

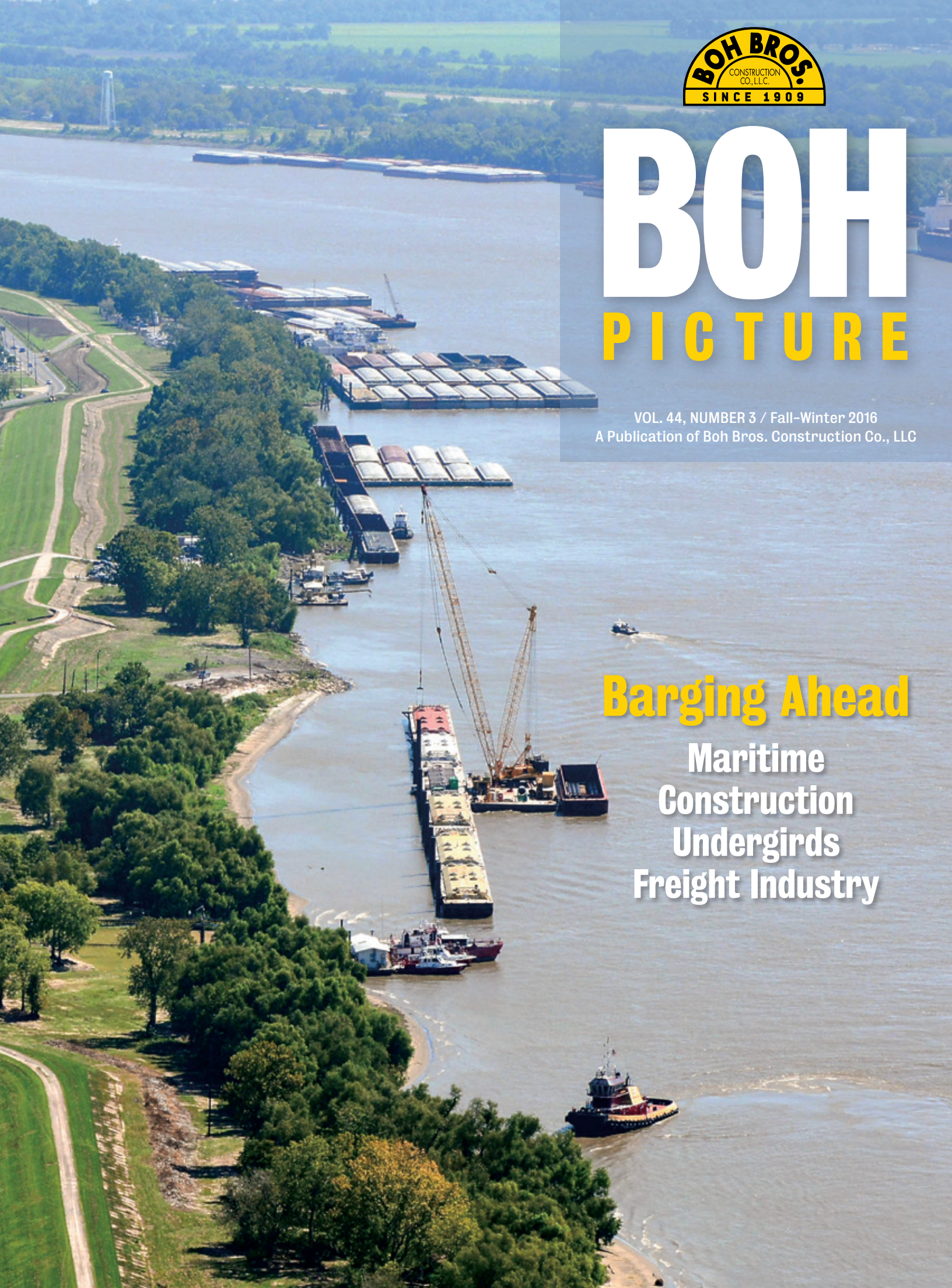


BOH PICTURE

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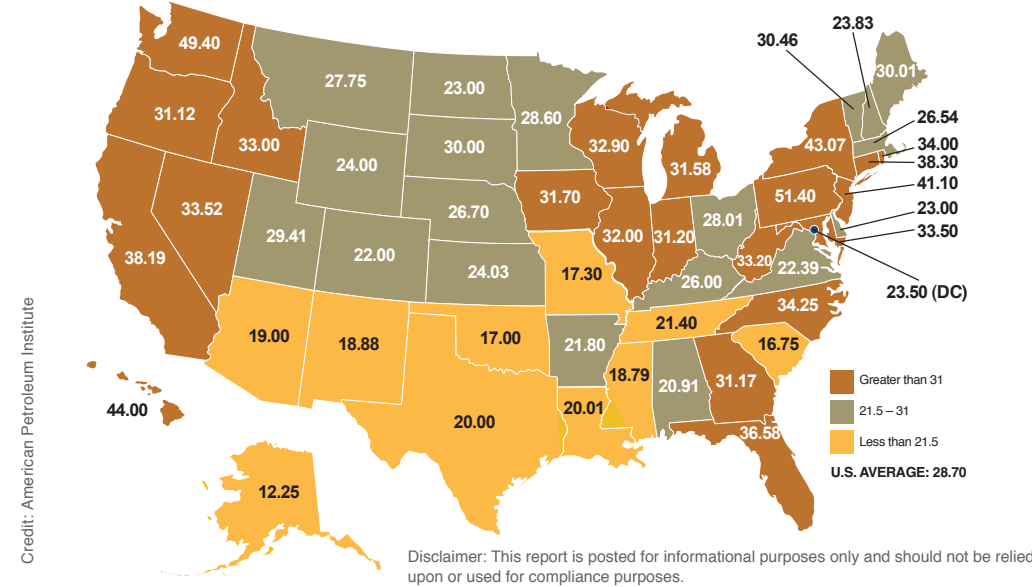
Barging Ahead

Maritime
Construction
Undergirds
Freight Industry



GASOLINE TAXES

(Cents per Gallon) Rates Effective 11/1/2016



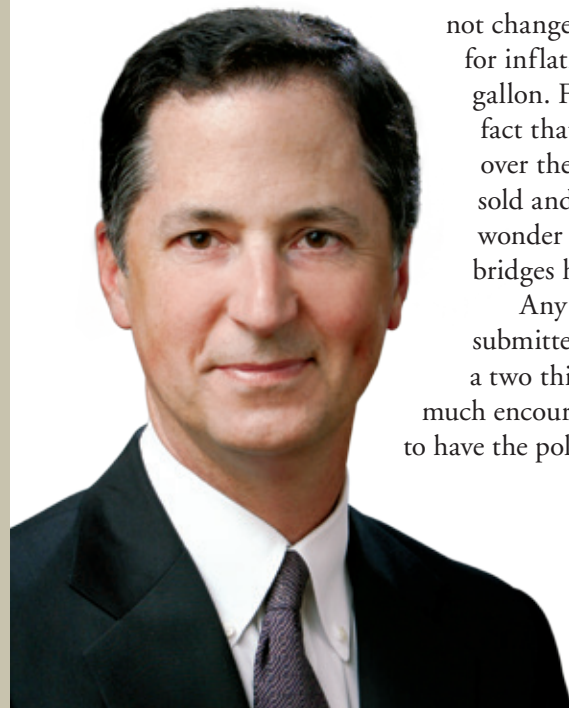
Louisiana's highway construction industry is in a recession.

Job lettings by the Department of Transportation and Development (DOTD) in the fiscal year ended June 30 totaled \$555 million on 259 projects. This compares unfavorably to an average of \$833 million and 371 projects per year for the previous five years. Although DOTD expects to let about \$800 million in projects in the current fiscal year, most of the increase is coming from nonrecurring revenue sources. As a result of years of declining spending on these infrastructure improvements, there is a backlog of about \$13 billion in highway and bridge maintenance needs.

Earlier this year, Governor John Bel Edwards appointed a Task Force on Transportation Infrastructure Investment. The task force is charged with coming up with recommendations to achieve increased levels of recurring funding sufficient to address the backlog as well as to build "mega" projects included in the Louisiana Statewide Transportation Plan. Notable projects included in this Plan include a new Mississippi River Bridge in the Baton Rouge area, widening I-10 and I-12 near urban areas, and replacing the Calcasieu River Bridge in Lake Charles. The task force report is due at the end of this year, and it is likely that a key recommendation will be an increase in the state tax on motor fuel.

Louisiana currently collects 20 cents per gallon at the pump which ranks 42nd in the country (see chart above). This amount has not changed since the late 1980s; had the tax been indexed for inflation, the current tax would be about 45 cents per gallon. Further contributing to the funding issue is the fact that vehicles have become much more fuel efficient over the last three decades so fewer gallons of gasoline are sold and taxed for the same mileage driven. It's really no wonder that the condition and capacity of our roads and bridges have deteriorated over time.

