



BOH PICTURE

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Design & Layout
Design III

On the cover:
Boh completed NuStar's
Dock 16 early, allowing
NuStar to load out
700,000 barrels of oil in
one, 24-hour period this
past February.

The BOH Picture is
published for employees
and friends of Boh Bros.
Construction Co., LLC

Address all correspondence to:
BohPictureEditor@bohbro.com



www.bohbros.com

IT'S WORK, NOT WAR

90,000 hardworking men and women are injured on construction jobsites across the country every year. 775 are killed.

That's why 31 construction firms are standing together for the first time to honor their own and eliminate worker injury.

Because one injury is one too many.

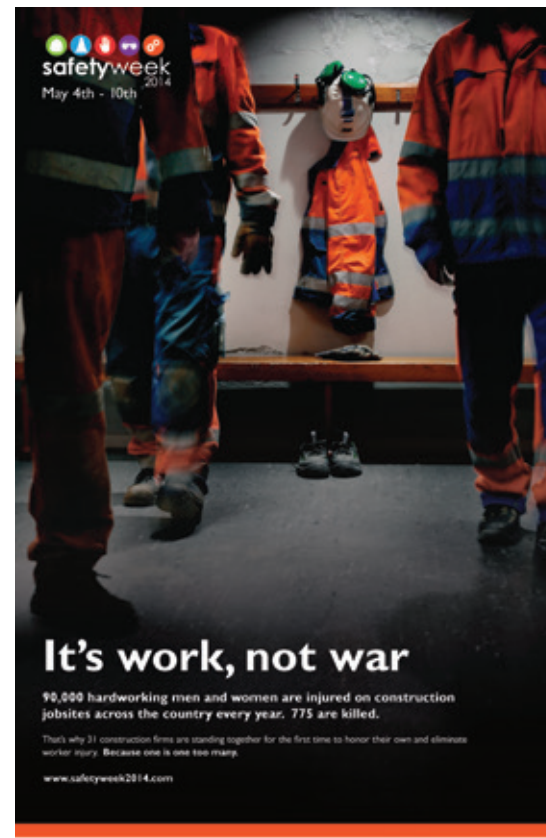
This was the advertisement that appeared in *USA Today* on May 5, 2014, coinciding with the start of Safety Week. Although perhaps a bit edgy, I think the ad makes the important point that construction work, while potentially hazardous, can be done without putting people's lives at risk.

For the past few years, I have been meeting twice annually with the CEOs of major firms in our industry to discuss safety. We share best practices, identify common challenges to working safe, and in general, try to help each other be better safety leaders and mentors for those who work with us. When it comes to exchanging ideas that might keep people safe, there are no trade secrets. Safety Week is this group's attempt to promote the cause of employee safety by encouraging other firms, regardless of size or role in the industry, to get involved. We also want to recognize the efforts of our employees in creating a positive safety culture on our jobs.

As I look back on my more than three decades working in our company, I know we have made great progress in reducing injuries on our projects. Many practices, which were acceptable at the beginning of my career, have been replaced with better planning and procedures so that production can be accomplished more safely. In keeping with one of Boh Bros.' core values, *Never be Satisfied*, we will continue to strive toward our ultimate goal: no one gets hurt.



Robert S. Boh
Robert S. Boh, President



When NuStar Energy expedited construction of a new dock at its North Beach Terminal in Corpus Christi, Texas to meet customer demand for the distribution of Eagle Ford Shale Play crude oil, the Boh team kicked into overdrive and completed the project months ahead of schedule.

“Finishing this project several months ahead of schedule is a testament to the hard work and dedication of our employees and contractors,” said Brad Barron, NuStar president and CEO. “I’m proud of the great teamwork they showed in working together, not just to finish the project quickly, but to finish it safely.”

NuStar’s Dock 16, originally scheduled for completion in the second quarter of 2014, received its first ship to be loaded with crude oil February 13, 2014.

“We mobilized in October 2013, moved quickly, and completed our part of the project by January 2014, in time to receive that first ship,” said Grant Closson, Boh’s piling and marine division project manager.

The addition of the new dock, as well as some recently completed major additions and upgrades to existing pump systems, enabled NuStar to load out 700,000 barrels in one 24-hour period at its North Beach terminal.

