AB Connections

WINTER 2011

arawak cay
PORT DEVELOPMENT

New Providence Island, Bahamas

Connections
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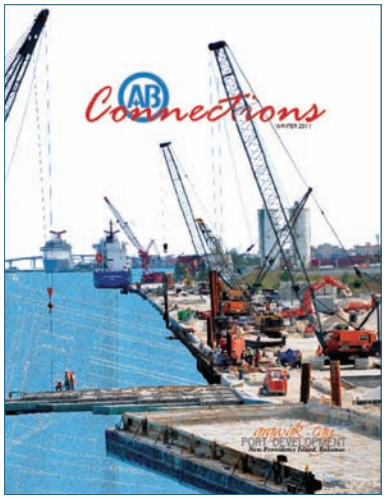
WINTER 2011



C O V E R

AB overcomes many unique challenges as they reconstruct this half-century-old port. The article, starting on page four, also covers the project team and AB's history in the Bahamas.

thank you

Much appreciation to the following individuals for their contribution to this issue:

William Campbell
Allen Dronko
Jose Gonzalez
Shantell Guillen-Lunceford
Chavis Lunceford
Paul Michalak
Anne Royster
Carl Schwarz

New Hire

Carlos Sambrano, plant manager,
American Bridge Manufacturing, Reedsport

Wellness Program Grand Prize Winner

The grand prize vacation for the Wellness Program was awarded on Friday, January 7, 2011. The thirty employees that met or exceeded the 200 point goal were eligible for the grand prize drawing and were entered into a raffle. President and CEO, Mike Flowers, randomly selected the winner, John Robison from American Bridge Manufacturing in Coraopolis. Congratulations to John and good job to all that participated in the program! Let's keep up the good work for 2011.

Correction:

The story *ABM Connect Oregon* (autumn 2010 *AB Connections*) did not give credit to Renae LaRouche for her coauthorship or to Paul Brewster for his photography. AB Communications & Marketing Department would like to offer it's most sincere apologies for the mishap and appreciation for the contributions.

AB Connections
NEWSLETTER
by Kadi Camardese

Please contact the
AB Communications & Marketing Department
with news and inquiries:
kcamardese@americanbridge.net

CURRENT CONTRACTS

MANUFACTURING

Huey P. Long Bridge Widening Fabrication, New Orleans, LA
Unicorn Bridges, New York, NY
Bronx River Greenway Replacement, Bronx, NY
Motor Parkway Bridge, Islip, NY
Alexander Hamilton Bridge, New York, NY
US 23 Grant Bridge, Portsmouth, OH
Walt Whitman Bridge, Philadelphia, PA
JR Taylor Memorial Bridge, Bethel Park, PA
PJ McArdle Viaduct, Pittsburgh, PA
Bedford County Turnpike Girders, Bedford, PA

WESTERN

ABFJV Oakland Bay Bridge, Oakland, CA

NEW YORK

Throgs Neck Bridge Structural Retrofits, New York, NY
Bronx Whitestone Bridge Structural Retrofits, New York, NY
RFK (Triborough) Structural Improvements, New York, NY
Ogdensburg-Prescott Bridge Main Span Rehabilitation, Ogdensburg, NY
Walt Whitman Deck Replacement, Philadelphia, PA
George Washington Bridge Rehabilitation, New York, NY

TAMPA

Mayport Wharf Delta, Mayport, FL
Estelle Pump Station Work Platform, New Orleans, LA
Waskey Bridges, New Orleans, LA
Arawak Port Development, Nassau, Bahamas
Platt Street Bridge Major Repairs, Tampa, FL
Port Fourchon Bulkhead, Galliano, LA

RICHMOND

Chesapeake Bay Bridge Redecking, Annapolis, MD
Chincoteague Bridge, Chincoteague, VA
Pier R3 Repairs, Yorktown, VA
Pier 31, Groton, CT
Bulkhead at NOAA Marine Operations Center, Norfolk, VA
M-140 #2 Complex, Portsmouth Naval Shipyard, Kittery, ME
Three Nations Bridge, Cornwall, Ontario, Canada

PITTSBURGH

Kentucky Lakes Bridges, Grand Rivers, KY
Emsworth Back Channel Dam Repairs, Emsworth, PA

UPDATES FROM HUMAN RESOURCES

Vision Perfect Claims and Claim Form

If you are enrolled in the Vision Perfect vision plan, please keep in mind when you are completing the claim form, you must provide detailed information regarding the items purchased. As an example, if you purchase frames and lenses, the provider must list the type of frames and cost, as well as the specific type of lenses and cost. All costs must be itemized separately. Also, make sure that all information is completed on the claim form. Item six asks for the employee's identification number which is the employee's social security number. The group number and division number are located on your vision card. The division number is the last number of your policy number.

The fastest way to send your claim form to Ameritas is by using their fax number at the top. Fax the claim form, as well as your detailed invoice. If more information is needed, Ameritas will contact you directly.

Employee Assistance Program

The provider for our EAP (Employee Assistance Program) is Horizon Health. The EAP program can assist employees in many different areas such as, stress and anxiety management, depression, financial and legal concerns, identify theft, and fraud resolution, among others. EAP also has a Work Life Services Program where Horizon Health can perform research and provide referrals for such areas as locating a reputable child care or elder care service, education, adoption, travel, daily living, etc. To utilize the services you can contact Horizon Health at 888-293-6948. The phone answers 24 hours a day, 365 days a year. You can also visit their website at www.horizoncarelink.com. Enter "standard" as the login ID, then enter "eap4u" as the password. Please contact the Human Resources Department with any questions regarding the EAP service.

arawak cay
PORT DEVELOPMENT

The contract required the first section of the port to be complete by November 30th, 2010 to allow container terminal operations to relocate from its western-most location at the port, enabling AB to start work in that area keeping ahead of schedule

Temporary water system

Existing wall and piles with rising tide

There will be twenty-nine 100 ton bollards along the replacement wall

Construction of two concrete encapsulated, pipe pile supported RORO docks

Frame with rebar for concrete deck

September 2010 marks the beginning of American Bridge's contract to reconstruct a half-century-old port in the Bahamas. With nearly 100 successfully completed marine projects, the challenge within this job is not entirely construction based, but rather, the unique demands upon management to balance permanent material shipment, existing tenants, complicated schedules, changes from the designer and site conditions, all while keeping the port totally operational.

