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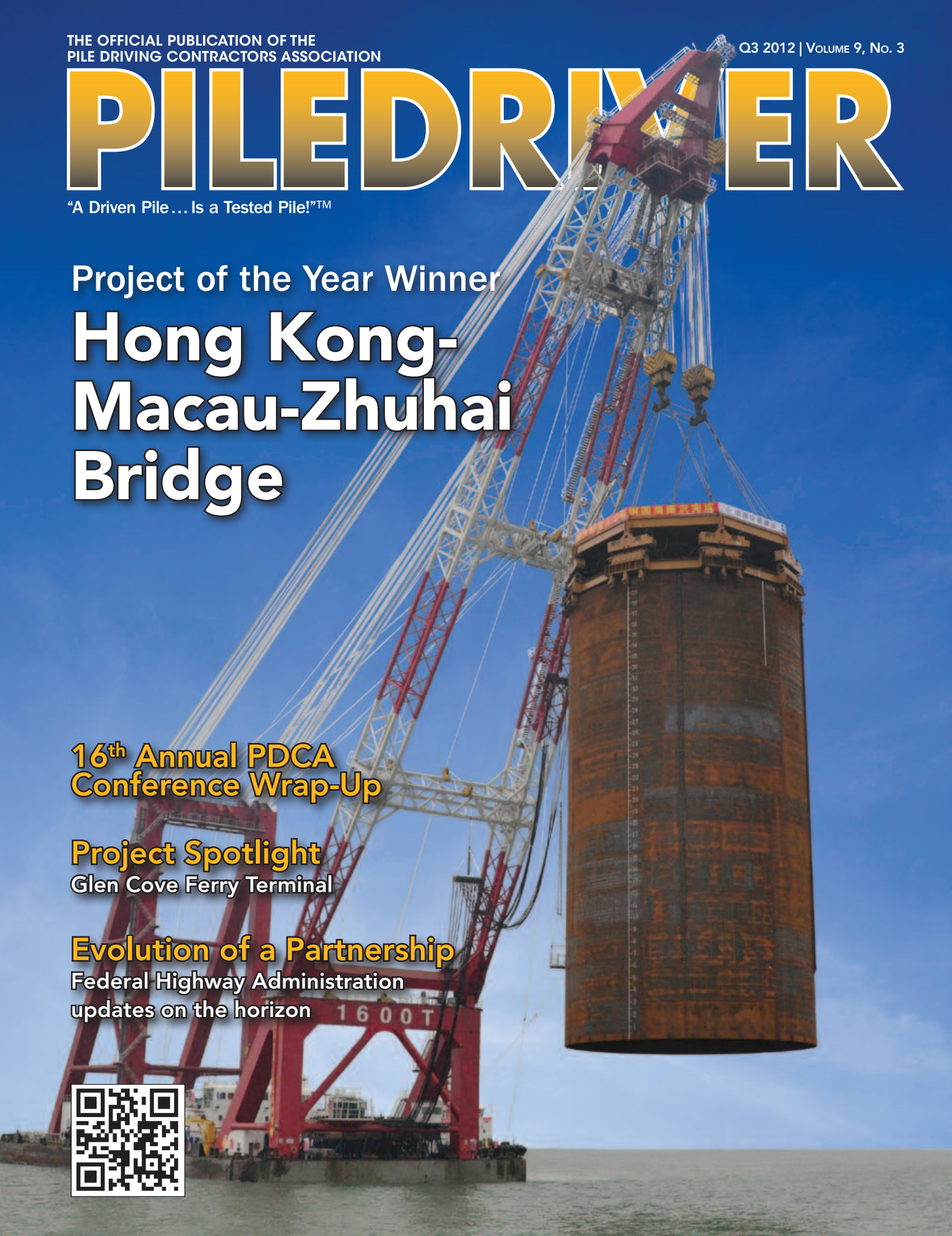
Project of the Year Winner

Hong Kong- Macau-Zhuhai Bridge

**16th Annual PDCA
Conference Wrap-Up**

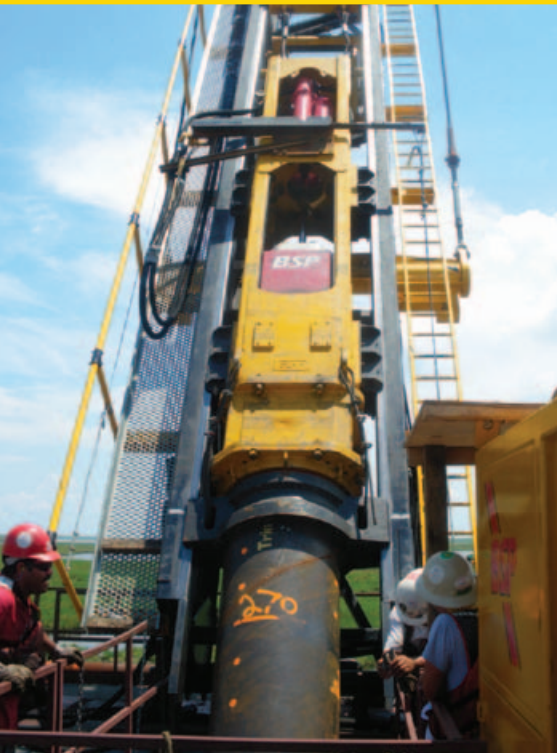
Project Spotlight
Glen Cove Ferry Terminal

Evolution of a Partnership
Federal Highway Administration
updates on the horizon





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Photo courtesy of Geordie Compton at Construct Marketing, LLC

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Promoting Pile Driving From Every Angle

By Dave Chapman, President, Pile Driving Contractors Association

I hope everyone who attended the PDCA Annual Conference in Albuquerque, N.M. this past April enjoyed the three-day event. Congratulations to Steve, Lori and Laurel as well as the Market Development and Education Committees for a job well done. If you could not make the conference this year, I hope to see you at this year's Design and Installation of Cost-Efficient Piles (DICEP) Conference in Seattle, Wash. Don't forget the Market Development Committee has selected Orlando, Fla. as next year's conference site and I hope to see all of our PDCA members there.

I would like to take this opportunity to tell you about some of the things PDCA is doing to promote the pile driving industry.

Let's begin with the International Building Code (IBC). The code is currently up for renewal, which means the International Code Council will receive proposals to amend any and all sections of the IBC. Under the current code, steel piles can be designed to an allowable bearing capacity of 0.33 times the yield strength of the steel. If one does a geotechnical investigation and performs a load test, that value can rise to 0.5 times the yield stress. A proposed change would have eliminated the increase to 0.5 of the yield stress. This would have given piles a serious disadvantage against other foundation systems and probably reduced market share for pile drivers. PDCA worked with other industry groups to develop language opposing the

change. Dale Biggers, vice president of Boh Bros. in Louisiana and chair of the PDCA Technical Committee, flew to Dallas, Texas to debate the change. We are very happy to say that Dale was successful in fending off the proposed amendment.