“This additional capacity gives our customers even more

options to move Eagle Ford crude by water,” Barron said. “It enables us to handle all of the new volumes associated with our ongoing expansion efforts in our South Texas crude oil pipeline system, as well as additional volumes shipped on our pipeline systems to Corpus Christi.”

The new dock includes: a series of 30 inch and 12 inch pipelines that transfer crude oil from incoming pipelines or tanks within the terminal to the new dock; a state-of-the-art metering system; vapor control system; and a dock structure with three loading arms. The dock system is designed to load Panamax-class vessels (which carry between 350,000 and 500,000 barrels) at rates up to 30,000 barrels per hour.

Boh worked within a very small footprint to construct the dock and access ramp and then set the loading arms.

“Most of the work was performed from the water because of limited space,” Closson said. “It was a very tight site because there was a lot of process piping being installed at the same time we were building the new dock, so we had minimal laydown area.”

The conceptual planning and detail design by CDI Engineering of Baton Rouge guided every step of Boh’s construction strategy, which included the pre-fabrication and staging of critical components, pile driving finesse, and expertise working in marine environments.

“I was pleased because they brought the project in on schedule,” said Marc Matulich, NuStar’s project manager. “They presented a schedule at the beginning of the job and took all actions necessary to complete it on time.”

Power Team

The entire project took less than 22 months from design to completion, said Clovis Morrison, P.E., marine department manager for CDI and engineer of record.

“This job was a real challenge that not every contractor could do, but we had confidence that Boh Bros. could do it,” Morrison said. “I’ve been around Boh Bros. for 50 years, doing work up and down the Mississippi River. Their experience is unsurpassed in this part of the country in marine pile driving and building dock facilities on the river.”

The tidal elevation varies a few feet at the Port of Corpus Christi, but water elevations on the Mississippi can fluctuate up to 30 feet, said Justin Ittmann, P.E. and CDI’s lead marine engineer.

On the Mississippi River, many of the lower-level dock components such as pile caps and dolphins would typically be designed with steel, Ittmann explained. However, due to the corrosive salinity of the water at the Port of Corpus Christi, CDI chose to use concrete.

“Forming in place is expensive, difficult and takes a long time, so we tried to make use of precast elements as much as possible,” Ittmann said. “With precast elements, you don’t have as much tolerance in the field as you do with cast in place. You have to think about things differently and make sure everything is aligned.”

To further complicate things, the dock was being constructed



only a couple feet outside an existing cargo dock and less than 100 feet inside the main shipping channel and turning basin. “We originally had designs to go further out into the channel, but the port required that we compress it and push it back closer to shore,” Ittmann said. “That meant shifting the batter piles from the back to the inside of the structure, changing the design and putting them closer together.”

The final configuration called for the Boh team to drive 18 inch precast piles as close as within two feet of each other. “We knew it wasn’t going to be easy, but since we had Boh Bros. behind us, we had a lot less worries,” Morrison said. “We have the utmost confidence in Boh Bros. because of all the big ringer cranes they have, the massive yard they have at Almonaster for fabrication laydown area, and their performance. The people they have working for them stay with them a long time, and it’s a pleasure to work with them.”

NuStar’s Dock 16, originally scheduled for completion the second quarter of 2014, received its first ship to be loaded with crude oil February 13, 2014.

Strategic Planning

The dock is 250 feet long and 60 feet wide. Because the mechanical and electrical contractors were working landside, Boh planned to perform about 90 percent of the work from the water.

“We mobilized to Corpus Christi with one 4100 Manitowoc ringer crane and two material barges,” Closson said. “Because of the crane’s lift capabilities and the 240 feet of boom, we knew that we could reach everything from one location without moving upstream and downstream.”

That saved a lot of time in the field, Closson said. “With

that 240 feet of boom, we knew we could lift everything from 26 tons up to 130 tons, everything we would need for the job.”

Precast components were either barged 575 miles from Boh’s Almonaster yard in eastern New Orleans or trucked to the site, and then offloaded to Boh’s pre-positioned material barges.

Boh drove 57, 18 inch square, and 119 foot long, precast pilings for the dock foundation. “We used a moveable template to guide the placement,” Closson said. “It was hard driving because there is so much sand there. We had to finesse them down because the precast pilings are so delicate compared to steel.”