MASTER PLAN

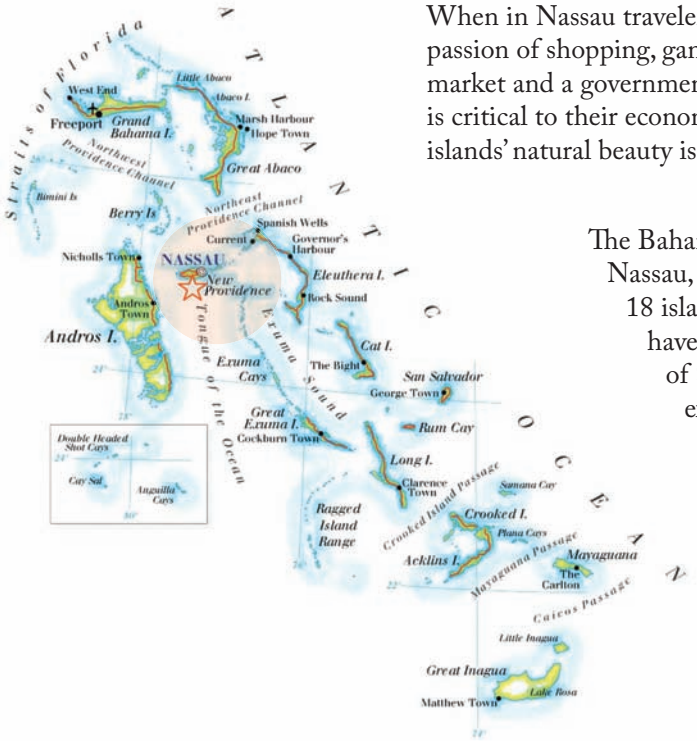
The Bahamian government's master plan is to make Nassau's busy downtown port and the streets surrounding it of utmost quality regarding aesthetics, improving the already booming tourism industry. As ritzy vacationers from around the globe arrive at the port to shop on the main drag, they do not want to see how their food and water are shipped, nor the materials that makeup the beautiful hotels they stay in, rather they want to see paradise, and that is exactly what American Bridge Bahamas, Ltd. (ABBL) has been hired to give them.

This master plan is that of a PPP (private/public partnership) between the Bahamian government and private investors. This project has been broken down into phases with the first phase consisting primarily of marine construction. "The greatest challenge of this project is constantly working around a fully operational port, which requires us to accommodate to the schedules and shipments of four shipping companies," says Chavis Lunceford, ABBL project manager.

Top reasons the Bahamas are a successful marine center

- long-standing political stability and a highly-respected judicial system
- favorable business climate and banking
- strategically positioned between North and South America
- world renowned for vacationers, attracting millions of visitors annually
- fully-equipped, modern harbors, making it a prime destination for cruise ships
- the Bahamas are a member of the IMO (International Maritime Organization) and adhere to its principal safety conventions[3]

DESTINATION: NASSAU



When in Nassau travelers can bask in the sun of the tropics by day while fulfilling their passion of shopping, gambling and perusing the bars at night. With a thriving tourism market and a government that recognizes that aesthetics and environmental cleanliness is critical to their economy, the Nassau residents may have finally discovered that their islands' natural beauty is attraction enough.

The Bahamian Island of New Providence, home of the country's capital Nassau, has a population near 250,000, more than the country's other 18 islands combined. In recent years, the annual foreign sea arrivals have exceeded air travel in every case, the maximum being in excess of 85,000 tourists in a given month. When they exit the ship to explore Nassau, these travelers often times head over to the main shopping district on Bay Street. The air pollution and congestion within this major artery is largely due to commercial vehicles accessing container storage sites nearby and traveling to the Nassau port. This problem will be eliminated when large shipping companies relocate to Arawak Cay.

SCOPE

The Arawak Cay Port Development represents the reconstruction of the former Arawak industrial site built over 50 years ago at the western end of Nassau Harbor to now serve as the main container and bulk shipping port for Nassau. This will free cruise boat congestion from Arawak, allowing it to be solely a shipping port while simultaneously keeping industrial traffic out of the site of tourists.

Within this self-performed marine and pile related contract, ABBL is constructing 2,500' of new sheetpile bulkhead with a fender and bollard system as well as a concrete encapsulation, approximately 1,200' of container crane rail and two concrete apron slabs that are 1,767' long and 80' wide. For this process ABBL drove sheetpile, installed a tie back system and poured the concrete bulkhead. To prepare the channel for large ships to dock, ABBL self-performed the dredging of 100,000 cubic yards of material.

The original wall will be extended out 4' through the following process:

- Chip existing concrete for the tie rod and bollards installation
- Drill and burn holes for tie back installation
- Backfill the elevation according to plans, ranging from 6.5' and 5.5' above sea level
- Set bottom and side form work by installing rebar and pouring concrete in two phases: first pour the bottom section (skirt) from elevation -0.5' to 3.5', and second, Cope Beam from elevation 3.5' to 7.5'

ABBL constructed twenty-eight 100 ton bollards and one 50 ton bollard. The 100 ton bollards are reinforced using two 24" diameter pipe piles that are 59' long. These piles have a 5.6' concrete plug with reinforced steel at the top and an 11.6' x 13' x 3.83' cast-in-place concrete block.

ABBL has completed the construction of a pipe pile supported RORO (roll on/roll-off) dock. Setting the form work, tying rebar and pouring concrete for the bulkhead must all be carried out during low tide.

ABBL drove 35 pipe piles ranging from 4' wide with a 2' diameter and 19' long to 4' wide with a 2' diameter and 60' long. Each was formed and cast by ABBL and BMC (Bahamas Marine Company) prefabricated the 39 planks, work of which was performed on site but not in place. The precast planks were formed and cast on the job site and then moved and placed on the RORO ramp pile caps.

This project follows AB order number 590110 completed in April, 2010, to dredge Nassau Harbor for the largest cruise ship in the world!

> "[T]he Bahamian population has risen by over 30 percent, and naturally, so have imports, exports and shipping demands."
> DICK KERMODE, AB TAMPA DISTRICT SENIOR VICE PRESIDENT

CHALLENGES

Challenge: The Tide

Members of the Arawak Cay project team are always monitoring the tide. As previously mentioned, low tide must be in effect to do any work to the RORO ramp. The work and employees must be on a strict schedule in order to finish the project on time. AB has found a number of ways to balance this dependency on nature; as soon as the tide is high they first move on to core drilling, demolition of the existing wall and preparation for the tie rod system, for just one example.

Challenge: Keep Port Operational, Maintain Prompt Schedule, Accommodate Existing Tenants

To keep the port fully operational for the existing tenants, the sea wall is being reconstructed in sections. Tropical Shipping is one of the largest companies of its kind and has been handling container shipment throughout the Bahamas and the Caribbean for over 45 years. The company will consolidate its facilities currently at the Nassau port and Bay Street locations entirely to Arawak Cay upon project completion, giving them ample space in a single area that is out of tourists' sights. This required AB to complete the first section by November 30, 2010 to provide room for additional terminal operations.