The art and science of pile driving is constantly evolving. Currently this evolution is taking place in the design arena. The American Association of State Highway and Traffic Officials (AASHTO) Bridge Design Manual has moved from the traditional Allowable Stress Design Method to the new Load and Resistance Factor Design Method. Many designers who work for state departments of transportation designing foundations have questions and are looking for guidance on this issue. PDCA has partnered with Jerry DiMaggio, retired chief geotechnical engineer for the Federal Highway Administration, to put on a series of one-day seminars around the country to help engineers better understand this approach. The first seminar will be held in Baltimore, Md. on Aug. 24. PDCA hopes that if engineers feel comfortable with the new specification, they will be able to design more economical deep foundations using driven piles.

In addition to the recent changes in the design code, there have been many innovations in field testing of piles to confirm capacity. The PDCA Education Committee has put together a one-day seminar that will bring in

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experts on various pile load test methods to explain and discuss these systems. It is a great way to learn about the state of practice in foundation testing. This will also be offered in Baltimore on the day before the LRFD course. Please stay tuned to the PDCA website (www.piledrivers.org) for more information.

Steve Hall, Buck Darling and I met with representatives from several other geo-construction and geo-engineering associations in June. This meeting, held every year, is called the GeoCoalition. It allows PDCA to look for ways to partner with other groups and reinforce what resources are available at PDCA.

We are also kicking off our annual membership drive. If you have not had a chance to renew your membership for 2012, please have accounting send in your dues payment as quickly as possible. If you need a duplicate invoice, contact the PDCA office at 888-311-PDCA (7322). Thanks for your continued support!

Also, the PDCA office has put together a great packet for prospective members. If you know of other companies in the pile driving industry who are not members,

please invite them to join. You can provide the PDCA office with their contact information and they will send the packet. Alternatively, the packet can be delivered to you and you can send it out with a personalized note.

One very important and recent development for our association was the establishment of a PDCA of Texas Chapter. I had the privilege of meeting with the organizing committee for the chapter at the annual conference. They are very enthusiastic and have already had their first planning meeting, which was held on Friday, Aug. 17 at the Marriott Galleria in Houston. We wish the chapter great success.

I hope all of our members are seeing work pick up as the season rolls into high gear. PDCA wants to help members to be as competitive and profitable as possible. However, a key component of that is increased volume of work. Unfortunately, any hope for an agreement on a long-

term highway bill has apparently disappeared. Congress will probably authorize a short-term extension at current funding levels. As this campaign season heats up,

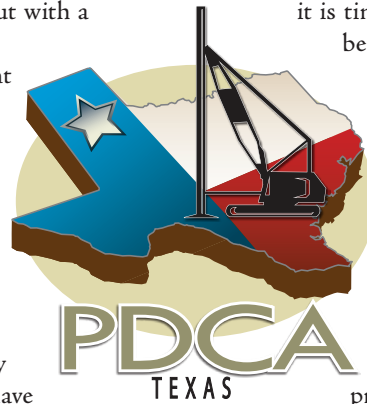
it is time for us to stand up and be counted. Tell the candidates that investment

in construction provides good paying jobs here in America and that by investing in our infrastructure, our economy will be more competitive.

Our highway system was an investment in our prosperity by our parents and grandparents. It now has

insufficient capacity and has seriously deteriorated. If we don't begin to fix it now, our children will inherit a broken transportation system that will leave them at a serious economic disadvantage and it will be too costly to repair. If this is not the legacy you want to leave your kids, now is the time to speak up.

I wish everyone a fun, safe and profitable summer. ▼



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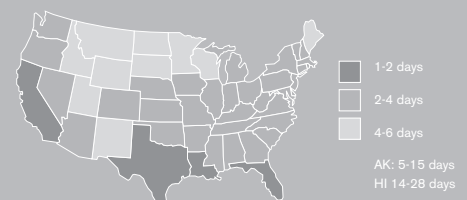
- Design: Superior design means PilePro[®] connectors have greater flexibility within the interlock – typically a 20° to 30° of swing versus the 2° to 5° of swing found in most sheet pile interlocks.
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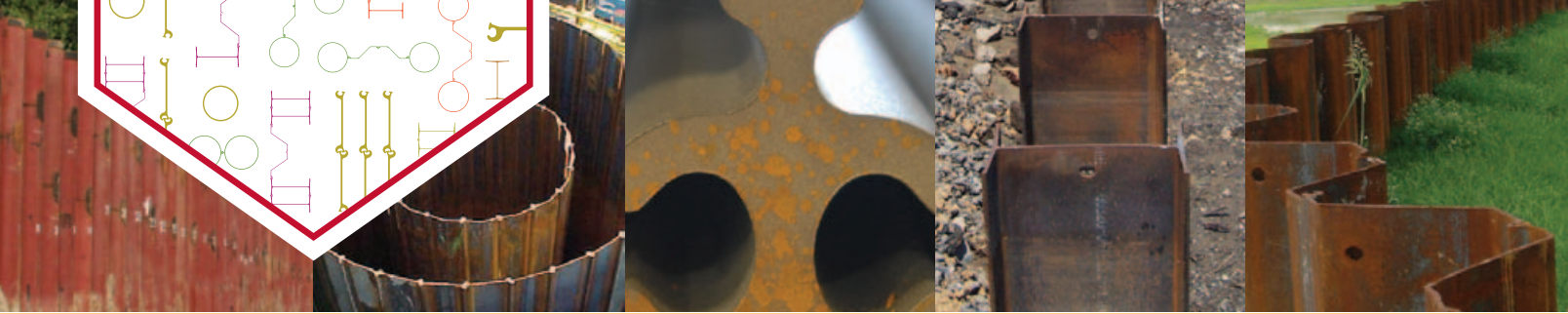
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Finding Common Ground in Collaboration



By Stevan A. Hall, Executive Director,
Pile Driving Contractors Association

In 2006, while attending my first PDCA Board of Directors meeting at the annual conference in San Antonio, Texas, I asked the board members about the association's position on collaborative efforts with other industry organizations and public agencies and also to formalize a policy which would direct the PDCA staff in the event that such opportunities were presented.

In part, the Board of Directors said that, "... when an event or issue presented itself as a collaborative opportunity and such event or issue supports the common interest to both parties and/or the driven pile industry; or was deemed to be in the best interest of the PDCA, then such opportunities should be encouraged."

This PDCA "policy" was used for the first time when the PDCA entered into a joint venture contract, acting as a partner of the Management Committee for the International Foundation Congress and Equipment Expo (IFCEE). This program was a collaborative effort between the Association of Drilled Shaft Contractors (ADSC), GeoInstitute of the American Society of Civil Engineers (ASCE) and the PDCA. The IFCEE was held in Orlando, Fla. in 2006 and resulted in a tremendously successful and well attended event. The PDCA is excited about the possibility of returning as a participating association in this event in 2015, which will most likely

be held at the J.W. Marriott San Antonio Hill Country Resort and Spa, San Antonio, Texas.