Any increase in the gasoline tax will have to be submitted to the Legislature in the spring and approved by a two thirds vote of both houses. Our legislators will need much encouragement from the citizens they represent in order to have the political courage to support any tax increase.



Robert S. Boh

Robert S. Boh, President



Maritime Niche

Boh's Experience, In-House Capabilities on Display at Ingram Site

Marine-based commerce is huge in Louisiana. In the last decade, traffic on the Mississippi River has risen steadily, with an average of 300 million short tons of product transported down the river each year, according to the U.S. Army Corps of Engineers' Institute for Water Resources. *(continued next page)*

President
Robert S. Boh

On the cover:
Boh drives monopiles as part of an expansion of Ingram Barge Group's midstream mooring facility in Reserve, LA.

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

Address all correspondence to:
BohPictureEditor@bohbro.com





In August, Boh began driving 18 monopiles to expand a mid-stream mooring facility, as well as to replace existing tripod dolphins, at Ingram Barge Group's new Southern Regional Office in Reserve, La.

Much of that is barged in and out of south Louisiana ports, and consists mostly of crude oil, refined products, food and farm products. The economics of barging are hard to ignore—a single tug boat can move 36 barges at a time, the equivalent of 3,600 truckloads.

Few are as aware of the industry's impact upon the state, or its close ties to construction, than Fred Fuchs, Boh's Vice President of Piling and Marine. "I wouldn't be surprised if, from 2000 until today, the volume of cargo in and around New Orleans has gone up 50%," Fuchs said. With this increased volume, Fuchs has also seen a subsequent demand for the evolution of

marine construction methods to enhance safety, reduce construction time, and improve efficiency.

For 60 years, Boh Bros. has been a major player in the construction of facilities to meet the growing demand for barge transportation. One of the more significant recent advancements has been a change from tripod structures to mono-pile mooring dolphins for fleeting pile design, which has significantly produced safer work environments, reduced construction time, and saved money. Use of the larger diameter piles has been made possible by the enhanced capabilities of cranes and pile hammers. "River conditions can be unpredictable, so you want to reduce the amount of time you're out there," Fuchs said.

In August, Boh began driving 18 monopiles to expand a mid-stream mooring facility, as well as to replace existing

tripod dolphins, at Ingram Barge Group's new Southern Regional Office in Reserve, La. David Sehr, Ingram's Senior Vice President and Chief Operating Officer, said the project will significantly augment its barge fleet at the site.

"The work will add 56 parking spots for our barges," Sehr said. "The Reserve facility is a hub for us—when the barges come down from up north, they come down 30 to 40 at a time. We utilize the facility as a stopping off point, so we can redistribute the barges in ones, twos, fours, sixes, etc." Ingram has been a marine transporter on America's inland waterways since 1946, beginning as a small, family-owned business and growing into the largest dry cargo carrier and one of the top chemical carriers on the river. The company operates a fleet of 140 towboats and 5,000 barges.

"One of the difficulties in establishing a fleet is that you need a significant amount of property, anywhere from 1,000 to 2,000 feet of riverfront, which is difficult to acquire along that particular stretch of the river," he said. The Reserve facility is one of four operated by Ingram, with others in Port Allen, La., Columbus, Ky., and St. Louis, Mo.

Boh Taps into Unique Capabilities

After work began in August, the Ingram project quickly became a showcase of sorts for Boh. Grant Closson, project manager, said one of the primary challenges has been access—the Industrial Canal locks in New Orleans were undergoing a major renovation, so rather than making the short 5-mile journey from the fabrication yard into the



For 60 years, Boh Bros. has been a major player in the construction of facilities to meet the growing demand for barge transportation.

Mississippi River, the piles had to travel an additional 250 miles to get to the site. Once the operation began full swing, Boh was transporting and driving about two piles per day.

“We’re driving 14 piles in a straight line to a depth of about 100 feet below the mudline so they can secure the spar barges in a fixed location,” Closson said. The spar barges are permanent fixtures at the mooring facility, attached to the dolphin by a steel yoke that rides up and down the pile.