Other tenants that utilize Arawak as their main import/export location include a material company and a local shipper. At any given time there could be up to 20 large ships loading/unloading supplies in the port that ABBL is simultaneously reconstructing.

To overcome this challenge, AB engineered a temporary fendering system that keeps the ships 15' away from the wall to enable construction while keeping the port 100 percent functional. This AB innovation enables the owner to continue accruing revenue while this major project takes place. AB has also installed a temporary mooring system that pushes the ships off the dock. This method facilitates effective coordination with the container terminal, bulk cargo and water barge supply.

Nassau houses 85 percent of the Bahamian population and supports a booming tourism industry, yet does not have its own fresh water supply. In addition to the other three tenants, Titas, the 400' x 100' water barge, docks at the Arawak port 365 days per year to provide natives and visitors with water brought from the underground supply on Andros, the largest island in the Bahamas.

There isn't a set delivery schedule, so AB must be ready to accommodate Titas at any time during the busy work day. The ship docks between six to eight hours at a time while AB must continue working to stay on schedule.

Challenge: Shipping Permanent Materials

Although the port is duty free it is a challenge to ship permanent materials from the United States to the Bahamas and vice versa, due to customs procedures. Any temporary equipment has to be bonded. Depending on a permanent material's classification, the tax can range from between 10 and 45 percent which is a great cost to the project.

American Bridge is constructing 2,500LF of new sheetpile bulkhead with concrete encapsulation

Some of the piles could not permeate the ground's hardness so the design was changed, set of piles every 10'

AB created temporary fendering system allows the crew to continue construction while ships unload

Sheetpile, high tide

Completion of the first pier section was required by November 30th, 2010 in order for one of the tenants to relocate all of its equipment

While AB is undergoing construction there could be up to twenty ships of this capacity or larger unloading along the pier

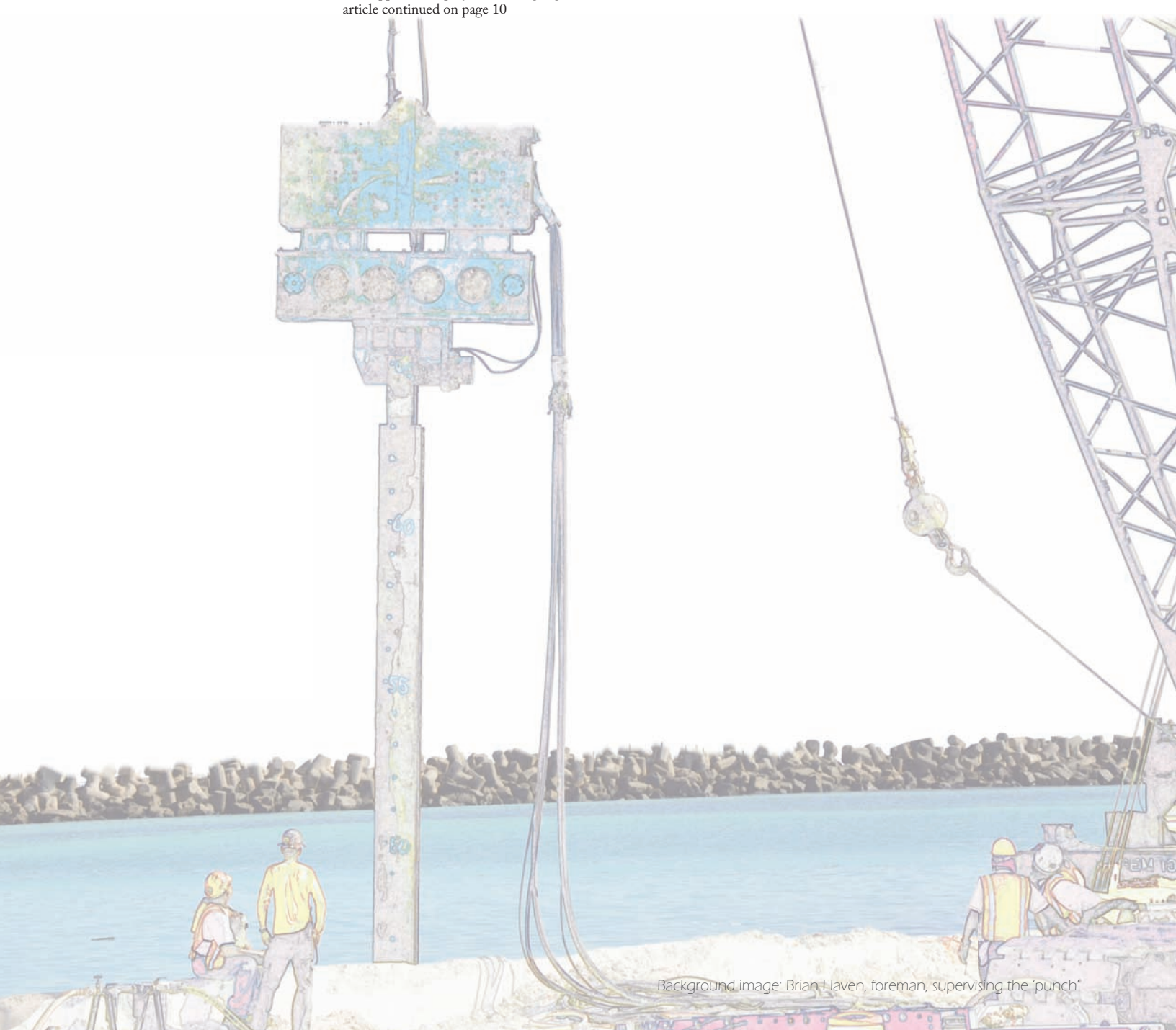
Challenge: Design Engineer Changed Plans

When pile driving began AB found the ground to be impervious in certain areas along the shore; the engineer altered the design requiring the team to splice another section and drive it back down to meet the criteria. In some locations AB is able to adhere to the original plans which are to drive the pile 55' with 4' above sea level by utilizing a punch to break the rock.

Project Engineer Jose Gonzalez explained, "One of the great obstacles within this project is the unforeseen ground conditions. An extremely hard layer of rock, indigenous to the Bahamas, makes the sheet pile and pipe driving operations challenging. Additionally, this layer's elevation varies throughout the entire project site so the conditions are unique each time we drive."

AB derived an innovative method for the rock not considered in the design by making use of special core drilling equipment for the tie rod installation. The work is performed by chipping away the least amount necessary from the existing wall, considering it is the primary embankment support. Then, a core drill bracket is used to make a perfect hole in the existing wall to install the tie rod system. A 45' and 25' tie rod are spliced together to maintain the 75' requirement.