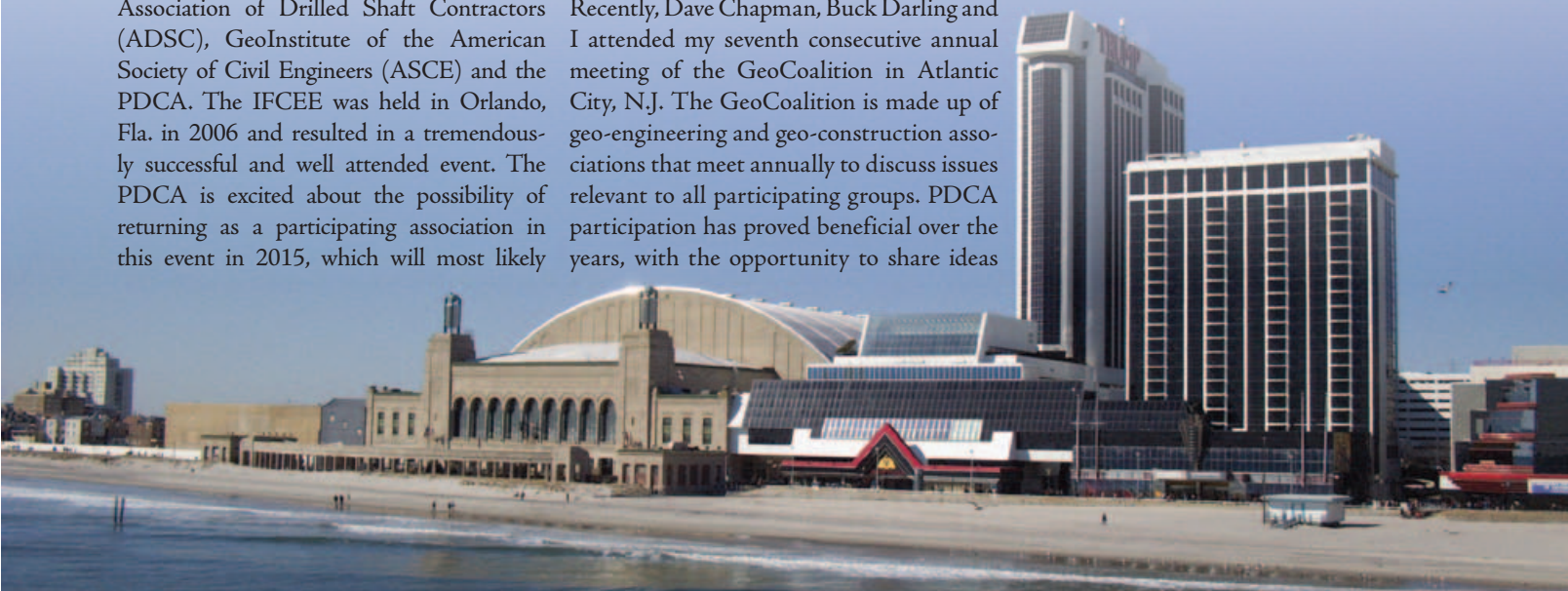
In 2006, the PDCA Board of Directors made a suggestion that national PDCA collaborate with our local PDCA Chapters in hosting the annual Design and Installation of Cost-Efficient Piles (DICEP) Conference. This suggestion became a standard policy of the PDCA and went into effect for the first time in 2007, when national teamed up with the Mid-Atlantic Chapter of the PDCA and held a very successful DICEP Conference at the Turf Valley Resort and Conference Center in Ellicott City, Md. Event participation increased by approximately 60 percent from the previous year at that conference. This PDCA trend continued in 2008, 2009, 2010 and 2011, when national partnered with the Gulf Coast Chapter, Pacific Coast Chapter, South Carolina Chapter and the Florida Chapter, respectively.

In 2006, Randy Dietel and I attended my first GeoCoalition (then called the GeoCouncil) meeting in Dallas, Texas. Recently, Dave Chapman, Buck Darling and I attended my seventh consecutive annual meeting of the GeoCoalition in Atlantic City, N.J. The GeoCoalition is made up of geo-engineering and geo-construction associations that meet annually to discuss issues relevant to all participating groups. PDCA participation has proved beneficial over the years, with the opportunity to share ideas

and work together to the betterment of our industry.

In January 2008, still under the presidency of Mark Weisz, the PDCA collaborated with the Edmonton Geotechnical Society to present a one-day version of the Federal Highway Administration (FHWA) NHI Pile Driving Inspectors course in Edmonton, Alta., Canada. This was the first time the PDCA had ventured outside the continental U.S. borders to present a seminar. Taught by Mike Justason and Pat Hannigan, this joint venture also proved to be very successful for the PDCA. Unfortunately, I could not make this course but later found out the outside temperature was minus 40 degrees Celsius. Minus 40 is the same in Fahrenheit and Celsius, but does it really matter – that's just downright cold. Thanks to Mike and Pat for enduring this weather anomaly.

In March 2010, the PDCA was the managing association for the Driven Pile – A Technical Seminar conference held at the Marriott Baltimore Waterfront, Baltimore,





It is important to know that the PDCA is an independent and solidly grounded association that represents its members and industry with strength and influence through our vision statement and core values.

Md., a first-time joint program between the PDCA and Deep Foundations Institute (DFI) since I arrived at the PDCA. This program also turned out to be a very successful venture for both organizations, attracting more than 115 attendees. In 2011, the PDCA turned over the managing responsibilities to DFI, which resulted in another successful conference in Chicago, Ill.

In June 2012, the PDCA joined forces with the Calgary Geotechnical Society and DFI to present "Driven Pile Technologies for the 21st Century." This collaborative program was the idea of PDCA Secretary/Treasurer, Mike Justason, from Bermingham Foundation Solutions in Hamilton, Ont., Canada. Frank Magdich, Past Chair CGS and partner, Oak Environmental, Inc. did a great job on behalf of the partners in setting up all the logistics in Calgary that are associated with putting on a successful event. "Driven Pile Technologies for the 21st Century" featured speakers from construction, manufacturing, suppliers, service providers, academia and engineering and included presentations from both U.S. and Canadian speakers.

Also in June 2012, Lori Schneider, PDCA Director of Education and Events, attended the seventh Seminar on Special Foundations Engineering and Geotechnics and the first Foundation and Geotechnics Industry Show in Sao Paulo, Brazil as an exhibitor. While not specifically a collaborative partner in this program, Lori was able to introduce the PDCA to members of the Brazilian Association on Special Foundation Engineering and Geotechnics (ABEF), SINABEF, Brazilian Association of Soil Mechanics and Geotechnical Engineering (ABMF) and Brazilian Association on Geotechnical Engineering Design and Consulting Companies (ABEG), making this program a very successful first visit by the PDCA to Brazil.

In 2012, Silas Nichols, senior bridge engineer-geotechni-

cal for FHWA, met with members of the PDCA Executive Committee and Board of Directors during the annual conference in Albuquerque, N.M. to announce upcoming program in which the PDCA will be asked to partner with FHWA. In the past, the Technical Committee has worked closely and successfully with AASHTO's T-15 Subcommittee on Bridges and Structures to develop the new LRFD Bridge Design Specifications. The PDCA looks forward to working with FHWA on programs that Mr. Nichols has mentioned in an article contained in this edition of *PileDriver*, as well as future research opportunities that may present themselves.