Boh worked within a very small footprint to construct the dock and access ramp and then set the loading arms.



Once the pilings were driven, Boh topped them with precast caps and panels. “For some of those caps, nine piles had to fit in one cap, so we had to drive those pilings in perfect position,” said Ben Brenneke, Boh’s field project manager. “Everything had to line up.”

Boh had a very tight tolerance on the pilings and caps, Brenneke explained. “The placement of precast pieces got a little bit tighter with every successive step, down to about 3/4 inch on the panels on top.”

Boh was able to achieve such accuracy because of the “thought and planning that went into the piling template,” Brenneke said. “We installed everything right the first time.”

Once the concrete panels were set, Boh set steel walkways, a pre-fabricated dock house, and a 65 by 40 foot steel loading platform that was pre-assembled at Boh’s Almonaster yard.

“It would have taken two to three weeks to assemble in the field,” Closson said. “Having the space and capability to pre-assemble the loading platform saved us time and over-water exposure in the field, and allowed us to advance other work in the field.”

It also meant Boh could barge in the platform when the dock was ready to receive it. “In a matter of 15 minutes, it went from the barge to being set,” Closson said. “Within two hours, we had it set, all the connections bolted, and ready to top with concrete.”



Lifting Finesse

In Brenneke’s opinion, the climax of the project was installing the loading arms for NuStar because “that’s where the money goes through,” he said.

Because the loading arms are shipped from the manufacturer in a folded up position, lifting and placing them on the dock required working the crane with two blocks in tandem.

Each of the loading arms was attached to the dock with 12 anchor bolts that Boh embedded prior to delivery. “The holes in the steel base plate for the bolts were 1/4 inch bigger than the bolts,” Brenneke said. “A failure to set each of the anchor bolts in the proper position would have been a serious setback to the project.”

Like the rest of the project, the loading arm installation went off without a hitch, largely because of the successful collaboration between NuStar, the Port of Corpus Christi, CDI, Boh, and the mechanical and electrical contractors.

“From the onset, we decided we were going to help each other out and that our top priorities were safety, quality and production,” Brenneke said. “There were instances where we had to use the piping guys’ landside crane, and sometimes we helped them out with our 4100 ringer.”

Matulich agreed that cooperation among the contractors was key to the project’s success and early completion. “It was all very closely coordinated where each could work their separate scope of work within a very small footprint,” he said.

Engineers often lament that the perfect job is one that is designed, but not built, Morrison said. “We say there is no such thing as a perfect job, but this one comes darn close.”

Boh Wins 2014 AGC/Alliant Build America Award

Boh Bros. was recognized with a 2014 AGC/Alliant Build America Award in the Federal & Heavy Renovation category for work on the Lake Pontchartrain Hurricane Protection Project LPV 17.3. The project is a key feature of the U.S. Army Corps of Engineers’ \$14.6 billion Greater New Orleans Hurricane and Storm Surge Risk Reduction System, designed to defend against a storm surge event that has a one percent chance of occurring each year.



Boh’s careful planning, constant communication and exceptional project management contributed to the project’s success, despite the challenges of: multiple stakeholders with conflicting specifications and compliance issues; a tight schedule; limited footprint and limited access to the work site.

Boh Bros. was tasked with building 411 linear feet of 15 foot tall reinforced steel and concrete floodwalls to tie into the levee system. Boh had to elevate the southern end of the Lake Pontchartrain Causeway from 13.5 to 16.2 feet to fit the new wall underneath.

While constructing the permanent floodwall, the Boh team decided to fabricate a temporary steel floodgate to keep on site in case of emergency. The steel gate solution was part of what prompted the Corps to award Boh the best-value contract, which includes consideration of technical aspects, performance risk, and constructability, as well as price. When Hurricane Isaac was approaching in 2012, the gate was installed in just over 30 minutes to block the surge, protecting local communities.

The Causeway is the world’s longest bridge and one of the primary routes linking communities on the north and south shores of Lake Pontchartrain. It supports an estimated 40,000 motorists each weekday. It was critical for Boh to keep the Causeway open to traffic during construction.