*See opposite for project team highlights;
article continued on page 10



Background image: Brian Haven, foreman, supervising the 'punch'

Charlie Cisco, welding superintendent
Carson Copeland, crane operator
Thomas Eckert, foreman
William Erickson, surveyor
Jose Gonzalez, project engineer
Donald Haase, foreman
Brian Haven, foreman
Keith Haven, general superintendent
Charlie Klemme, welding foreman
Robert Lawrence, mechanic
James Lott, crane operator
Chavis Lunceford, project manager
Guy Quinley, crane operator
Allan Seidel, concrete foreman
Ronald Williams, dredge foreman

"One of the great obstacles within this project are the unforeseen ground conditions."

JOSE GONZALEZ, PROJECT ENGINEER

Chavis Lunceford, project manager (left) and Jose Gonzalez, project engineer

"Since American Bridge's commitment to pursue marine work, especially in the Caribbean, we have successfully completed 22 other projects in the Bahamas alone."

DICK KERMODE,
AB TAMPA DISTRICT, SENIOR VICE PRESIDENT

Keith Haven,
general superintendent

Keith Haven is a general superintendent on the Arawak Cay Port Development project. He has worked for AB across the US as well as in Honduras, Puerto Rico, St. Thomas, other southern islands and on numerous projects in the Bahamas. He sees the importance in an efficient management team and values the work ethics upon which American Bridge has been built.

Keith is an asset to the project as he passes down his integrity, knowledge and skills to others on the job as well as his own family. His oldest son, Heath, has been a crane operator for 21 years and his youngest son, Brian, is a pile driver on the Arawak Cay project.

Brian Haven,
pile driving foreman

AB INNOVATION: TEMPORARY WATER PUMPING SYSTEM

There are nine pumping stations on the Bahamian island of New Providence. It is not a surprise that the one closest to the nation's capital receives the most water each day - 4.334 million gallons![2] The port's construction has disrupted the process of transferring water from Titas to the nearby reservoir. Will Campbell, ABBL field engineer who is heading up the temporary and replacement water supply system at the site, explains, "Titas currently utilizes four hydrants with 40' sections of 12" flexible piping to establish a connection between the barge and the hydrants on land to offload the water into a large nine million gallon capacity reservoir that stores the water while servicing the demand that Nassau generates."

Will explained the entire process: due to the deteriorated condition of the existing water facilities, it is expected that the temporary piping system ABBL will implement will greatly increase the efficiency of the operation in terms of the total volume of water retained in the reservoir and the time necessary to discharge the water.

In order for construction of the concrete bulkhead to progress in the Titus offloading area, all four hydrants must be removed and the water barge must be repositioned 20' from the existing bulkhead. ABBL has designed a temporary fender system to relocate the barge consisting of 40" diameter pipe piles and steel support beams. The Titas will berth against these fenders during this phase of construction, and upon completion, the permanent fenders will go into service replacing the temporary fenders. The purpose of the 12" temporary water piping system is to provide facilities for the barge while ABBL is engaged in construction within this specific area once the existing facilities have been terminated.

Design of the temporary piping system accounts for conflicts that the construction of the new concrete bulkhead will create as well as the importance of having adequate facilities in place to service Titas upon arrival. The materials procured for the tem-

porary piping system consists of AWWA (American Water Works Association) Grade 12" PVC (Polyvinyl Chloride) in lengths of 20', AWWA Grade ductile iron mechanical joints and ductile iron gate valves to control the flow of water as required. PVC was chosen because it has the physical properties required to resist the stress that will be inflicted from daily installation and removal. The layout of the temporary piping system consists of several sections of pipe mechanically connected to achieve the required length to span from the temporary berthing location to the water reservoir at each discharge port on the ship. Pipe pile supports will be installed to support the temporary water pipe over the existing bulkhead. Flexible pipe is used to connect the 12" PVC water line to the discharge port on the Titas.

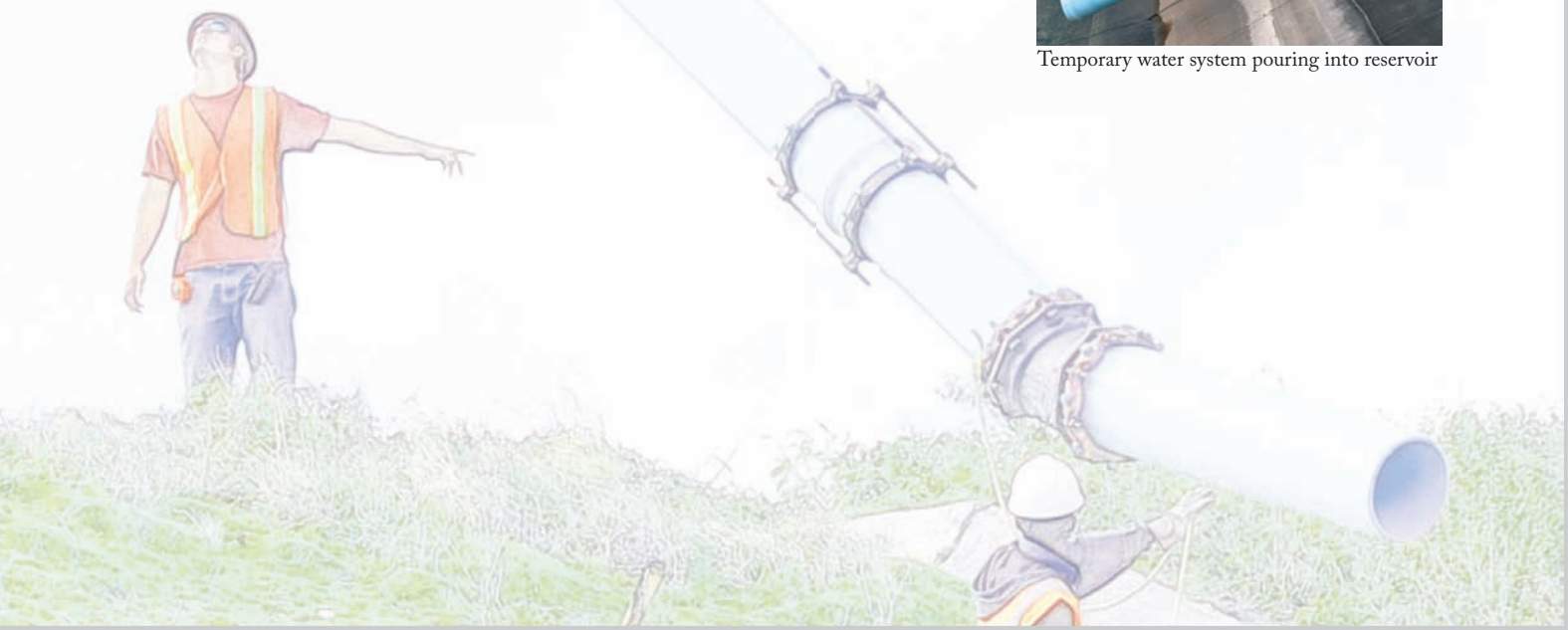
Permanent water system to be relocated

Temporary water system created and directed by William Campbell, field engineer

Temporary water system pouring into reservoir

"[ABBL's temporary water system] will greatly increase the efficiency of the operation in terms of the total volume of water retained in the reservoir and the time necessary to discharge the water."