Boh spliced the piles utilizing its submerged arc welding table at the Almonaster fabrication yard, following the steel’s 30-day journey from the supplier. Fuchs said the sub arc table has significantly enhanced Boh’s capabilities over the years, allowing it to fabricate the lengthy piles in-house. “Being able to fabricate these pieces ourselves provides value,” Fuchs added. “We can fit and weld those big diameter piles together in our own yard, giving us the ability to control the fabrication and painting so we can deliver our product more quickly to our customers.”

After delivery to the Ingram site, the monopiles were driven into place with a Manitowoc 4100 ringer crane and vibratory hammer. The 130-foot-long, 42-inch-diameter piles have a maximum wall thickness of 1.5 inches at the

base. “Typically, the highest stress location is about 10 to 15 feet below the mud line, so that area needs to be the strongest,” Closson said.

As an additional challenge, the piles had to be driven through existing concrete mats, which had been previously placed on the river bottom by the Corps of Engineers to prevent erosion. “What the vibratory hammer can’t get through, we have an impact hammer as a backup,” he added. To repair the mats following the procedure, Boh placed limestone around each pile.

Closson said the process from there is fairly straightforward for a company with as much experience in marine construction as Boh—“We have our layout team on the levee shooting grades and telling us when to turn the hammer on and off. Once we get to grade, we disconnect from the pile.” A cap plate is welded to the top of each pile to create an airtight seal, thereby blocking moisture and preventing corrosion within the pipe. “We have to seal it off to kill the oxygen on the inside.”

Through it all, the Boh crew has been mindful of the heavy ship traffic along the river. As such, safety is a primary concern, so they practice a 100% lifejacket policy and have a rescue boat in the water at all times.

Lingo Unique to Marine Industry

While like a foreign language to some, words such as monopiles, spar barges and yokes are commonplace among those who work in the maritime industry.

For Fuchs and Closson, it’s part of their everyday language. It’s this knowledge of marine construction,

gained from decades of experience in the Mississippi River, that differentiates Boh from its competitors. Additionally, unique capabilities such as in-house steel fabrication are complemented by an internal engineering staff.

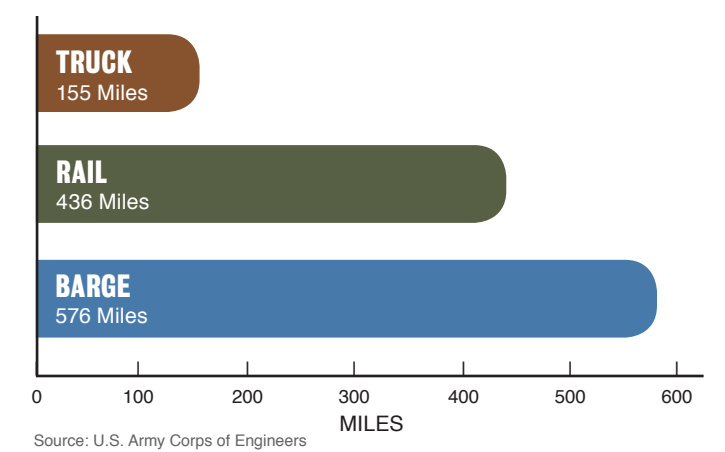
“Our engineers help us design the means and methods of the project,” Closson said. “While the permanent material design is done by the owner’s engineer, we might see an opportunity for greater efficiencies that we can both design and fabricate. They give us a starting point, then we evaluate what would be the best and most efficient way to do it.”

While the ways and means of creating new maritime infrastructure have changed over the years, Ingram’s Sehr said barges have changed surprisingly little. “What we’re building today are the same barges that were built 40 years ago,” he added. “We like them the same size because it makes it easier to redistribute the barges in different combinations. We’re also constrained by the size of the locks in the various riverways.”

Grain shipments comprise the bulk of Ingram’s Mississippi River traffic, with an expected 7,000 barge loads of grain coming into the Port of New Orleans in 2016. As such, the expanded capacity of the Reserve facility will enable the company to dock the barges as they arrive, then phase the deliveries to the port.

“We’ll be able to ship them in smaller quantities, since the ports don’t have the capacity to take 30 to 40 barges at once,” Sehr said. He added that while this is his first experience using the monopiles for a mooring system, Ingram will likely use them again given the success of the project. ☀

How far one gallon of fuel moves one ton of freight, average by mode



DID YOU KNOW THAT...

A single 15-barge tow can carry 26,250 tons of cargo or as much as 240 train cars or 1,050 tractor-trailer trucks?