To keep rush hour traffic flowing smoothly, Boh proposed a sequencing of construction to provide a right turning lane at the southern foot of the Causeway earlier than contractually required.

Boh Bros. representatives were presented with the award during the Associated General Contractors of America’s 95th Annual Convention at the Alliant Build America Awards Celebration Wednesday, March 5th in Las Vegas.



First National Safety Week a Success

Boh Bros. joined forces with 30 national and global construction firms comprising The Construction Industry Safety (CISI) group and the Incident and Injury Free CEO (IIF) Forum to create the first annual U.S. Industry Safety Week (held May 4-10) to inspire everyone in the industry to be leaders in safety and eliminate worker injury.

About 90,000 workers suffer injuries and 775 are killed on construction job sites across the U.S. every year. Boh Bros. and the other Safety Week sponsors believe that any incident is one too many.

“Safety is something we focus on every day at Boh Bros.,” said Heather Grytza, Boh’s corporate safety director. “Safety Week allowed us a dedicated time to re-evaluate current safety practices and to acknowledge all of the hard work our employees have done in maintaining a healthy safety culture.”

Boh’s Safety Week events included special emphasis on five specific industry hazards—fall protection, body strains, hand protection, eye protection and heat awareness.

“We spent one day focusing on identifying and eliminating pinch points, another discussing methods to reduce and eliminate heat-related illnesses and another evaluating tasks with potential for body strains,” Grytza said.

On Thursday, May 8, MSA fall protection experts visited four of Boh’s jobsites to conduct on-site safety demonstrations and training. “They used a fall arrest system and dummy to visually display the forces demonstrated on the body in the event of a fall,” Grytza said. The MSA presentation also included an overview of ANSI/OSHA standards, equipment inspection and calculating fall distances. Fatal falls, slips or trips are the leading causes of fatalities in the construction industry and took the lives of 668 workers in 2012.

“We are striving to achieve our goal of zero incidents through the use of employee training programs and by enhancing Boh’s strong safety culture,” Grytza said. “This opportunity has allowed us to take one step closer to reaching zero incidents. We look forward to being a part of Safety Week for many years to come.”



Many Roles, One Goal - Building Safety Together
We stand together to eliminate worker injury. Please join us in celebrating Safety Week May 4th through 10th. Go to www.safetyweek2014.com to learn how.



MEN OF STEEL

Boh Earns AISC Certification



As part of an ongoing quest for continual improvement, and to provide clients with the safest, highest quality craftsmanship, Boh Bros. recently obtained bridge fabrication certification from the American Institute of Steel Construction.

The certification places Boh among an elite group of fewer than 1,000 fabricators worldwide who have earned what is the most recognized quality certification program for the steel industry.

“By becoming AISC-certified, Boh Bros. makes the statement that their fabrication facility is dedicated to quality,” said Todd A. Alwood, AISC’s manager of certification business development. “AISC certification is a sign that a fabricator has the personnel, knowledge, organization, equipment, experience, capability, procedures, and commitment to produce quality work.” Boh earned the AISC designation “Certified Bridge Fabricator— Simple” on January 1, 2014. To date, the AISC has certified a total of nine fabricators in Louisiana and 939 globally.

“We pursued certification to save our clients money and have more quality control,” said Neil Hickok, Boh’s chief engineer. “AISC certification means we can produce a higher quality product— safely and when we need it— avoiding long

lead time on fabricated items, non-responsive vendors, and unnecessary markups.”

New Certification Means Faster Delivery

The newly acquired certification allowed Boh to perform an emergency repair on the Judge William Seeber Bridge that crosses the Industrial Canal in New Orleans’ Ninth Ward, when the 1957-constructed vertical lift bridge became stuck in the open position in January.

“The bridge is old and has some fatigued and deformed parts, so sometimes, when they open and close it, it has a chance of getting out of alignment,” Hickok said.

On December 28, 2013, during an operation of the bridge, the bridge got out of skew, breaking several of the lift span guiderails and brackets. The Louisiana Department of Transportation and Development awarded Boh Bros. an emergency repair contract to remove the damaged parts and replace them with newly fabricated pieces.

“The parts we needed to make the repairs aren’t commercially available, so they required specialty fabrication,” said G.J.