WILLIAM CAMPBELL, ABBL FIELD ENGINEER



HISTORY: AB AND THE BAHAMAS

AB has a long history of marine work throughout the US and Caribbean; successfully completing over 20 projects in the Bahamas alone since 1973. The company has proven it's capability of complex and unique structural marine engineering time and time again.

Since Dick Kermode, senior vice president of the AB Tampa district, started with American Bridge he has built quite a legacy for the company specifically in the marine arena.

"My personal experience in the Bahamas started in 1969 when I was just out of college. For the next year and a half I worked on a project in Treasure Cay (Abaco) setting up and running a concrete plant as well as administering quality control. I had worked intermittently in the Bahamas with another company until joining American Bridge to run the initial Castaway Cay project in Abaco from March of 1996 through July 1998. Since American Bridge's commitment to pursue marine work, especially in the Caribbean, we have successfully completed 22 other projects in the Bahamas alone," explains Dick.

The Arawak Cay port was originally built in the 1960s for small local companies to deliver construction materials. Since then the Bahamian population has risen by over 30 percent, and naturally, so have imports, exports and shipping demands.

Management is the pinnacle of a successful project. One of the ways in which companies generate value is though projects which create assets that can then be exploited to achieve social and economical ends – factories for manufacturing goods, offices for delivering services and proper vehicles for transport. The creation of these values is not an easy mission, as many problems have to be solved between the initial project scope and on site conditions though realizations of the owner, designer and contractor. ABBL is maintaining the port during construction to continue generating revenue for the owner, accommodating or innovating unforeseen conditions, and turning the plans into a reality as the contractor.

The principal problem could potentially lie in the management of information and the progression in making this conception a physical asset. In other words, a company may have the goods, services, transport and even a distinguished staff yet is ill prepared to provide management who can understand and communicate total project perspective of construction from inception to completion. For the Arawak Cay Port Development project to be successful it requires a contractor with more than just expertise in the field, which ABBL has repeatedly proven, but also demands the management team with the ability to apply business process analysis, review and synthesize a large number of different tools and techniques, improve construction performance as the job progresses considering risk and value management, and provide quality and safety assurance.

ABBL's contract to redevelop this port is accompanied by great responsibility as the job is quite differentiable in its unique schedules, relationships and operational challenges. Chavis Lunceford, project manager, is successfully managing the dynamics of this unique job by balancing its difficult environment and the physical work involved.

AB Projects in the Bahamas 1973 - present

Project name, year completed, island, AB order no.:

Arawak Cay Port Development, New Providence, 2011, 405210
Castaway Cay Enhancement, Great Abaco, 2010, 486710
Nassau Harbor Project, New Providence, 2010, 590110
Bakers Bay Marine and Civil Improvements Phase I, Great Guana Cay, 2009, 560210
Albany House Marina, New Providence, 2009, 580110
Ritz Carlton Rose Island Resort, Rose Island, 2009, 570210
Bakers Bay Development, Great Guana Cay, 2006, 456010
Pirates of the Caribbean, Grand Bahama, 2006, 550310
Castaway Cay Hurricane Frances Restoration, Great Abaco, 2005, 445810
Bahamas Blue Sky Resort, Great Abaco, 2004, 445610
Castaway Cay Miscellaneous Rehabilitation, Great Abaco, 2003, 430810
Marsh Harbor Port Expansion, Great Abaco, 2003, 510210
Martin Marietta Shiploader Moorings, Grand Bahama, 2001, 410810
Castaway Cay Hurricane Floyd Repairs, Great Abaco, 2001, 400310
FOCOL Fuel Transfer Platform, Grand Bahama, 2001, 500510
Bahamas Cement Bulkhead Repair, Grand Bahama, 2001, 402110
Freeport Ship Care Facility, Grand Bahama, 2001, 590210
Martin Marietta Conveyor System, Grand Bahama, 2001, 401210
Freeport Harbor Dredging, Grand Bahama, 2000, 500310
Castaway Cay Hurricane Floyd Emergency Repair, Great Abaco, 1999, 491410
Castaway Cay Out Island Adventure, Great Abaco, 1998, 450910
Jack Tar Hotel and Resort, Great Abaco, 1973, K5436

References:
[1]https://www.cia.gov/library/publications/the-world-factbook/geos/bf.html
[2]http://www.wsc.com.bs/Information.asp
[3]http://www.geographia.com/bahamas/investment/shipng01.htm

before & after

For the second consecutive year AB is offering its employees an incentive based wellness program, and for some it has been a life changing experience. Anne Royster has been an office administrator for the AB Richmond district American Bridge for 10 years. Here is her success story:

As a follow-up to the story written in the spring 2010 *AB Connections* newsletter, I have lost a total of 53 pounds and 47¼ total inches – so far. My cholesterol level has dropped and I'm no longer on high blood pressure or GERD medication. I'm now fitting into clothes six sizes smaller than at the beginning of this journey – a size I haven't worn in over 30 years! I had a pair of pants in the closet for the longest time with the price tag still on them because they didn't fit – now I need a belt to hold them up. I used to wear big T-shirts to hide behind, now I'm looking for smaller sizes and more fitting style blouses. Then, three months ago, I reached another goal which was to fit into an old pair of Levi's – I was excited as you can imagine! Now I'm wearing an even smaller size. I'm trying not to buy new clothes until I get to my goal weight which is another 30 pounds. I wonder if the 2011 grand prize can be changed from air fare to a new wardrobe?

The 2010 Wellness Program included the *10,000 Step Challenge*, which is not an easy task! I thought for sure the walking I was already doing would cover this many steps each day without any problem – wrong. I figured out that I would have to walk twice as much, but I'm at least trying to increase the number of steps I take per day. I walk in place at the copy machine and while talking on the phone and even do pushups against the counter in the kitchen – anything to continue moving, stretching and to get those steps counted. I also use my stretchy band while sitting at my desk from another program offered last year called *Bands on the Run*.