It would take an additional 6 million rail cars or 24 million trucks to transport the amount of cargo carried on inland waterways each year.



DESIGNING VALUE

Engineering Staff Plans the 'How' of a Project



“The construction industry has been transformed in the last decade...deep excavations, heavy lifts and big form work systems now have to be designed and stamped by an engineer.”

Neil Hickok, Boh's Chief Engineer



Boh's Chief Engineer Neil Hickok has always enjoyed devising technical solutions to challenging problems. Rather than simply having the guys in the field figure it out, he enjoys “getting into the weeds” of a problem and finding a solution that can be carried forward.

Hickok got his feet wet at Boh in a literal way, having been hired not long before Hurricane Katrina. At the time, he was in project management. “I would work with the guys in the field, designing things for them,” he said. “Then, in 2007 the Heavy Construction team decided to move me to the field as assistant general superintendent.”

Once there, he began to work exclusively in design, planning complicated form systems and aerial platforms as Boh replaced the New Orleans I-10 Twin Spans. The design- and construction-intensive project laid the foundation for a new department, one that has grown from Hickok's one-man operation to a staff comprised of two Professional Engineers (PEs), two Engineers-In-Training (EITs) and a 41-person Layout team. In addition to those who work full-time with the Engineering team, Boh has 11 PEs and 10 EITs dispersed among the company's leadership and project teams who provide further insight on construction design and implementation across projects. Their presence and knowledge adds great value for clients and differentiates Boh in the heavy civil market.

“The company knew it had needs because we were hiring other engineering firms for design work, which can get expensive,” Hickok said. “Also, many of the firms don't specialize in construction engineering. They don't design false work systems for bridges, for example...that's a very technical thing.” The creation of the Engineering team fell in line with a corporate-wide desire for a more synergistic approach to tackling projects, and provided Boh with a distinct competitive advantage.

Boh's design experience has come a long way since the days of its first engineer, Don Guiza. While there have always been those in the company who performed

design, it was usually sporadic and never in an official capacity. Increasing industry demands and more restrictive requirements from owners made it obvious that a change was needed.

“The construction industry has been transformed in the last decade,” Hickok said. “Deep excavations, heavy lifts and big form work systems now have to be designed and stamped by an engineer.” Safety, along with a desire for improved efficiency and greater cost control, were the primary drivers for the change.

Boh's Engineering group is organized so that each engineer has his or her own specialty, designing such things as concrete forms and false work, excavation shoring, heavy lift plans, erection drawings, spreader bar and custom rigging or AISC-certified steel fabrication shop drawings.

Josh Menier, who moved to engineering from the Heavy Construction team, was the first addition to the staff. A 2008 graduate in construction management, Menier began his career in project management working for a contractor in Texas. After completing a large pump station project for the contractor in New Orleans, he landed a job at Boh and began taking night classes to earn his engineering degree.

Today, Menier performs fabrication design for the Piling and Heavy Construction groups. “I enjoy the challenge of learning all there is to know about steel,” he





A custom power pack frame designed in-house for Kobelco pile driving cranes, approved by the manufacturer to match the structural and tipping capacities of the cranes.



All cofferdam bracing and access ladders on the Florida Ave. Canal project were designed and fabricated in-house. The bolted connections of the bracing struts and wales allow for easy assembly in the field.



With the aid of modeling software, the Boh engineering team planned out a 350,000 lb. tandem lift of a pipe bridge as part of the new Americas Styrenics deep draft dock. The bridge was fabricated at Boh's Almonaster Yard.

said. "Every time a new structure comes up, it's different." Menier also likes the collaborative, family atmosphere at Boh. "You get to know everyone rather than having a boss that doesn't even work in your office. And you're not working in a silo, which contributes to the collaborative atmosphere here." At 30 years of age, he hopes to play an increasing role in the growth of the department.

Ruby Board joined the team in July 2015 with a civil engineering degree from Auburn University. She can

trace her love for engineering as far back as middle school. "Even back then, my father said that I was going to be an engineer. Anything new that came into the house, I would want to assemble it. And anything that was broken, I would try to fix it."

Board loves the challenge of learning new things in her job. "Every day is different and every project is different. I might work on retaining structures one day, then platforms on another, then concrete work or shoring designs. I think if you end up doing the same thing repeatedly, you become stagnant. I'd like to be good in a

whole lot of things instead of just an expert in one specific thing." She credits her love for the job to the people at Boh, as well as the cooperative atmosphere.