The PDCA has also had the FHWA, the American Society of Civil Engineers (ASCE), GeoInstitute of the ASCE, Association of Environmental and Engineering Geologists (AEG), Structural Engineers Association (SEA), Association of Drilled Shaft Contractors (ADSC), National Society of Professional Engineers (SPE) and many other local branches of these associations as cooperating or supporting organization of PDCA conferences, seminars and workshops.

In conclusion, it is important to know that the PDCA is an independent and solidly grounded association that represents its members and industry with strength and influence through our vision statement and core values, including "One Voice, One Goal" and our mission statement, which is to "promote driven piles and provide exceptional support and services to our members." However, this does not release us from our obligation to work with others within our industry who share similar interests, common ground and issues of mutual concern. The pile driving contractors will continue to grow and be an established influence within the driven pile industry, sometimes independently and sometimes as a collaborating partner. ▼

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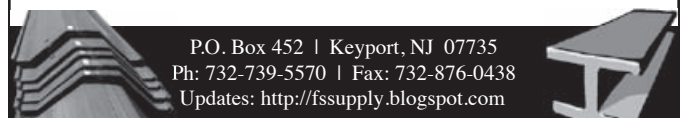
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Fax: 407-826-4747

Education Committee Members:

Eric Hendriksen, Garland Likins, Jim Frazier, Mark Weisz, Mike Justason, Pat Hannigan, Rusty Signor, TC Heller, Van Hogan, Andrew Verity, Gerald Verbeek, Mark Openshaw, Douglass Ford

Environmental Committee Chair:

Herbert F. "Buck" Darling
131 California Drive
Williamsville, NY 14221
Phone: 716-632-1125
Fax: 203-488-3997

Environmental Committee Members:

Crandall Bates, Dave Harrison, Eric Hendriksen, John Linscott, Mark Miller, Michael Morgano, Warren Waite

Finance Committee Chair:

Mike Justason
600 Ferguson Avenue North
Wellington Street Marine
Terminal
Hamilton, ON L8L 4Z9
Phone: 905-536-7110
Fax: 905-528-6187

Finance Committee Members:

Buck Darling, Don Dolly, Randy Dietel, Wayne Waters, Van Hogan, Tom Davis (Advisor), Tom Hallquest (Advisor)

Market Development Committee Chair:

Phil Wright
130 Satellite Boulevard
Northeast, Suite A
Suwanee, GA 30024
Phone: 678-714-6730
Fax: 678-714-5950

Market Development Committee Members:

Dan Winters, Mike Elliott, Scott Whitaker, TC Heller, Dean Abbondanza, Rusty Signor, Steve Macon

Membership Development Committee Chair:

John King
4530 Highway 162
Hollywood, SC 29449
Phone: 843-763-7736

Membership Development Committee Members:

Van Hogan, Mark Weisz, Trey Ford, Randy Dietel, Harry Robbins

Technical Committee Chair:

Dale Biggers
P.O. Drawer 53266
New Orleans, LA 70153
Phone: 504-821-2400
Fax: 504-821-0714

Technical Committee Members:

Billy Camp, Casey Jones, Dave Chapman, Eric Hendriksen, Garland Likins, Gerald Verbeek, Marvin Phillips, Mike Kelly, Randy Dietel, Van Komurka, Andrew Verity, Bill Spatz

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Contractors Association**
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MEMBERSHIP BENEFITS

The Pile Driving Contractors Association & You

Governance, Board of Directors, Committees and Chapters **PDCA Governance, Committees and Chapters**

The PDCA's direction, growth and success is a direct result of an involved membership. The association is directed by a dedicated Executive Committee and Board of Directors, who establish PDCA's short and long-term goals and objectives through a comprehensive Strategic Plan. The Strategic Plan is reviewed and revised each year by the Executive Committee and Board of Directors during the Annual Tactical Meeting.

Implementation of the Strategic Plan Focus and Strategies is a team effort between the Board of Directors, Committees and staff.

Governance

Executive Committee: The Executive Committee consists of the Association's Officers, including the President, Vice President, Secretary, Treasurer and Immediate Past President. The Executive Director serves on the Executive Committee in an Ex-Officio, non-voting capacity.

Board of Directors: The Board of Directors consists of the Association's Officers and nine elected member Directors. Directors can be Contractor, Associate and Engineering Affiliate members.

Committees

PDCA Committees include the following, as well as the function they perform:

Education: Responsible for the development of all educational programs, including annual conference general sessions, seminars and workshops. Responsible for development and maintenance of relations with educational institutions. Responsible

for promoting driven pile research and technical papers and the presentation of such information at appropriate venues.

Technical: Responsible for technical information and applications impacting the driven pile and deep foundations industry. Responsible for developing and maintaining relations with public and private entities involved in issues impacting driven pile or deep foundations. Responsible for developing and maintaining PDCA-produced design and installation specification documents.

Communications: Responsible for establishing editorial guidelines, acquisition, assembly and review of all editorial content of *PileDriver* magazine, annual directory and calendar. Responsible for the functionality of the PDCA website and distribution of the PDCA E-Letter.

Membership: Responsible for membership development and member retention and issues impacting the continued growth of the association.

Market Development: Responsible for promoting the different pile types and monitoring trends in the market. Responsible for site selection of the annual conference sites, assembly of social programs for the annual conference and promotion of conferences.

Safety: Responsible for the dissemination of information relevant to safe work practices. Responsible for monitoring and reviewing regulations and legislation impacting the driven pile industry.

Environmental: Responsible for environmental issues related to pile driving, including, but not limited to, noise, vibration, biofuels, brownfield sites and marine life.

PDCA members are encouraged to participate on one or more committees. Participation is voluntary, but committee

members are encouraged to participate on a consistent basis.

Those members desiring to serve the association at the Executive Committee and/or Board of Director levels are offered the opportunity as existing members rotate off.

PDCA Chapters

The PDCA encourages the formation of local PDCA Chapters. Local chapters provide regional representation and advocacy for the driven pile industry and those companies doing business within the chapter's jurisdiction.

Chapters also provide an opportunity for its members to network through business meetings, educational programs and social activities.

Current PDCA Chapters include Northeast, Mid-Atlantic, South Carolina, Florida, Gulf Coast and Pacific Coast. As of 2012, Texas is organizing a state chapter.

Education and Networking

PDCA Education: Conferences, Seminars and Workshops

The PDCA offers relevant, topical and cutting-edge educational programs throughout the year.

Annual Conference: The PDCA Annual Conference is held each year, generally in April. This internationally-recognized conference provides a forum for experts from industry, private business, government and academia to discuss key trends and issues within the driven pile industry with those who rely on information and technology to improve their business.

