc. strengthens Salit's position

Salit Steel is pleased to introduce its newest division, Salit Tube & Steel Inc. The new division is a stocking distributor of mechanical tube and cold rolled products servicing Ontario.

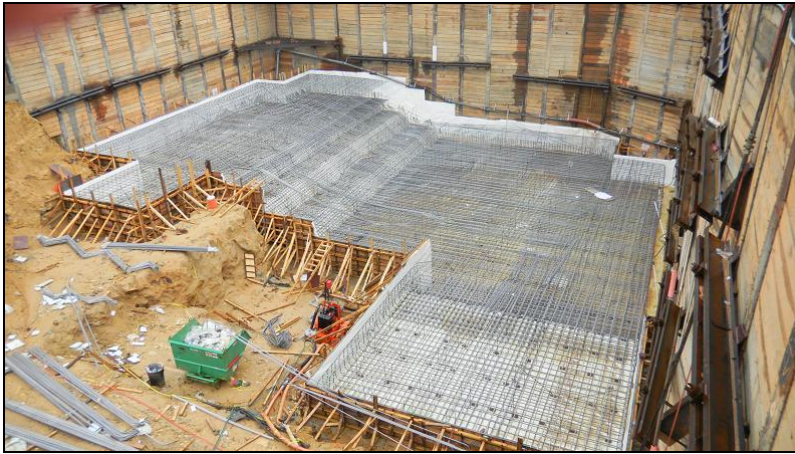
Mechanical tubing, also known as Electric Resistance Welded (ERW) is a light gauge, shaped and welded tube that is found in many everyday items, such as furniture components, store fixtures and exercise equipment. It is also used in commercial applications including light structural steel for greenhouses and areas where a high strength to weight ratio is important. Roller conveyors and many automotive parts require high strength to weight ratios.



Left to right: George Christopoulos (Driver), Deb Pyne (Office Administrator), Glenn Hill (General Manager), Jim Greene (Sales), Justin McGragh (Production)

Located in Mississauga, Salit Tube & Steel Inc. is staffed by Glenn Hill, General Manager, Jim Greene, Sales and Deb Pyne, Office Administrator. George Christopoulos is the company's driver and Justin McGragh is responsible for production.

Imaging Research Center at UNC Chapel Hill the largest SSR hospital project using EnduraMet 32



Photos: CMC Rebar

The 315,000 sq. ft. North Carolina Cancer Centre is being constructed at the University of North Carolina Chapel Hill campus. Included in the project are 3 linear accelerators for radiation therapy, with Intensity Modulated Radiation Therapy (IMRT), a sophisticated alteration of radiation beams to produce precise radiation localization and Image Guided Radiation Therapy (IGRT). This is a highly specialized building where the advanced technology begins with construction of the foundation.

CMC REBAR of Gastonia, NC contracted with Salit Specialty Rebar (SSR) to supply 377,077 pound of EnduraMet™ 32 stainless rebar.

EnduraMet™ 32 is a high-manganese, low-nickel, nitrogen strengthened austenitic stainless steel. By means of solid solution strengthening, the nitrogen provides significantly higher yield and tensile strength, as annealed, without adversely affecting ductility, corrosion resistance, or non-magnetic properties.

Because of the high sensitivity level of the equipment in the Imaging Research Center, non-magnetic reinforcing material was required. EnduraMet™ 32 fit the specification for the special requirements of the building.

Deteriorated ramps replaced using stainless rebar

The New York Department of Transport (NYDOT) is removing and replacing two ramps connecting Interstate 290 and Interstate 190 in Erie County in the Town of Tonawanda, western New York. The structurally deteriorated bridges affect over 40,000 vehicles per day. In 2010, the contractor will construct a new Upper Bridge (I-290 to I-190), and in 2011, construct a new Lower Bridge (I-190 to I-290).



The Abutment for the southbound Upper Bridge is 400 feet with one pier, while the eastbound ramp is 370 feet with one pier. Both ramps have two lanes. Portions of the abutment of the southbound ramp are stainless reinforced, while portions of the abutments, pier, and barrier of the eastbound ramp are stainless steel. Salit Specialty Rebar is supplying 36,110 pounds of stainless rebar.

Because of the good working relationships with rebar fabricators such as Upstate Steel, Salit Specialty Rebar is able to collaborate on large and small projects. Encouraging contractors to contact the fabricators instead of dealing directly with SSR allows SSR to provide the right material at a fair price.

Upcoming Events 2010 - 2011

8th International Conference on Short and Medium Span Bridges

Sponsored by The Canadian Society for Civil Engineering (CSCE)
Niagara Falls, Ontario
August 3 to 6

Bridge Safety and Longevity Conference & Expo

Ottawa, Ontario
November 18 to 19

7th International Bridge Engineering Conference

San Antonio, Texas
December 1 to 3

World of Concrete

Las Vegas, Nevada
January 18 to 21 2011