Callie Baker primarily designs shoring for utilities projects, and began her tenure at Boh as an intern in 2012. She is the second in her family to work for Boh—her father, Gill Baker, works as a concrete pump truck operator. "He was so proud to put that generation sticker on his hard hat," Baker said. The designation is given to employees with more than one family member working for the company.

Baker has a civil engineering degree from the

University of Louisiana—Lafayette. She, along with Menier, took the Professional Engineers (PE) test in the fall, and expects to earn her PE designation in 2017.

Engineering Works for You

While the engineering staff doesn't perform design on permanent structures—a task that typically falls to the owner or an outside engineering firm—Boh's strength lies in its ability to design the "how" rather than the "what" of a project. Hickok refers to it as construction engineering—designing the actual means of constructing something.





After saw cutting spans of the old Wisner Bridge into 4 pieces, each section was lifted using an in-house designed rigging to an area where it could be rubblized, speeding up the demolition process. Each section weighed about 150,000 lbs.

“You can draw an 80-foot-long, 10-foot-deep by 8-foot-wide concrete cap 40 feet in the air, but how does it get there?” he added. “Or you might have some 300-foot-long steel girders that come in five pieces. That looks great in a drawing, but how do you put that together? That’s where we come in.” While other contractors might have engineers, it’s the size and skill of the Boh team that make it stand out, thereby providing assurances to customers and employees that a project will be done correctly and safely.

Hickok stressed that the Engineering team’s primary function is to provide a service, not dictate design. “I reiterate that to my people all the time. We work for the

rest of the company. We don’t exist to be big and important and to tell people what to do. We exist to make their jobs better. I’ve been in other organizations where these departments took on a life of their own, where they exist to be important, but that’s not what we want.”

Along the way, the engineering team is keeping track of lessons learned, and incorporating them into work processes. For example, the development of a new standardized steel sheet pile—KDVI-8—now provides a safer, more efficient way to shore underground pipe installations. Instead of using wood or a piecemeal shoring system, the Boh team now uses a standardized system that’s stronger and quicker to install, as well as more efficient over the long term.

Another innovation coming out of the Engineering team—spreader bars for rigging. “It’s a high-risk,

dangerous thing when you’re lifting something that weighs hundreds of thousands of pounds into the air. We now have a formal system for designing, fabricating and testing our rigging,” Hickok added.

As one of its core responsibilities, the Engineering group continuously strives to find methods for improving work processes, with the incorporation of new technology being a primary means for achieving that goal.

Hickok is currently pushing for the company-wide implementation of a new tablet-based system—Latista Construction Field Management Software—to assist with quality control. “One of the problems we’ve had is keeping up with design revisions on the job,” he said. “The drawings might get lost and we could end up working off a set of old plans. With Latista, you’ve got an iPad that’s in a

waterproof case. It’s not just the drawings from the owner; it’s all of the shop drawings.” Through the program, all drawings and quality inspections are centralized, with a single person updating the drawings across all iPads.

Technology is also a necessary tool for Boh’s Layout group. The layout staff is equipped with Carlson survey software, total stations, robotic total stations and GPS equipment. They are proficient with the use of GPS machine control and can provide as-built drawings in AutoCAD or MicroStation.

Through all of its efforts, Boh’s Engineering team is holding true to one of the company’s core values: *Never Be Satisfied*. The technology and services provided to the field teams continues to add value to projects, bringing predictably good results for Boh’s clients. ▲





HELPING FAMILY

Boh Fund Provides Financial Assistance After Record Flood

The Baton Rouge area's epic August flooding began with a deluge of more than 30 inches of rain that ultimately forced thousands from their homes and caused billions of dollars in damages.

To assist Baton Rouge-area employees impacted by flood, the company has partnered with a local not-for-profit organization, the Baton Rouge Area Foundation (BRAAF), to create the Boh Bros. Employee Assistance Fund.

Working in tandem with Boh's core value—"We Treat Our People Like Family"—the fund offers grants between \$1,000 and \$3,000 per incident, with a limit of one grant in a calendar year.

Boh Bros. employees impacted by the flood or other sudden personal emergencies can complete an application on-line at <http://www.employees1st.org/boh>.

The application must be submitted within 60 days of the occurrence of the hardship event, with the amount of

the grant determined solely by BRAAF.