Design and Installation of Cost-Efficient Piles (DICEP): Held each fall since 2000, this exclusive PDCA program presents modern approaches to maximize

Efficiency, Effectiveness and Economy (E₃) of driven piles through a series of engineering focused presentations. DICEP is designed primarily for geotechnical, structural and civil engineers, but presents relevant information for contractors and other firms or individuals who support, conduct business or are associated with the deep foundations, earth retention and/or the driven pile industry.

Professors' Driven Pile Institute (PDPI): This intensive week-long program is designed to instruct engineering educators in all aspects of driven pile installation, design and quality control. This program blends practical, real world construction knowledge with academics. The PDPI has been attended by more than 150 university and college representatives who teach driven pile applications in an academic environment. The program is held at Utah State University every other year and is funded 100 percent by the PDCA and its members.

Deep Foundation Testing and Analysis Seminar and Workshops: The PDCA, in collaboration with Pile Dynamics, Inc. conducts several Deep Foundation Dynamic Testing and Analysis seminars and workshops annually. Each seminar or workshop generally includes information on deep foundation integrity testing, wave equation analysis (GRLWEAP), high strain dynamic foundation testing (PDA and CAPWAP). This course is designed primarily for individuals involved in the design, construction and specification of deep foundations; as well as PDA and CAPWAP users, foundation testing professionals, professors and students already familiar with the basic concepts of deep foundation dynamic testing and analysis.

The PDCA also provides the Dynamic Measurement and Analysis Proficiency Test designed to reflect the user's level of knowledge and ability, which is then indicated in a "Certificate of Proficiency." Individuals who qualify to support dynamic measurement and analysis testing are listed on the PDCA website as a reference for end-users.

Pile Driving Inspectors Course: This one-day course is designed for those who inspect pile-driving operations during construction of foundations and major structures. The course presents information on the inspector's role, hammers and installation equipment, pile types, contractor's submittal and review process, establishing PD criteria, record-keeping and monitoring

and common problems. This program is supplemented by state DOT personnel and their local practices in the state in which the program is offered.

Dynamic and Static Pile Load Test Options: This one-day course discusses the benefits of a well thought out, quality load test program to provide an overall economic advantage and provide data to maximize the efficiency and effectiveness of a pile load test schedule. The seminar concludes with presentations by manufacturers of the various dynamic and static pile load testing options available in today's industry.

Driven Pile Load Resistant Factor Design (LRFD) Design and Construction Workshop: The application of the Load Resistant Factor Design (LRFD) platform is now required for use by bridge and structure designers using federal funding. This policy requirement applies to all surface transportation features including bridges, tunnels, earth retaining structures and miscellaneous ancillary structural features. The goal of this workshop is to improve and enhance the competitiveness of driven piles by communicating and demonstrating the correct and appropriate application of the current (5th Edition) AASHTO LRFD design and construction specifications for structural and geotechnical limit states.

Joint seminars and cooperative support with other organizations such as the Edmonton Geotechnical Society, the Calgary Geotechnical Society, the GeoInstitute of American Society of Civil Engineers, DFI and ADSC.

Communications, Business Networking and Client Development

PileDriver Magazine: Produced on a quarterly basis and distributed to over 3,000 subscribers, the magazine provides current industry trends, the latest in technology, case histories and legal topics relevant to the pile driving industry. *PileDriver* also features member "Company Profiles" and company completed projects through "Project Spotlights". The PDCA encourages article submissions and is always at no cost to the author.

www.piledrivers.org: The PDCA website is an expansive resource to anyone seeking information about the PDCA, PDCA members or the pile driving industry in general. The site includes information

on the benefits of driven pile, membership (new and renewals), advertising, leadership and committees, chapters, events, publications, gallery, reference links, news and the PDCA Store. Visitors to the site can search for member companies or services and products by State or Region; visitors can also download data on Noise and Vibration and the PDCA Installation Specification for Driven Pile (PDCA Specification 103-07 – Private Work).

E-Letter: The PDCA distributes an electronic newsletter on a monthly basis. The E-Letter is designed to keep you up-to-date on all PDCA upcoming activities and events. It also includes a "Members On the Move" section that reports "press release" type information on PDCA member companies.

Membership Directory: Produced annually, the Membership Directory provides a listing of all PDCA member companies, including the company name, main and optional employee contacts, address, phone, fax, email, website and a description of work performed by the company. Companies can also elect to have their logos included with their company information.

Calendar: Produced annually and distributed in November with pages from December to December, the calendar lists all upcoming PDCA activities that have been scheduled at the time of printing.

Business Networking and Client Development

Membership in the PDCA offers numerous opportunities to conduct business networking and client development at every conference, educational program, committee meeting and social function with individuals who share a common interest – pile driving and the pile driving industry. Networking opportunities exist not only between PDCA member-to-member, but also relationships developed between PDCA and public agencies, such as FHWA, AASHTO, Corps of Engineers and State DOTs. The PDCA also maintains liaisons with other industry associations, working with them on issues of mutual concern.

Whether it is member-to-member or member-to-guest, through conferences, educational programs or committee participation, the opportunity to develop new client relationships is ever-present. The chance to strengthen relationships with old clients or just re-connect with old friends is also part of the PDCA experience. ▼

THE PILE DRIVING CONTRACTORS ASSOCIATION 2012-2013 MEMBERSHIP APPLICATION



Step 1: Company Information

Company Name: _____

Contact Name: _____

Address: _____

City: _____ State / Province: _____

Zip / Postal Code: _____ Country: _____

Phone: _____ Fax: _____

Company Website: _____ Contact E-mail: _____

Step 2: Select Membership Type - Check the box that corresponds to your "Membership Type".

Contractor Member – General or Specialty contractor who commonly installs driven piles for foundations and earth retentions systems.

- | | |
|--|-----------------|
| <input type="checkbox"/> Contractor I Member Company – Annual volume > \$ 2 million | \$850.00 |
| <input type="checkbox"/> Contractor II Member Company – Annual volume < \$ 2 million | \$425.00 |

Associate Member – Firms engaged in the manufacture and/or supply of equipment, materials, or services to PDCA members or the pile driving industry in general.

- | | |
|---|-----------------|
| <input type="checkbox"/> Associate I Member Company – Annual volume > \$ 2 million | \$850.00 |
| <input type="checkbox"/> Associate II Member Company – Annual volume < \$ 2 million | \$425.00 |
| <input type="checkbox"/> Local Associate Member Company – | \$100.00 |

Small Company desiring membership in a single local chapter. A firm that only serves the chapter's geographical area and whose interest is to support the local chapter. Membership must be approved by the PDCA Executive Committee

Engineering Affiliate – Any Engineering company or individual (Structural, Geotechnical, Civil, etc.) involved in the design, consulting, or other engineering aspect associated with driven piles, deep foundations or earth retention systems.

- | | |
|---|-----------------|
| <input type="checkbox"/> Engineering Affiliate – 1-5 Offices or an Individual | \$100.00 |
| Engineering Affiliates may list up to 5 individuals per office at no additional charge. | |
| <input type="checkbox"/> Engineering Affiliate – 6-11 Offices | \$90.00 |
| Engineering Affiliates may list up to 5 individuals per office at no additional charge. | |
| <input type="checkbox"/> Engineering Affiliate – 12+ Offices | \$80.00 |
| Engineering Affiliates may list up to 5 individuals per office at no additional charge. | |

Individual Member – **\$50.00**

Any individual employed full-time by an university or college and teaching Undergraduate or Graduate courses in engineering; or an individual employed full-time by a Government entity.