“AISC certification is a sign that the company has the personnel, knowledge, organization, equipment, experience, capability, procedures, and commitment to produce quality work.”

Todd A. Alwood

AISC’s manager of certification business development

Schexnayder, Boh’s director of project management.

“By fabricating the parts ourselves, we were able to control the production schedule. If we had purchased the parts from somebody else, we may have had a week or two delay before we even started the project.”

The bridge had to remain closed in the down position during repairs, which meant that marine traffic taller than 42 ft. could not access the busy, commercial waterway. Consequently, the La. DOTD wanted the bridge repaired and operable as quickly as possible.

Boh Bros. completed the project in 17 days.

“I’d say it was a great job because it was done expeditiously and met our requirements,” said Fred Wetekamm, DOTD’s District 02 Area Engineer.

AISC certification is required for such repairs, according to the La. DOTD’s Standard Specifications for Roads and Bridges, 2006 edition, Wetekamm said. “Before Boh Bros. was AISC-certified, they would have to go to another shop that was certified to get those parts fabricated.”

That would have meant waiting in line, despite the emergency circumstances.

“Sometimes the fabricator will move them up in line for an emergency repair, but not necessarily to the front,” Wetekamm said. “With this certification, Boh is able to work internally to accommodate the schedule a lot more effectively than if we had to go to another company for the parts.”

Tighter Controls Promote Excellence

The goal of the AISC quality management systems (QMS) certification program is to build quality into structures from the start by focusing on the entire process of fabrication and erection, and emphasizing error prevention rather than error correction, Alwood said. Before obtaining certification, Boh Bros. had to devise QMS for everything from management responsibility and contract specification review to purchasing, equipment calibration and corrective action procedures. Boh also went through a rigorous initial evaluation that included a comprehensive administrative review, a documentation audit, and an on-site audit of the company’s QMS.

The on-site audit compared Boh’s day-to-day operations with the documented procedures from its QMS and evaluated the





“The entire certification process is well suited to Boh’s core value of never being satisfied. We didn’t need to do this. We went the extra mile to get this, and it is making us better.”

Neil Hickok, *Boh’s chief engineer*

entire process of fabrication, everything from purchasing to weld procedures. Now that Boh is AISC-certified, the company is also subject to annual audits of its QMS.

“We’ve always had quality controls in place, and we’ve always produced a quality product,” Hickok said. “However, this certification has made us better. It required us to develop a heavily regimented, internal standard operating procedure with clear parameters for quality controls. Now we have set drafting standards and much stricter engineering practices, so there is much less room for error.”

When a client wants something fabricated, Boh now has a dedicated fabrication team to review an 80-item checklist, which provides an established, detailed review of the specified material, welding procedure, paint system, and more from bidding phase to project completion.

“The list of quality control checks guarantees that what is in the drawings is what you’re giving the customer,” Hickok said.

“Those quality controls ensure a transparent process from the time the steel is milled, machined, painted and installed.”

A key part of the certification process includes documentation and data control. Tracking any non-conformants (rather than fixing individual problems as they arise and moving on) helps to establish trends that can be universally addressed for improvement.

“The process allows us to produce an even better product and ensure safety, production and efficiency,” said Kyle Alexander, steel fabrication office project manager.

It removes the guess work because everyone’s job is well defined, said Ricky Tamor, fabrication superintendent and production manager.

“When Neil sends us a drawing, everybody knows what he needs us to do—if it’s got to be painted, what kind of paint, what kind of steel, where it needs to be welded and what kind of weld. It increases accountability, helps us to eliminate flaws, and makes everybody do a better job.”

The detailed tracking and accountability associated with the certification has also improved the pride and confidence that

permeate the company, said William “Trey” St. John, a structural fabrication quality control manager.

“We mark every piece of steel that comes in, where it was made and what it’s made of, so we can tell what grade of steel it is and the yield strength,” St. John said. “The clients know exactly what they’re getting and if it’s domestic or qualifies for certain standards.”

Every weld is stamped with a weld stencil, so each weld can be traced back to an individual. “It makes them more accountable for doing a good job, and makes them a more cohesive team,” St. John said.