Additionally, Boh Bros. employees wanting to financially assist their co-workers during an emergency can make a tax-deductible contribution by credit card at the fund's website, or by check made payable to the Boh Bros. Employee Assistance Fund at:

**Boh Bros. Employee Assistance Fund
c/o Baton Rouge Area Foundation
100 North St., Suite 900
Baton Rouge, LA 70802**

Elizabeth Hutchison, BRAAF project manager, says the application process moves swiftly once an employee submits an online claim, with applicants typically receiving an answer within 48 hours. Since the application process is managed solely by BRAAF, all employee information remains confidential.

Human Resources Manager, Pat Delucca, encourages employees to contribute to the fund. "With your help, this fund will continue to provide support for Boh employees during their time of need," she said. ☀

Callie Baker At Boh Bros., one of our core values is that "We Treat People Like Family." For Callie Baker, an Engineer-In-Training, that statement rings especially true. Her father, Gill Baker, is a pump truck operator for Boh, and has been with the company since 1999. Callie grew up hearing all about Boh Bros. from her dad, and, following in his footsteps, started to work for Boh full time this past January, after graduating from ULL. As a member of the Engineering team, she works primarily with the utilities and paving division. Her arrival at Boh was fortunate, as 2016 marked the groundbreaking of the new North Terminal at Louis Armstrong Airport in New Orleans. Boh Bros., as part of the Hunt Gibbs Boh Metro Joint Venture, is spearheading the project's utility and paving efforts, which are varied and spread out over the entire site. Callie has provided construction engineering designs for a number of these endeavors, helping Boh crews to complete the work more efficiently and safely. In her words, "Working on the airport has been my favorite job so far. There are so many different things going on at all times, and it's so much experience at once."



Josh Menier Josh Menier joined Boh Bros. as a member of the then newly-created Engineering group in September 2011. Shortly after his arrival to the company, to further advance his skill in engineering, Josh began his part-time pursuit of a Civil & Environmental Engineering degree from the University of New Orleans, which he completed in 2015. The degree required a large time commitment outside of work, and Josh is thankful to his wife, Lauren, for supporting him over those demanding 3 years. Throughout his tenure at Boh, Josh has provided designs for a number of projects, but the one he is most proud of is one that he gets to see on a daily basis. "There's a sign truss that goes over the Causeway Bridge going northbound that I get to drive under every day, which we did all the shop drawings for and fabricated in-house at the Almonaster Yard," Josh says. "Engineering encompasses a lot of design work on paper or on the computer, so it's easy to lose sight of the physical thing we are actually building. The truss is a daily reminder that the work I do every day helps real structures come to fruition."



Ruby Board Ruby Board began her career at Boh Bros. in the summer of 2015. Licensed in both Louisiana and Alabama, Ruby was officially the second Professional Engineer to join the newly created full time engineering group at Boh Bros. She joined the team to work on a wider array of civil engineering designs and applications. "I've done more here in this past year than I have in my entire career prior. Every spectrum of civil engineering you can name, I've touched," Ruby says. "At my last company, I was familiar with designing steel structures, but here I'm doing steel, concrete, wood, masonry, aluminum and more." And for Ruby, engineering work doesn't end when she leaves work each day. She and her husband, Quentin, a Mechanical Engineer at Shell, love taking on engineering feats at home as well. Their projects have been extremely wide-ranging from building outdoor furniture out of reclaimed materials to remodeling a new closet for their bedroom to making modifications and upgrades on her two motorcycles, a 2007 Yamaha R6S and a 2012 Kawasaki ZX-14R.





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Fall-Winter Anniversaries

40 YEARS

Walter L. Dauterive
Vincent J. Saladino

35 YEARS

Ricky L. Hano
Lawrence A. Newton III

25 YEARS

Michael C. Langlois

20 YEARS

Henry L. Armour, Jr.
Steven W. Chesne
Jeffrey K. Clement
Vincent P. Rabalais

15 YEARS

Corey E. Buck
William F. Davis
Timothy J. Duhe
Ronald A. Firmin
Keith M. Lopez
Steven J. Menard

10 YEARS

Melanie A. Burns
Grant D. Closson
Andrew G. Hendrickson
Kenniann H. Henley
Matthew D. Huffman
Wendell J. Hughes
Shelby S. Jones
Willard W. King
Jamie D. Moore
Landon G. Settoon
Charles C. Singletary
Robin L. Slack
Todd J. Topey Jr.
David J. Trosclair

5 YEARS

Sandy J. Billiot
Christopher L. Brown
Amanda C. Higgins

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.