Retired Industry Member – **\$50.00**

Any retired individual who has left active employment and wishes to remain a member. This is a non-voting membership category.

Student Member – **\$20.00**

Full-time student enrolled in a Bachelor, Master or Doctoral degree program in construction or engineering at an university or college.

Affiliate Labor Organization Member – **\$100.00**

Concerned with pile driving for the purpose of gathering and sharing information. This is a non-voting membership category. Must be approved by the PDCA Executive Committee.

Step 3: Membership Options

- | | |
|---|-----------------|
| <input type="checkbox"/> Professor's Driven Pile Institute Contribution – | \$200.00 |
| Through the PDPI (Professors' Driven Pile Institute), the PDCA provides the nation's leading engineering professors with the expertise to teach engineering students about driven pile advantages. Without question, this program is the standard by which all "teach the teacher" programs are judged and is the best way to ensure the continued progress and strength of our industry for the coming years. The PDCA funds virtually all expenses for the professors, which means a program such as the PDPI is expensive to conduct, but worth every dollar invested. This is a WIN/WIN program. 100% of your contribution goes to help fund this important industry program. | |
| <input type="checkbox"/> Optional Employee/Office: Associate & Contractor Members Only (Per Office/Employee Listing) – | \$100.00 |
| All optional employees/offices receive all of the benefits and services provided to the main contact, including a listing in the annual directory and website. | |
| <input type="checkbox"/> Premium Upgrade – | \$225.00 |
| Your Company Logo and Website linked from your PDCA website Company Profile listing. | |
| <input type="checkbox"/> Company Logo on Website Profile – | \$25.00 |

Step 4: Member Information - Check only the services/products under the Membership type for which you are applying.

Contractor Members – check all services that your company provides:

- | | | |
|--|--|---|
| <input type="checkbox"/> Bridge Buildings | <input type="checkbox"/> Docks and Wharves | <input type="checkbox"/> Marine |
| <input type="checkbox"/> Bulkheads | <input type="checkbox"/> Earth Retention | <input type="checkbox"/> Pile Driving |
| <input type="checkbox"/> Deep Dynamic Compaction | <input type="checkbox"/> General Contracting | <input type="checkbox"/> List Other Services: |
| <input type="checkbox"/> Deep Excavation | <input type="checkbox"/> Highway and Heavy Civil | <input type="text"/> |

Associate Members – check all products and/or services that your company provides:

- | | | |
|--|---|--|
| <input type="checkbox"/> Air Compressors & Pumps | <input type="checkbox"/> Hydraulic Power Packs | <input type="checkbox"/> Piles, Synthetic Material |
| <input type="checkbox"/> Coatings & Chemicals | <input type="checkbox"/> Leads & Spotters | <input type="checkbox"/> Piles, Timber |
| <input type="checkbox"/> Consulting | <input type="checkbox"/> Lubricants & Grease | <input type="checkbox"/> Rigging Supplies |
| <input type="checkbox"/> Cushions, Hammer | <input type="checkbox"/> Marine Drayage | <input type="checkbox"/> Safety Equipment |
| <input type="checkbox"/> Cushions, Pile | <input type="checkbox"/> Marine Equipment | <input type="checkbox"/> Sheet Piles, Aluminum |
| <input type="checkbox"/> Cutter Heads & Drill Bits | <input type="checkbox"/> Materials Testing | <input type="checkbox"/> Sheet Piles, Steel |
| <input type="checkbox"/> Design | <input type="checkbox"/> Other Structural Materials | <input type="checkbox"/> Sheet Piles, Vinyl |
| <input type="checkbox"/> Dock & Marine Supplies | <input type="checkbox"/> Pile Hammers | <input type="checkbox"/> Structural Steel |
| <input type="checkbox"/> Drilling Equipment & Supplies | <input type="checkbox"/> Pile Monitoring | <input type="checkbox"/> Surveying |
| <input type="checkbox"/> Drive Caps & Inserts | <input type="checkbox"/> Pile Points & Splices | <input type="checkbox"/> Testing |
| <input type="checkbox"/> Equipment Rental | <input type="checkbox"/> Piles, Composite | <input type="checkbox"/> Trucking |
| <input type="checkbox"/> Equipment Sales | <input type="checkbox"/> Piles, Concrete | <input type="checkbox"/> Vibration Monitoring |
| <input type="checkbox"/> Freight Brokerage | <input type="checkbox"/> Piles, Steel H List | <input type="checkbox"/> Other Services: |
| <input type="checkbox"/> Hoses & Fittings | <input type="checkbox"/> Piles, Steel Pipe | <input type="text"/> |

Engineering Affiliate – check all products and/or services that your company provides:

- | | | |
|-------------------------------------|---------------------------------------|---|
| <input type="checkbox"/> Analysis | <input type="checkbox"/> Geotechnical | <input type="checkbox"/> List Other Services: |
| <input type="checkbox"/> Civil | <input type="checkbox"/> Surveys | <input type="text"/> |
| <input type="checkbox"/> Consulting | <input type="checkbox"/> Structural | <input type="text"/> |

Step 5: Geographic Areas Where Services and Products Are Available – (Check all that apply)

- | | | | | | | | | |
|--|---------------------------------|-------------------------------|--------------------------------|-----------------------------|-----------------------------|-----------------------------|---------------------------------|---------------------------------|
| <input type="checkbox"/> All States | <input type="checkbox"/> AK | <input type="checkbox"/> AL | <input type="checkbox"/> AR | <input type="checkbox"/> AZ | <input type="checkbox"/> CA | <input type="checkbox"/> CO | <input type="checkbox"/> CT | <input type="checkbox"/> DC |
| <input type="checkbox"/> DE | <input type="checkbox"/> FL | <input type="checkbox"/> GA | <input type="checkbox"/> HI | <input type="checkbox"/> IA | <input type="checkbox"/> ID | <input type="checkbox"/> IL | <input type="checkbox"/> IN | <input type="checkbox"/> KS |
| <input type="checkbox"/> KY | <input type="checkbox"/> LA | <input type="checkbox"/> MA | <input type="checkbox"/> MD | <input type="checkbox"/> ME | <input type="checkbox"/> MI | <input type="checkbox"/> MN | <input type="checkbox"/> MO | <input type="checkbox"/> MS |
| <input type="checkbox"/> MT | <input type="checkbox"/> NC | <input type="checkbox"/> ND | <input type="checkbox"/> NE | <input type="checkbox"/> NH | <input type="checkbox"/> NJ | <input type="checkbox"/> NM | <input type="checkbox"/> NV | <input type="checkbox"/> NY |
| <input type="checkbox"/> OH | <input type="checkbox"/> OK | <input type="checkbox"/> OR | <input type="checkbox"/> PA | <input type="checkbox"/> RI | <input type="checkbox"/> SC | <input type="checkbox"/> SD | <input type="checkbox"/> TN | <input type="checkbox"/> TX |
| <input type="checkbox"/> UT | <input type="checkbox"/> VA | <input type="checkbox"/> VT | <input type="checkbox"/> WA | <input type="checkbox"/> WI | <input type="checkbox"/> WV | <input type="checkbox"/> WY | <input type="checkbox"/> Canada | <input type="checkbox"/> Mexico |
| <input type="checkbox"/> South America | <input type="checkbox"/> Europe | <input type="checkbox"/> Asia | <input type="checkbox"/> Other | <input type="text"/> | | | | |