What's my motivation?

With two class reunions looming in my future, I was more and more determined to reach yet another goal which was to be the youngest looking and fittest person there – I felt like I was, and that was big for me! Special thanks to a fellow schoolmate whom I have recently gotten back in contact with. He is coaching me from Massachusetts, keeping me inspired and motivated to continue living a healthy lifestyle. It's that kind of support, coupled with being an inspiration to people at the fitness center, to my coworkers, and to my friends that keeps me motivated. I was also recognized at this year's annual company meeting at Nemacolin Woodlands Resort for my achievements – now that's motivation!

Since beginning the 2010 Wellness Program, I have reached three milestones and have achieved the awards that go along with them. Even though I did not receive the grand prize, I still consider myself a winner due to my improved health and weight loss.

Left to right: January 2009 at my absolute heaviest and October 2010 looking much better and healthier!

2011 WELLNESS PROGRAM UPDATE

On January 4, 2011 we began the American Bridge Company 2011 Wellness Program with great success. The first initiative focused on was the *Move it to Music* program, for which 68 employees requested a kit. We hope that everyone is successful with this program.

We also want to take this opportunity to tell you that January is a good time to schedule your first dental exam for the year. It's an easy way to earn 20 points towards your goal of 250! If you need a replacement United Concordia card, please contact HR (Human Resources) at 412-631-1000.

We will send out communication very soon regarding our February initiative which is the *Color Your Plate Newsletter Campaign*. This is a six-week nutritional challenge. You will receive a weekly email (or paper copy) of helpful tips to meet nutritional guidelines and delicious new recipes to try. You will earn 10 wellness points for signing up for this newsletter campaign.

In March of 2010, participants the had option to be reimbursed for gym memberships. It was such a success, that we are offering this program again. American Bridge will reimburse you for your initiation fee, up to $100, so that you can join the gym of your choice. If you are already a member of a gym, American Bridge will reimburse you for one month's membership fee, up to $100. You will need to send HR a copy of the paid bill in order to receive the reimbursement and your 15 wellness points.

The American Bridge Access site shows your current grand total of wellness points. Once you turn in proof of a completed goal, your points total will be updated. If you notice any discrepancies, please call HR.

waskey bridges

by: Paul Michalak, AB project manager

PROJECT UPDATE

The Waskey Bridges project in New Orleans, Louisiana includes the construction of two precast, concrete bridges with purpose of providing access for construction equipment and maintenance vehicles for the United States Army Corps of Engineers to the earthen levee just south of the Cataouatche Canal.

Eric Appleby, pile foreman
Jerry Cabe, foreman
Sam Gass, superintendent
Steve Horne, project superintendent
Paul Michalak, project manager
Halbert Martin, pile driver
Donnie Tillman, project engineer

PROJECT TEAM

Installation of a precast concrete cap

The bridges are constructed by the "top-down" method, in order to minimize ground disturbance. The contract includes installation of precast piles, precast bent caps, and precast deck panels. One of the more challenging aspects to this job was the handling and driving of such slender (14" square) and long (97') precast concrete piles with limited access off a major highway.

West Bridge, currently 95 percent complete

Setting of a 14" square 97' long prestressed concrete piling

Crew setting template through which prestressed concrete pilings are driven

Great care was exercised in the erection of the piles utilizing a three point pick procedure with a running sheave to stand the piles in the template.

The crew safely and efficiently drove all piling under the direction of jobsite superintendent Steve Horne, pile foreman Eric Appleby, and AB employee Halbert "Renegade" Martin. The precast caps and panels were installed with the help of superintendent Sam Gass and foreman Jerry Cabe. All of the layout and quality control for the placement of the piles and precast elements for the job were provided by project engineer Donnie Tillman.

Handling and driving of such slender and long piling with limited access off a major highway

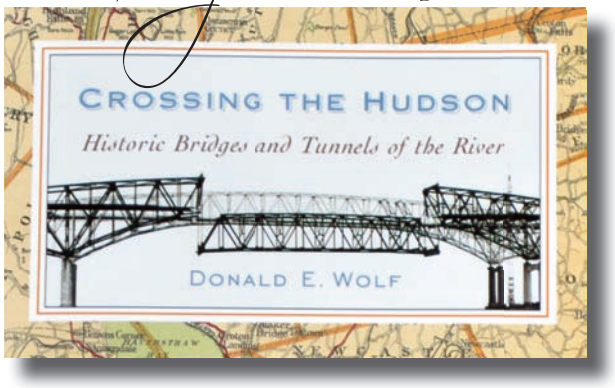
The piles were installed with an American 7260 crane using a Delmag D-19 diesel impact hammer that was mobilized on Flexifloat sectional barges. The precast caps were also set with the American 7260 from the water. The precast deck panels were then set with "end-on" construction, where a 35-ton hydraulic crane sets the deck panels and then advances forward to set the next set of panels.

Scheduled completion date for both bridges is February of 2011.

BRIDGE FACTS

Contract value: $2.5 million
East bridge: 24' clear roadway width by 392' long
West bridge: 24' clear roadway width by 354' long
Piling: 168 each 14" square prestressed concrete piling at 97' long and eight each 14" square prestressed piling at 41' long
Caps: 24" x 28" x 27'-2" long precast caps
Deck panels: seven each 3' to 4' wide by 19' long precast deck panels
Approaches: each bridge has two each cast-in-place concrete approach slabs that are 20' x 24' x 1'

AB published



American Bridge was a great contributor for a number of the remarkable and historic bridges built over the Hudson River which are illustrated in the book *Crossing the Hudson*. While composing this work the author, Donald E. Wolf, collaborated with AB for information to exemplify the reiteration of these milestones over the last century. To boot, many images throughout the book and the cover picture are from AB's own archive room.

This issue of *AB Published* focuses on three bridges American Bridge built over the Hudson River written about by Wolf: the Mid Hudson Bridge during which AB displayed specialization in cable spinning, the Tappan Zee Bridge for which AB made an impressive display of innovation, and the Newburgh Beacon Bridge for which AB constructed and erected the first and second crossings as well as the rehabilitation of bridge one.

