

George Campbell Award - For outstanding achievement in the completion of a difficult or complex industrial or commercial coatings project

Submitted by: Kim Sieber, Cianbro Corporation

Name of Structure: Mystic Bridge, CONNDOT No. 00362

Structure Location: U.S. Route 1 over the Mystic River in the Towns of Groton and Stonington

Structure Owner: Connecticut Department of Transportation

Contact: Keith Schoppe, Project Engineer

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(860) 823-3252

Contractor/Applicator: Gemstone Painting, LLC

Contact: Cameron Jewell, Owner

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(305) 294-3233

Coating Material Supplier: Sherwin-Williams

Contact: Ed Pinch, Sales

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Names of other key individuals who participated in the project:

1. CONNDOT – Brent Church – Chief Inspector

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2. Berger Lehman Associates/QAQC Inspection – Gary Carver, Inspector

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3. Cianbro Corporation – Matt Hebert, Project Superintendent

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4. Frank Marafioti – Containment Engineering Consultant

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5. NE Professional Engineering Consultants – Mike Pettini - Containment Engineering Consultant

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Painting Start Date: Jan 2011

Painting Completion Date: April 15, 2011

Scope of Work:

Cianbro contracted with Connecticut DOT in Summer 2010 on the Rehabilitation of the Mystic River Bridge in Mystic, CT. The project includes rehabilitating the structural steel, electrical, machinery, control house systems and realignment.

The contract work includes:

- Blasting, cleaning, repairing and painting the structural steel
- Jacking the counterweights to realign the counterweight truss
- Replacing the counterweight trunnion bearings
- Replacing the electrical systems including the main drive motors braking systems, controls, lighting, traffic signals, gates, and installing a stand-by generator
- Replacing the drive machinery and realigning the main pinion and bull wheel bearings
- Replacing the control house and the adjoining shed and motor houses
- Removing and replacing 320 ft of submarine cable
- Upgrading the fender system and installing scour monitor devices
- Replacing the bridge railing on the east span and extending to the approaches on the north and south sides of the road
- Repairing the stone wall and east abutment

Gemstone Painting, LLC, of Key West, FL was subcontracted to blast and paint the structure. Gemstone mobilized in January 2011 and began containment soon after. The bridge was originally painted in 1922, and then coated (no blast clean) in the mid-1980s. The project required an SSPC-10 blast, and then application of a 3-coat system. The contract allowed for one of the two lanes of the bridge to be taken for the entire season. This resulted in a 12' travel lane maintained by a traffic light at either end of the bridge, a 5' pedestrian walkway, and a 9'-9" work lane. Blast pots were mobilized in the work lane on the bridge while a 90'x30' work barge was mobilized on the south side of the bridge to hold the compressors and dryers. The schedule called for the substructure to be contained, blasted, and painted first, and then for the truss to be contained, blasted, and painted. The upper truss containment skeleton was erected by Safway. It was then tarped in, enclosed, and maintained by Gemstone.

The project is adjacent to occupied condominiums and hotels which required a noise constraint before 7am and after 7pm. All work requiring the blast pots and/or compressors was carefully scheduled in order to comply.

At the end of the season the project was allotted a 54 hour shut down (to vehicular and pedestrian traffic) to access areas that needed to be painted with the leaf up. Gemstone's ingenuity and flexibility allowed them to complete this work earlier in the season (in the down position) and utilize the outage to disassemble the entire scaffold system in that 54 hour period. This ultimately allowed Gemstone to turn the bridge back over to CONNDOT early for bridge exercising and troubleshooting. Please note: the control house and counterweights were not in Gemstone's scope. The house is actually in the process of being replaced and counterweight coating is being contemplated by CONNDOT

Gemstone's commitment to partnering proved critical in accomplishing this first phase. Equally important was Gemstone's commitment to safety. Their team members are well-trained to work in these difficult settings and maintained a high level of professional courtesy at all times. Gemstone answered the call to all the challenges with a lot of Southern spirit and worked through incredible issues to get the painting done safely, on budget, and in time for an April 15, 2011 opening.

Reason for Nomination:

*Work performed on a particularly difficult or complex structure*

The bridge was designed by [Thomas Ellis Brown](#) of New York (formerly Chief Engineer of [Otis Elevator Company](#)), built in 1920 by the [J.E. FitzGerald Construction Company](#) of [New London, CT](#) and is of the Strauss Heel-trunnion type. It has a movable span width of 85 ft and a total length of 218 ft. It has two concrete-filled counterweights. It is operated by the Connecticut Department of Transportation and connects the two sides of Mystic, allowing vehicle and foot traffic on Main Street in the center of the tourist district of town.

*Work completed in harsh or extreme environmental conditions*

New England, and especially Connecticut, experienced one of the worst winters in State history. Connecticut received four major Nor'Easters, as well as a number of "smaller" storms. These storms delivered over 86" of snow from December 2010 to March 2011, twice the yearly average.

*Under strict time constraints*

The contract allowed for the general contractor to begin traffic patterns in December 2011. However, we were not allowed to take the lane until early January 2011. Gemstone began their containments soon after and blasted and painted through March 2011. They removed their containments by the second week of April 2011 in time to turn the bridge back over to CONNDOT by April 15, as required by contract.

### *Limited access*

The substructure was painted first from barges and suspended platforms on the Mystic River. The bottoms of the girders are less than 5 feet from water level and the tide affects the level on an average of 3 feet. This situation required much of the work to be done while either kneeling or actually on one's back, while donning a personal flotation device. The upper truss was blasted and painted from the scaffolding. Gemstone designed their scaffold system to be able to reach almost all of the blasting and painting to truly minimize and almost eliminate the need for fall protection.

### *High traffic areas*

The bridge is located within a historical downtown vacation destination on the north shore of the Long Island Sound. Mystic sees over 30,000 visitors every year and year round. The town is highly pedestrian and the bridge connects the two sides of a very active Main St. The bridge is an integral part of the tourist experience.

The rehabilitation of the bridge is being completed concurrently with and adjacent to a major streetscape expansion project. The bridge rehabilitation is phased over the course of three winters in an effort to minimize any disruption to tourist seasons. While pedestrian and vehicular traffic must be maintained, marine traffic is suspended during the construction work.

Please provide high resolution before and after photos of the structure that demonstrate why this structure has been nominated – Attached.