Step 6: Payment

- | | |
|--------------------------|-----------------|
| Membership Type | \$ _____ |
| PDPI Contribution | \$ _____ |
| Optional Employee/Office | \$ _____ |
| Membership Upgrades | \$ _____ |
| TOTAL: | \$ _____ |

Type of Payment

I am making payment in full by: Check Visa MasterCard American Express Discover

Card Number: _____ Expiration Date: _____

Name on Card: _____ CVV Code: _____

Statement Billing Address: _____

Signature: _____

Please complete this application and mail to:

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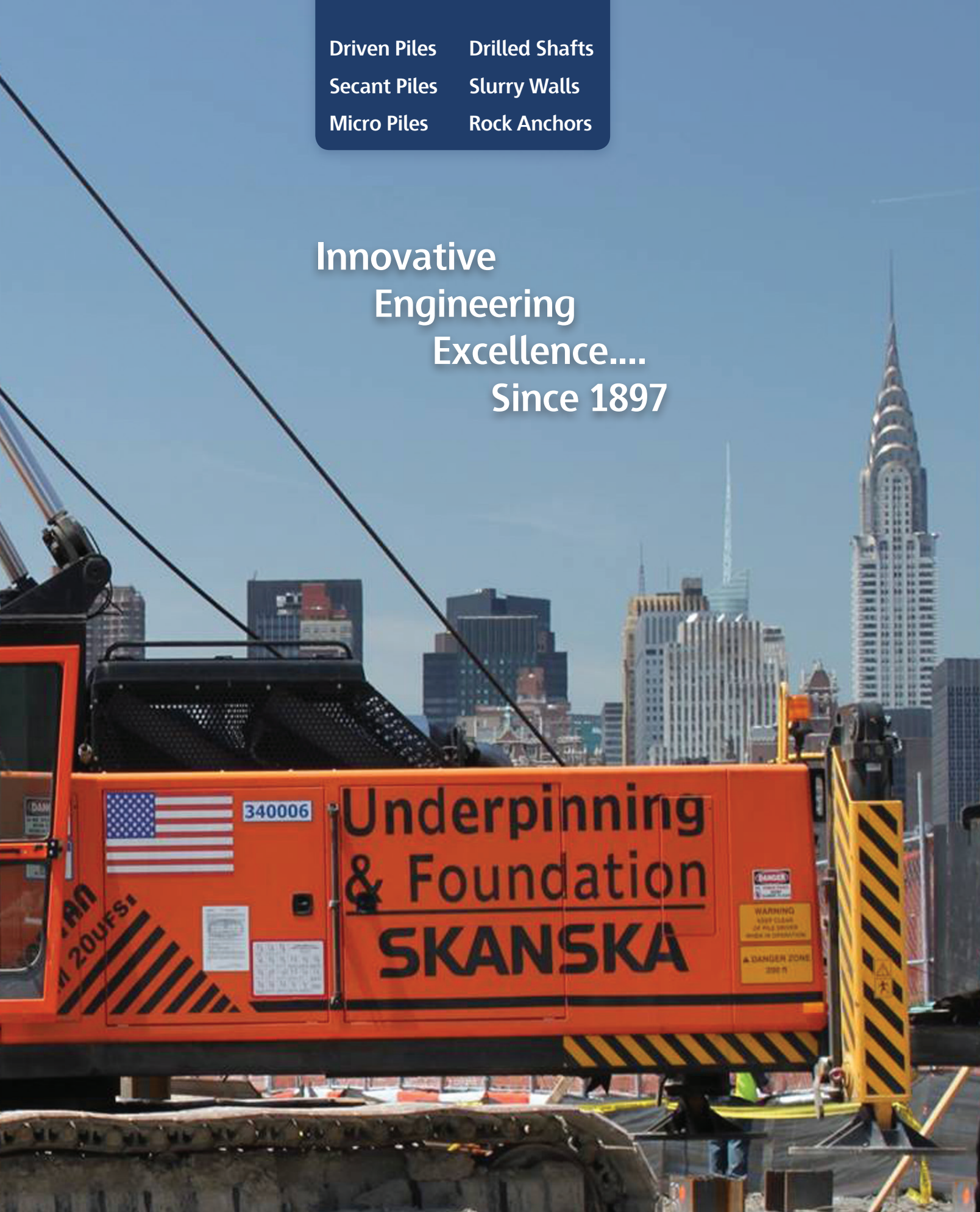
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Did you know that the American National Standards Institute (ANSI)/American Society of Safety Engineers (ASSE) have a standard for safe installation and extraction of piles?

The standard, ANSI/ASSE A10.19-2008 “Safety Requirements for Pile Installation and Extraction Operations”, is a solid resource for conducting safe operations in the installation and extraction of piles, whether concrete, steel, timber, sheets, composites or synthetics. This standard establishes safety requirements for the installation and extraction of piles during construction and demolition operations and is designed to prevent injuries and ill-

ness to persons exposed to hazards associated with pile driving and extraction operations.

You can purchase a copy of the standard by typing the following link into your browser: bit.ly/ANSI-ASSE_Standard
Hard copy and electronic version: \$74.00 (List price)

The PDCA can provide input to future revisions to ANSI/ASSE A10.19-2008 in areas that relate to requirements found in the new OSHA crane standard and new general technology in the pile driving industry.

Individuals interested in providing comments, please contact the PDCA office immediately at 888-311-PDCA (7322). ▼

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2012 New PDCA Members

The following is a list of all members who have joined the PDCA in the last quarter. The association welcomes everyone on the list!