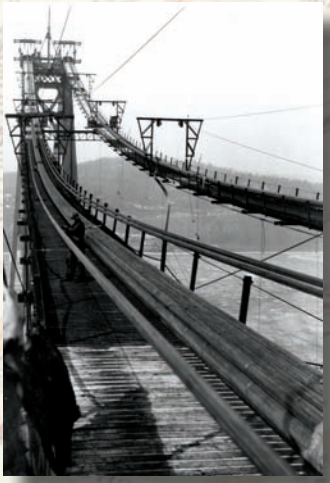
In the roaring twenties, just over 30 years after the Poughkeepsie railroad bridge completion, New York City commissioners concluded it necessary to provide the public with vehicular and pedestrian access over the Hudson River in addition to rail. After 18 months of planning $5 million was budgeted for the Mid Hudson Bridge; this major project was bid by the two largest steel contractors at the time - American Bridge Company of Pennsylvania and Blakeslee Rollins Construction Company of Boston.

AB won the contract for the towers, stiffening truss cables and roadway deck while Blakeslee was selected to complete the foundation. American Bridge anticipated the on and off site fabrication to take a total of three years, scheduled to open for traffic in mid-1929.

The project was running as scheduled until the catastrophe in 1927, when Blakeslee's work on the east caisson "sank about 29 feet, while the opposite edge rose about 11 feet. The huge structure came to rest in about a minute, listing severely, at an angle of about 43 degrees from the vertical." AB immediately requested determent of fabrication to last until Blakeslee solved the problem, but the state insisted on proceeding as directed. Therefore, American Bridge proceeded to fabricate more than 10,000 tons of steel and delivered it to a storage facility near the jobsite, where it remained exposed to the weather for a year.

AB erecting the 500' long, 1,800 ton truss assembly to complete the superstructure framing for the second Newburgh Beacon Bridge in 1980 (This is Crossing the Hudson's cover image provided by American Bridge archives)

Prime superstructure contractor, American Bridge, constructing the overwater portion of the 16,000' Tappan Zee Bridge in 1954



AB's cable spinning made from airspun parallel wires for the Mid-Hudson Bridge in 1928

AB's cable erection by airspinning parallel wires went as planned as did the fabrication and erection of the towers, stiffening truss, cables and roadway deck. The project completion was not without controversy. Blakeslee alleged they were owed $300,000 for correcting the east caisson, which was denied in both small and large court on grounds that it was the company's inexperienced foremen who under-excavated one side of the caisson and over-excavated the other. On the other hand, AB was awarded an additional $20,000 for repainting of the steelworks, necessitated by their early delivery and decay during the caisson delay. Moreover, it was due to AB's well established and respected reputation in the construction industry that one of the state's own witnesses testified on its behalf. He and his associates were more than satisfied with AB's work and anticipated contracts on future projects. This state representative stated in court, "the company had performed superbly and had given the state a minimum of trouble."

In the mid 1950s American Bridge was prime superstructure contractor for the 7,300' overwater portion of the 16,000' Tappan Zee Bridge. The author of Crossing the Hudson worked in the construction industry until retiring as a professional engineer after 40 years to write about his experiences. Wolf witnessed AB erecting the initial 19,900 ton section of the bridge first hand as he describes, "It was nothing less than a spectacular demonstration of the ingenuity and skills of the bridgemen, and over the months that followed they would erect the other eighteen sections of the bridge deck in the same way."

On page 193 he describes the process: "Using long boom cranes and 500 ton jacks, the crew raised the first section of the bridge structure and laid it across the tops of the two falsework structures (on barges), allowing it to span between them and to overhang them by a few feet. This precipitously balanced assembly of steel, its bottom perched about 55 feet above the water was about 250 feet long, 93 feet wide, and 28 feet wide. When it all had been made secure, three tugboats towed the pair of barges with their delicately balanced cargo down [the river] and positioned them directly in the center of the space between two of the bridges recently completed towers." American Bridge did this at high tide and as it lowered so did the bridge section. It was indeed an impressive display of American Bridge's cleverness and innovation.

Nearly ten years later, in 1963, AB was the general contractor, fabricator and erector for the steel arch truss and all of the approaches for the first Newburgh Beacon Bridge over the Hudson River. There were no funds available to build the bridge, but it was entirely necessary considering many locals commuted over the river to work and could only cross via the unreliable ferry system built in the 18th century. The state managed on its own, selling bonds to cover the costs. Within just five years of completion, the traffic had exceeded the original design limits, due in part to the use of the bridge in the US Federal Government funded interstate highway system. Either the bridge would have to be widened or another be built.

Thus in 1980, American Bridge completed the 6,336' steel truss bridge, the second crossing of the Hudson connecting Newburgh and Beacon. It was fabricated and erected using balanced cantilever, float-in and hoisting techniques to maneuver 25,753 tons of structural steel. In anticipation of traffic increases this bridge was designed to be three lanes. For this same reason, just four years later AB would perform a major rehabilitation, strengthening and lane expansion on the first Newburgh Beacon Bridge. The work included removal of the road deck, stringers and floor beam extensions, as well as reinforcement and widening of truss member and finally the erection of new stringers and decks.

flashbacks

Location: Pittsburgh, PA
AB employee:
H. Curtis, foreman
AB order no.'s: E6200-20, E6200-6, E6200-13

It took four years and three months for American Bridge to erect these three eyebar chain suspension bridges over the Allegheny River. Each was self-anchoring with plate girder approaches, exact replicas to replace existing and decaying bridges previously on the site. Visitors to the city today use the "Three Sisters" for primary access between the downtown core, the stadiums and the heavily redeveloped areas on the north shore of the Allegheny River.

A total of 18,113 tons of steel make up the bridges, approximately 6,000 tons each. The sidespans were erected on 273 tons of falsework and the mainspans were cantilevered from each side using temporary diagonals (625 tons). The falsework was furnished, placed and removed by American Bridge. A total of 216,818 rivets and 1,302 piles were used. The steel was transported via rail and water.

This is one early example of American Bridge's great engineering feats. According to national statistics, the Three Sisters Bridges were the first ever self-anchored suspension spans erected utilizing the cantilevered method and among the only surviving examples of large eyebar chain suspension bridges in the United States. They are the only trio of almost identical bridges.

Triborough Bridge
Location: New York City
AB order no.: G-5504-10

After seven years of construction on the largest public works project of the Great Depression, this iconic New York City bridge was completed in 1936 at a cost of over $60 million. The Triborough Bridge (renamed Robert F. Kennedy Bridge in 2008) is the aggregate of suspension, lift and truss bridges spanning the Bronx Kill, Harlem and Hell Gate waterways, connecting more than 200,000 vehicles per day between the Manhattan, Queens and Bronx boroughs.

The mainspan is 1,380', the main lift span is 310', and the total length for the bridge and its approaches is 13,820'. In addition to these major structures, the crossing is comprised of other small bridges and viaducts, 14 miles of approach highways, recreational facilities and administrative offices for bridge and tunnel authorities.

