THE STAINLESS REBAR STANDARD

SALIT SPECIALTY REBAR
www.stainlessrebar.com

Kevin Cornell, Editor August 2015

Century bridge replaced with stainless steel reinforcement

A 100-year old Walker Street Bridge between Kittery and Portsmouth Naval Shipyard on Seavey Island, Maine is being replaced. Replacement of the bridge began in the winter of 2014 and is expected to take two years to complete.

The replacement is being built in two sections and not all at once, so that half the road can be built, followed by the other half. Work includes demolition, removal and disposal of existing; concrete paving at both abutments, hazardous materials, steel bridge superstructure, water and sewer force main systems, electrical and communications conduits, transportation track and accessories, and incidental related work. Utilities to the shipyard, which currently are routed through that center structure would be relocated and replaced with updated lines and conduits.

Salit Specialty Rebar supplied approximately 80 tons of Duplex 2205 rebar to HarMac Rebar and Steel (a division of A.H. Harris) located in Fryeburg Maine who were supplying the General Contractor, Cianbro, one of the largest construction and construction services companies in the USA.

Duplex 2205 is a two-phase, ferritic, austenitic 22% chromium, 3% molybdenum, 5 to 6% nickel alloyed stainless steel that is the most widely used duplex stainless steel grade characterized by high yield strength. Duplex 2205 is characterized by good fatigue strength, as well as outstanding resistance to stress corrosion cracking, crevice, pitting, erosion, and corrosion in severe environments.

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Kosciuszko Bridge replacement - the first of its type in New York

Construction is underway to replace the Kosciuszko Bridge, alternatively known as the Brooklyn-Queens Expressway (BQE), with a new nine-lane bridge which will consist of two eastbound spans, one westbound span, a bike path, and a walkway. Two new cable-stayed suspension bridges will replace the existing, aging steel-truss span. The cable-stayed bridge design makes the new bridge the first of its type in New York City, since the Brooklyn Bridge which has a hybrid suspension/cable-stayed design. The New York State Department of Transportation will build a six-lane highway next to the current bridge. The six-lane highway will connect the Brooklyn-Queens Expressway to the new bridge before the old bridge is torn down. The old bridge will remain in use until its demolition in 2017.

On May 23, 2014, a $554,770,000 design-build contract for the first phase was awarded to a team consisting of Skanska, which will be managing partner, Ecco III of Yonkers; Kiewit Corporation of Nebraska; and HNTB of Kansas as the lead design firm. It is the largest single contract ever awarded by the New York State Department of Transportation. The first new bridge will be erected adjacent to the south side of the existing bridge and is scheduled to open in late 2016. Once the first new span is complete, all BQE traffic will be shifted onto it, and crews will begin demolishing the old bridge. The second cable-stayed span to be completed in 2019 will rise in the original bridge's footprint. The extra lanes were required because the Kosciuszko Bridge has become a traffic bottleneck.

Fort Miller contracted Salit Specialty Rebar to supply rebar for the precast and Brooklyn Rebar contracted SSR for the cast-in-place reinforcement. For both contracts, SSR supplied approximately 2,500 tons of XM-28, a high manganese low nickel austenitic stainless steel for saltwater marine environments where reinforced concrete may be exposed to chlorides and other de-icing salts. The decks are being constructed with mainly #5 XM-28, and some #6 bars.

Stainless was selected because of its inability to corrode, thereby keeping the deck concrete from spalling and perhaps leading to deck failure. It is estimated that the volume of stainless steel required for the first components of the project include 30 tons for pier cap EB8, 20 tons for the abutment wall, 30 tons for pier cap EB10 and approximately 1,000 tons for of #4, 5, and 6 deck bars for the Brooklyn side approach slabs.

The bridge is designed with a 100-year service life. View a simulation of the bridge construction at: https://www.youtube.com/watch?v=TT_4Fbzys_w

New Brunswick's Nashwaak Bridge deck and piers upgraded with stainless steel rebar

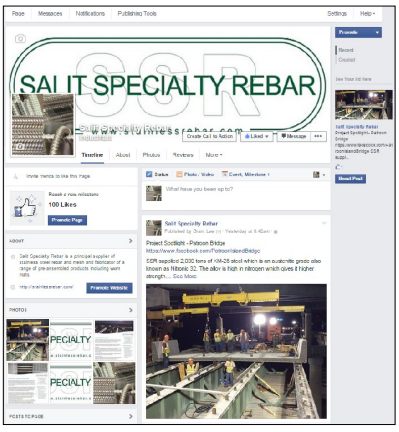
The $4.8 million dollar rehabilitation of the Nashwaak River Bridge No.1 is included the New Brunswick government's $409.5 million dollar investment in roads and infrastructure. Rehabilitation of the bridge was required due to minor vertical cracking in bridge piers and extensive concrete deterioration on the top mat of the bridge deck.