Detailed Tracking

For the last 35 years, Jimmy Sansone, purchasing agent, has been buying steel for Boh Bros. “I’ve always checked the material when it comes in to ensure it’s the right quantity, size, heat number and grade,” Sansone said. “This is an improvement because everything we receive now has to meet that AISC specification. It has to have heat number traceability, showing where it was milled/ manufactured and whether it’s USA made or a particular grade.”

Boh Bros. obtained a Sophisticated Paint Endorsement or SPE from the AISC in January, which their facility can also provide AISC-certified paint systems.

“Just like the steel, we track everything about the paint,” St. John said. “We track where it came from, which batch it came from, whether the process is correct and it’s applied in the right thickness, and even weather conditions while it’s curing.”

The AISC certification system allows Boh to provide owners with details on every piece of steel, so the company can ensure owners are getting what they want.

“If you want a cheeseburger with Swiss cheese, we can prove that’s the kind we bought for your sandwich,” Sansone said. “If you want bread and butter pickles instead of Kosher, we’ll get them for you and have the paper work to prove it.”

Sansone welcomes the additional checks and balances required by AISC certification. “It’s an elite system—a higher standard of accountability and traceability of fabrication—which I enjoy,” he said. “I want to know the specifics so I can continually improve.”

The AISC designed the certification system expressly to encourage continual improvement by requiring participants to periodically set goals and submit to audits. “Even the best and brightest firm—regardless of size—can benefit from having its quality procedures reviewed on a regular basis,” Alwood said.

The entire certification process is well suited to Boh’s core value of never being satisfied, Hickok said. “We didn’t need to do this. We went the extra mile to get this, and it is making us better.”

The ability to work towards and embrace the certification standards is evidence of the quality of people working at Boh Bros, he added. “Most contractors don’t have people who are that qualified and can shift gears to make this happen. This is evidence of our people’s adaptability, their ability to think outside of the box, and their willingness to never be satisfied.”



NINE-MILE TURNAROUND

Certification, equipment and innovation ensure Boh delivers on Causeway project.



Boh utilized its 4600 Manitowoc ringer crane and recently acquired American Institute of Steel Construction certification to successfully complete a \$409,000 repair to the Causeway's nine-mile turnaround, which was damaged when Hurricane Isaac hit Louisiana in late August 2012.

“The Greater New Orleans Expressway Commission was pleased that Boh was the low bidder on the project,” said Carlton Dufrechou, general manager of the commission. “Over the years, Boh’s performance on Causeway repairs/upgrades has consistently met or exceeded our expectations. Boh made the mark again on the recent nine-mile repairs.”

Boh mobilized on the project in late 2013, right around the time that southward shifts of the North Polar Vortex delivered record-breaking cold temperatures to the eastern United States. Fog, choppy water, wind and freezes presented continual challenges throughout the project, which was completed in February 2014.

“Despite winter storms, once on site, Boh executed the repairs timely and effectively,” Dufrechou said.

Stormy Past

The turnaround originally consisted of two U-shaped ramps that looped beneath the southbound bridge about nine miles from the south shore of Lake Pontchartrain. Closed to motorists since 1969, the turnaround is home to a Causeway utility vault and two cell towers.

The lowest spans of the ramps are only about five feet above the lake’s surface. The storm surge associated with Hurricane Katrina in 2005 destroyed about 15 spans of the turnaround ramps. Boh made repairs to the ramps on the west side of the bridge using some surviving spans.

The storm surge from Hurricane Isaac in 2012 knocked eight spans of the turnaround on the west side of the Causeway into Lake Pontchartrain. To access the utility vault or cell towers, workers had to either use boats or climb down ladders from the bridge deck, which required short-term lane closures.

Boh was tasked with salvaging six of the surviving spans and

replacing them on existing caps in order to provide an access ramp to the equipment. However, the caps had been beat up so much when the waves picked them up and dropped them repeatedly during the hurricane that “the spans didn’t have a good spot to sit on,” said Anthony Saladino, Boh’s project manager.

Rather than having Boh repair the concrete caps by forming over the water, Gulf Engineers & Consultants (GEC), long-term consulting engineer for the Causeway, designed steel risers.

“They are essentially steel pedestals that sit between the girders and are attached to the existing caps with anchor bolts,” Saladino said.