American Bridge performed the airspinning of the main cables, and erection of castings and hanger ropes for the Triborough Bridge's suspension section. AB has had a strong presence in New York City since its founding in 1900 and this region continues to be one of the company's most active markets, with projects accounting for over 25 percent of its worldwide revenues over the last five years. AB has been associated with the original construction, maintenance, repair and rehabilitation of many of the region's bridges. The company is currently at work on the RFK Triborough, Bronx Whitestone, Throgs Neck, and George Washington Bridges. The Triborough Bridge strengthening project started in the beginning of 2009 and scheduled completion is early this year.

Rankin Bridge
AB employees:
G.W. Hicks, foreman and D.B. Reese, field engineer
Location: Pittsburgh, PA
AB order no.: Q-1613-15

American Bridge completed the Rankin Bridge in 1951. This is a steel cantilever spandrel-braced deck arch bridge that crosses the Monongahela River connecting two towns east of Pittsburgh, Pennsylvania - Whitaker and Braddock. It has a 505' mainspan, a 45' vertical clearance at the left spring line of the channel span and a 75' clearance at the right spring line. The bridge was built at the same site as the former railroad bridge named West Braddock.

The Throgs Neck Bridge opened on January 11, 1961 with purpose to alleviate traffic on the adjacent Bronx-Whitestone Bridge (for which AB completed the fabrication and erection of entire superstructure, air spinning of cables, hanger ropes, suspended deck, plate girder approaches and roadway decks in 1939). The bridge connects the Throgs Neck section of the Bronx with the Bay Terrace section of Queens and carries Interstate 295 over the East River where it meets the Long Island Sound.

Throgs Neck Bridge
Location: New York City
AB Order no.'s: V-2220-39, V-2112-15

Throgs Neck is one of twelve major roadway bridges constructed by American Bridge in the New York City area. This project included the supply and erection of the main cables, suspender ropes, and suspended structure and decks on anchorages for a 2,910' suspension bridge with a 1,800' mainspan. The two main cables are 22 7/8" in diameter which were airspun in 37 strands of 296 wires each. The stiffening trusses are 17' deep, with a center to center width of 92'8". There are double suspender connections at every other panel point, 39'6" apart. The roadway is supported by 16 lines of 18" stringers, and the traffic deck is a 5" filled steel grid.

The Veterans Bridge carries eight traffic lanes spanning the Allegheny River in Pittsburgh, Pennsylvania for Interstate 579; connecting Interstate 279 with Route 28. Prior to its completion in 1986, construction required the removal of a section of the former Pennsylvania Railroad Freight Building on Liberty Avenue.

This plate girder bridge is a 1,094', three-span steel plate girder bridge with a 440' mainspan and 327' long sidespans, containing a 25' deep haunch at the piers. The 8,089' of approaches are deck plate girder, "I" beam, and AASHTO girder spans.

Veterans Memorial Bridge
Location: Pittsburgh, PA
AB Order no.: T-4001-04

The Ninth Street Bridge carries vehicles over the Gowanus Canal in Brooklyn, New York via three lanes of traffic – two westbound and one eastbound.

American Bridge held a subcontract for the fabrication and erection of the superstructure for this miniature, high quality vertical lift bridge, including the supply and installation of all operating machinery.

The bridge replaces a bascule structure that was removed under the contract. The new structure has a vertical lift span 80' long and 47' wide, and lifts to provide an 82' vertical clearance. The bridge was erected underneath an active New York City Transit elevated rail line. This structure's columns were fitted with jacking devices to allow adjustment in the event of any settlement or lateral movement during the construction of the foundations for the new vertical lift bridge. The movement of the existing structure was carefully monitored, and jacking occurred in a planned, organized sequence when required.

9th Street Bridge
Location: Brooklyn, NY
AB employees:
Leo Kupiec, construction manager
Ron Tatum, superintendent
Angus Adams, general foreman
Kwadwo Osei-Akoto, project engineer
AB Order no.: 440910

In view of the space restrictions, American Bridge designed a gantry that was cantilevered from the tower top for erection of the 24 ton sheaves. The sheaves were lifted using hoisting engines, and then slid to their final position on Hillman Rollers. The new liftspan is operated by two sets of two, 30-horsepower electric motors, one in each tower top. The machinery is synchronized using electronic skew controls. The main differential reducer can be driven by either of the two motors in each tower top, with the other motor serving as backup.

Redundant electrical systems allow the bridge to be run under PLC controls or handwired backup systems. A natural gas fired generator provides backup power. The bridge was erected in the up position to allow navigation to continue through construction. Air motors enabled operation of the span when necessary during construction. American Bridge self performed all structural steel erection, jacking of the existing transit structure, installation of steel grid floor system and operating equipment installation.

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AB Connections NEWSLETTER

by Kadi Camardese

Please contact the
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with news and inquiries:
kcamardese@americanbridge.net

WHARF DELTA PROJECT RECIPIENT OF ACI SIGNIFICANT STRUCTURE *award*

On November 18, 2011 American Bridge was presented with the *Significant Concrete Structure Award* by the Florida First Chapter of the ACI (American Concrete Institute).

This design/build project involves the reconstruction of the Delta Wharf at Mayport Naval Station. The work includes the design and construction of 2,000' of new HZ (H-piles integrated with intermediate pairs of Z-sheets) combination wall bulkhead with concrete cap, located in front of existing bulkhead. The new wall is tied back with 60' soil anchors installed at 15° from horizontal. Work also includes demolition, utilities, paving, refurbishment of moorings and fenders. Project completed in early January 2011.

Mayport Wharf Delta Project Manager, Allen Dronko, expands on AB's accomplishments: "American Bridge received this award based on the merits of the special marine concrete mix that was developed specifically for this project. We worked closely with the concrete supplier and the testing laboratory to develop a mix that combined Portland Cement, blast furnace slag, micro silica, and various other admixtures in order to meet the stringent NAVFAC (Naval Facilities Engineering Command) requirements for marine concrete and to allow for workability of the concrete during placement. A significant amount of design and testing was performed in the laboratory and during field trials developing the unique mix. In the end, AB crews successfully placed 4,800 cubic yards of the mix while constructing the new concrete cap."

Delta Wharf Bulkhead Replacement,
an AB design/build project at Mayport Naval Station

Left to right: Steve Walton, P.E., engineer of record, Halcrow Inc.; Ross Adolph, regional sales manager, Vulcan Materials Company; Allen Dronko, project manager, American Bridge Company; Paul Vitucci, quality control manager, American Bridge Company; Wendy Rouse, area sales representative, Vulcan Materials Company; Captain William Vaughan, NAVFAC Southeast; JT Walker, regional quality control manager, Vulcan Materials Company