SSR was contracted by Dunbar Construction Limited of Fredericton, NB to supply 73.97 tonnes 316LN stainless steel rebar for abutments, approach slabs, barrier walls, sidewalk, curb, and top mat of the deck. In addition, Salit supplied 13.58 tonnes of black rebar for lower pier cap beams. Dunbar was the successful bidder for the New Brunswick Department of Transportation and Infrastructure project. Ocean Steel & Construction Limited of Saint John, NB was the reinforcing steel subcontractor, and HILCON Limited of Fredericton, NB was the structural engineer.

The project consists of rehabilitating the 7 span, 230 meter pre-stressed concrete beam bridge originally constructed in 1967. The project was divided into three stages. Stage 1 consisted of replacing 6 pier cap beams, minor excavation, and repairs to the abutments, wing walls, and pier columns. Stage 1 was completed while the bridge was fully operational. Stage 2 consisted of the removal and replacement of the downstream side of the top mat bridge deck, barrier walls, sidewalk, and curbs while the other side remained open to traffic. The deck was poured in three concrete placements. Each concrete placement was allowed a 72 hour window before the bridge was reopened to traffic. Stage 3 on the upstream side began in late August following the Stage 2 sequence.

Design of the bridge and scheduling construction activities had to accommodate noise restrictions inside a residential neighbourhood, traffic control and short period closures, archeological concerns, no underwater activities over a certain period, aquatic wildlife protection and unimpeded marine traffic. The project had an 18 month schedule starting in June 2014 with completion by October 31, 2015.

Like SSR's Facebook page and stay informed about products and offers



A Facebook page has been created to stream information about products and offers at SSR. The two pre-assembly facilities shipping products to poured-in-place contractors and precasters are growing rapidly in capacity and offerings. New alloys are on the horizon and clients are demanding a wide range of applications for pre-assembled stainless steel reinforcing.

Beginning in June, content was posted on a regular basis because markets are moving rapidly and clients are looking for information on a variety of platforms including social media sites and direct mail of e-newsletters. Don't wait to see hard copies of the Stainless Rebar Standard. Like us on Facebook and stay informed about stainless steel reinforcement.

About Salit Specialty Rebar

Thank you for buying our products and enlisting our services. We appreciate your business.

SSR is North America's stainless steel rebar specialist. Now that we have introduced stainless steel mesh and mats to our product line we look for the support of our clients to build our brand as North America's specialist for stainless mesh and mats.

Our corporate vision is one of leadership, innovation and consistently exceeding expectations. This vision is backed by extensive experience in the industry. As with all members of the Salit Steel family, we pride ourselves on providing unparalleled customer service.

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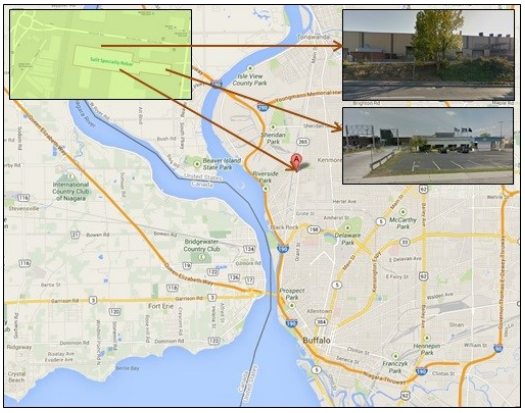
Buffalo Pre-assembly facility expands with two additional machines



Opened in October, 2013, the 40,000 square-foot facility employs 16 people. The operation is set up for two 10-hour shifts, six to seven days each week.

In 2015, two more machines were added to the facility's production line to add more options for pre-assembled stainless steel products.

The Radius Machine was purchased from R.M.S. to form a radius without pre-bending the bar and in most cases in a one-step operation. See the 1 min. 16 sec. demonstration about the features of the machine at https://www.youtube.com/watch?v=_1I9mvA_moU.

The R.M.S. Spiral Machine spirals rebar without the need to pre-bend the leading end of the bar. See the 1 min. 12 sec. demonstration about the features of the machine at https://www.youtube.com/watch?v=hr23kfBhoG4.

SSR Events and Exhibits

The 2015 Western Bridge Engineers' Seminar will be hosted by the Nevada Department of Transportation. The Seminar will be held on September 9-11, 2015 in Reno. The purpose of the seminar is the exchange of information between government agencies, consultants, contractors, educators, and suppliers on current subjects important to the design, construction, and maintenance of bridges.

SSR will have a booth on the exhibit floor, so check the program and visit our booth to learn about stainless rebar and mesh products and SSR services.

World of Concrete is being held February 2-5 in in Las Vegas. SSR's booth number is N2918 in the North Hall. SSR's senior staff will be at the booth to answer questions about stainless steel reinforcement products and services.

WOC is the only annual international event dedicated to the commercial concrete and masonry industries. It jumpstarts each new year by supplying delegates with the latest innovations, expert know-how and best new products to finish work faster, better and more profitably.