“Instead of building up the concrete that the bearings would normally sit on, we developed these risers taller, so they form shear resistance to keep the spans from walking off the next time there is a storm,” said Cary Bourgeois, GEC’s project engineer.

Bourgeois added that the repair is temporary, until the GNOEC widens another turnaround and relocates the equipment.

GEC (with a joint venture partner) used a similar shear key approach to its design for the U.S. Army Corps of Engineers project to elevate the Causeway at its south end. That project won a 2014 Associated General Contractors of America /

Alliant Build America Award.

“On all of the lakeside spans at the ends of the bents, and on some of the risers, there is a concrete projection from the cap that acts as a shear key,” Bourgeois said. “We took a similar approach for this temporary fix.”

In addition to the shear key benefits, GEC knew that the off-site fabrication of steel risers would be more efficient and safer for the contractor than working from the water to form up concrete, which would have been a much slower process and subjected to the vagaries of the weather.

The fact that Boh had achieved AISC certification only a month before winning the Causeway repair project enabled the contractor to self-perform the fabrication.

The steel risers are 2 feet, 3 inches tall by 2 feet by 3 feet. The steel fabrication team designed a template that the field crew used to place the anchor bolts, so the fittings would align perfectly when the risers were installed.

4600 Ringer Powerhouse

Boh’s Manitowoc 4600 ringer crane played an integral role in both winning and delivering the project. Boh was able to underbid competitors in part because of the 4600 ringer.



The steel fabrication team designed a template that the field crew used to place the anchor bolts, so the fittings would align perfectly when the risers were installed.



“When we’ve done these span repairs before, we would normally use hydraulic trailers that jack up and down,” Saladino said. “The spans were so low to the water that we would have had to sink a barge to sink the trailers underneath, and trailer rental is an expensive option.”

The span weights were well within the lifting capacity limits of Boh’s Manitowoc 4100 ringer crane, but the 4600 was used because of its ability to navigate the rough wave action on Lake Pontchartrain.

“The 4600 is set up like a boat hull instead of a flat boat, so it is better shaped to cut through waves,” Saladino said. “The fact that we had a large crane like that mounted on a rough-water barge allowed us to remain on site during rougher weather. Otherwise, we would have had to demobilize the crane barge several times to seek protection, which would have delayed the project.”

Before the ringer was mobilized, the field crew onsite at the Causeway prepped the caps to receive the risers.

“We had to make a 30-minute trip in a crew boat from the Bonabel Boat Launch to get to the project,” said Ricky Hogan, field superintendent. “To drill the holes in the concrete caps to set the anchor bolts, we would back the boat up to the cap, then get on the cap. It was real tricky work.”

The Boh team drilled 1¼ inch diameter holes 12 inches deep, 30 per cap, for a total of about 180 holes. “We used the metal templates the steel fabrication team had designed to guide drilling of the holes,” Hogan said. “Then we embedded the anchor bolts with concrete epoxy.”

On the days when the water was as smooth as glass, accessing the caps was easy, but those days were few and far between.

“Every few days a cold front would come through, and the waves

would be choppy,” Hogan said. “It was a challenge to keep the crew boat steady against the concrete structures while we were working.”

Once the 180 holes were complete, it was time to bring in the 4600 ringer to install the risers and position the spans.

Mother Nature Meddles

The day the ringer departed the Almonaster yard on the Industrial Canal, it was first delayed at the Danziger Bridge, a vertical lift bridge on the Industrial Canal that couldn’t open because of the freeze. When the ringer finally made its way to the Causeway, the drawbridge there was frozen, so the ringer spent the night on the opposite side of the bridge from the project area.

After all of the weather delays, it actually took only two days to install 21 risers.

The Causeway Commission has strict rules governing work on the bridge, to protect the structure, as well as the estimated 40,000 motorists that travel the Causeway each day. If the ringer was not working—overnight or because of fog or freeze—it had to be anchored a mile from the bridge. When winds exceeded 22 miles per hour, the ringer had to be removed to the Tchefuncte River, about nine miles away. That happened three times during the project.

The Boh team devised a way to lift the spans by coring eight holes in each, and threading them with nylon straps in a basket configuration, Hogan explained.

The 56 foot long spans had to be placed with only about a half inch gap between each, and due to the angle of the ramp, at varying slopes and pitches.

“We used pneumatic chain falls, or winches, to accurately adjust the pitch and slope of each span,” Saladino said.

The job required the team to move two of the spans only 200 or 300 feet, within the reach of the crane, but the remaining four had to be moved about 1,000 feet, Hogan said. “Carrying it that far was a challenge. Every time the ringer moved, the spuds had to be lifted and re-positioned.”

It took the team about three weeks to complete the coring, only two days to install the steel risers and one day each to place the spans.

“Forming the concrete over the water would have been real time consuming, especially with all the weather delays,” Hogan said. “It also would have required a pump truck, barges and a whole lot more equipment.” ☀

BOH EMPLOYEE SPOTLIGHT



Tien Nguyen, welder apprentice

“I like Boh Bros. very much. I have been here for three years, and these people are like my family. If anyone needs help, I help them.”



Jeff Garter, fitter/welder

“Being a fitter/welder is pretty demanding work. I enjoy doing a variety of projects, and anticipate that the new AISC certification will open up doors for new business opportunities for the company.”



José Moreno, welder

“I like working for Boh Bros. because of the way they treat us. We’ve got water all the time, and the boss is very nice.”



Ed Jackson, welder

“I’ve been a welder for 20 years. I used to work in shipping. Working for Boh in construction has given me a broader perspective on welding.”



Ira Taylor, welder

“I’ve been a welder for 40 years, and I’m always learning more and improving my craft. My goal is to always be the best at what I do, so I’m confident it’s right. The AISC certification means having things double-checked. I wouldn’t have it any other way.”



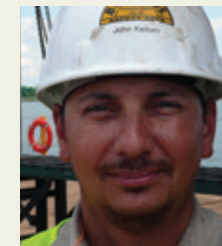
Ricky Tamor, fabrication superintendent

“Boh Bros. is a good place to work if you don’t mind working. My wife, Janet, has kept me going for the past 39 years. She gets up at 4:15 every morning, wakes me up at 4:30, makes me breakfast, and sends me out the door with lunch.”



Trey St. John, steel fabrication quality control manager

“Boh Bros. keeps me busy. Every day brings new challenges, so I get to be a problem solver. Always accomplishing something keeps you busy, which I enjoy.”



John Kellum, fitter

“I like the people at Boh Bros. You’re always meeting new people and a variety of people. I’ve met people from all over the country of different nationalities and from different communities.”



Daniel Flattmann, fabrication shop foreman

“The AISC certification opens the company to a lot of work we couldn’t do in the past. Many times over the years, when a barge hit a bridge, Boh would get the job and shore it up, but we’d have to wait for someone to fabricate those

components. Now that we have the AISC certification, we can fabricate in house. That means more precise work because we have dedicated, long-time people who put more pride in their work. Having complete control over fabrication will mean better quality in the end.”



Jeff McPherson, welder foreman

“I started with Boh 11 years ago as a fitter. My grandpa was a blacksmith, and my daddy was an ironworker. I guess it’s in the blood. I like working for Boh because it is very family oriented, and I think a lot of Mr. Boh. He visits the jobs and comes to all of our safety meetings.

It shows he’s concerned about our well-being. Safety is a top priority of mine, and we’re always working to be safer at Boh Bros. I can’t imagine working anywhere else.”





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David Littlejohn Jr.

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Roger McCall

15 YEARS

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Merlin Clark
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Bryant E. Woodson
Richard K. Ziegler

Equal Employment Opportunity/Affirmative Action Policy

Boh Bros. is an equal employment opportunity/affirmative action employer. The objective of this Company is to recruit, hire, train and promote into all job levels the most qualified applicants without regard to race, color, religion, sex, national origin, age, disability or protected veterans status. All such decisions are made by utilizing objective standards based on the individual's qualifications as they relate to the particular job vacancy and to the furtherance of equal employment opportunity. All other personnel decisions such as compensation, benefits, transfers, layoffs, return from layoff, company sponsored training, education, tuition assistance, social and recreational programs will be administered without regard to race, religion, color, sex, national origin, age, disability or protected veterans status. Boh Bros. employees should refer to www.hrconnection.com for further information on this and other employment-related policies including Anti-Harassment, Discrimination and Retaliation Policy and Reporting Procedure.