Contractors

C.D. Perry & Sons, Inc.
J.V. Ryan
P.O. Box 866 Foot of
Monroe Street
Troy, NY 12181
Phone: 518-272-0831
Fax: 518-874-2019
www.cdperryandsons.com

Facchina Construction Company Inc.
Gary Fry
102 Centennial Street, Suite 201
LaPlata, MD 20646
Phone: 703-495-8111
Fax: 703-495-8121
www.facchina.com

Power Engineering Construction Co.
Mike David
1501 Viking Street, Suite 200
Alameda, CA 94501
Phone: 510-337-3800

Power Lift Foundation Repair, Inc.
Bill McCown
304 Progress Street
Sherman, TX 75092
Phone: 903-893-2393
Fax: 903-893-2672
www.plfrinc.com

Saddlebrook Construction, Inc.
Don White
P.O. Box 216
Pickens, SC 29671
Phone: 864-898-1533
Fax: 864-898-0763
www.saddlebrookconstruction.com

Sea & Shore Contracting, Inc.
Michael Lally
11 Randolph Road
Randolph, MA 02368
Phone: 781-767-0090
Fax: 781-767-0095
www.seaandshorecontracting.com

T.L. Wallace Construction, Inc.
William Noffke
P.O. Box 523
Columbia, MS 39429
Phone: 601-736-4525
Fax: 601-736-3401
www.tlwallace.com

Associates

Angbai Trading (Shanghai) Co., Ltd.
Hoffman Fang
1068 Wuzhong Road
Shanghai, 201103
China
Phone: 86-138-1858-5282
Fax: 86-21-6090-0838
www.sinosteeltube.com

Canadian Pile Driving Equipment, Inc.
Bruce Patterson
3801-53 Avenue
Red Deer, AB T4L 2L6
Phone: 888-466-4116
Fax: 888-407-7309
www.canadianpile.com

Construction e Link, Inc.
Kevin Lathan P.E.
P.O. Box 3175
Clearwater, FL 33767
Phone: 727-449-2100
Fax: 208-446-7756
www.constructionlink.com

CZM Foundation Equipment
Barrett Rahn
P.O. Box 126
Savannah, GA 31402
Phone: 912-401-5903
Fax: 912-966-5984
www.czm-us.com

Lane Enterprises, Inc.
Gene Anderson
1244 Claremont Road
Carlisle, PA 17013
Phone: 717-448-7956
Fax: 610-926-7856
www.lanecoatings.com

Nova Group, Inc.
Russ Barns
P.O. Box 4050
Napa, CA 94558
Phone: 707-265-1100
Fax: 707-265-1199
www.novagr.com

Reeve Trucking Co., Inc.
Doug Ottis
P.O. Box 5126
Stockton, CA 95205
Phone: 209-948-4061
www.reevetrucking.com

Engineering Affiliates

ANS Consultants, Inc.
Shah Atulkumar
4405 South Clinton Avenue
South Plainfield, NJ 07080
Phone: 908-754-8383
Fax: 908-754-8633
www.ansconsultants.net

Bellingham Marine
Roxie Comstock
1323 Lincoln Street
Bellingham, WA 98229
Phone: 360-676-2800
Fax: 360-734-2417
www.bellingham-marine.com

Dan Brown & Associates, PC
D. Michael Holloway
5 Del Valle
Orinda, CA 94563
Phone: 925-765-0607
www.danbrownandassociates.com

Gannett Fleming, Inc.
Dave Scherer
207 Senate Avenue
Camp Hill, PA 17011
Phone: 717-763-7211
Fax: 717-303-0346
www.gfnet.com

Geosyntec Consultants
Terence Holman
1420 Kensington Road, Suite 103
Oak Brook, IL 60523
Phone: 630-203-3349
Fax: 630-203-3341
www.geosyntec.com

JZN Engineering, PC
Nejm E Jundi, P.E.
51 Swing Bridge Lane
South Bound Brook, NJ
08880
Phone: 732-369-6270
Fax: 732-412-9343
www.jznengineering.com

Kier & Wright Civil Engineers & Surveyors, Inc
Tony McCants
2850 Collier Canyon Road
Livermore, CA 94551
Phone: 925-245-8788
Fax: 925-245-8796
www.kierwright.com

Russell & Russell, LLC
Kimberly Russell
2766 Bruce Street
Matlacha, FL 33993
Phone: 239-440-2114
Fax: 866-416-0009

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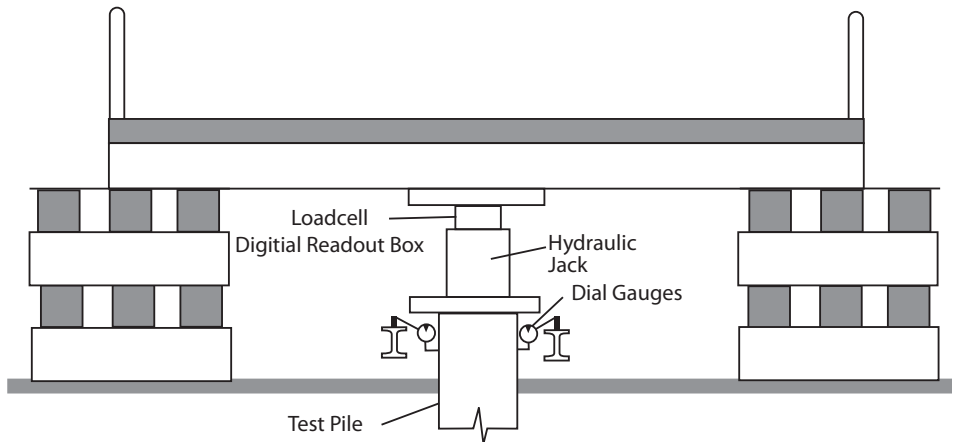


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PDCA

Member News

▼ COMPANY NEWS

Douglas “Doug” Lee Scaggs

The PDCA is saddened to announce the passing of Douglas “Doug” Lee Scaggs. Doug passed away on Friday, June 8 2012, after a long battle with cancer. Doug was born in Odessa, Texas and is survived by his loving wife of 42 years, Claudia and two sons, Kurt and Todd. Doug was a Texas Tech graduate, earning a BBA in marketing. Doug began his professional career with Houston Lighting and Power until further opportunities allowed him to work in the steel and pile driving industries, most recently with Menck GmbH. Doug was an original member of the PDCA Communications Committee, joining in 2001. He remained an active member and contributor of the committee until his passing. Doug also provided a consistent presence at PDCA activities representing Menck GmbH. Doug was special to all who knew him and he will be missed. Contributions can be made in Doug’s name to the American Cancer Society or to Vitas Hospice, 4848 Loop Central Drive, Building 2, Suite 650, Houston, TX 77081.

L.B. Foster Company

Joshua Spoelstra has joined L.B. Foster Company as of June 18, 2012. Josh has worked in the pile driving industry for 19 years, previously with Bear Steel and Skyline Steel before coming to L.B. Foster Co. Josh will manage the southern California, Arizona and southern Nevada territories for L.B. Foster Co.

Also, Jack Arizcuren was promoted on April 4, 2012 to sales manager with L.B. Foster Co. Jack’s promotion takes him to Philadelphia, where he will be responsible for the company’s work in Pennsylvania, New Jersey and New York.

▼ AWARDS AND RECOGNITION

Balfour Beatty rewarded for collaborative efforts

Balfour Beatty, the international infrastructure group, was recognized for exceeding the standards of BS11000. They have done such a great job partnering with companies that the British Standard has recognized and awarded them with the certification of the new standard for Collaborative Business Relationships.

The BS11000 which acknowledges the importance of partnering in enhancing sustainable relationships, company competitiveness and implementation is internationally recognized. There were five projects that were assessed in order to meet this standard and attain the award that involved key clients:

1. Crossrail South East Section Project with Network Rail
2. Finsbury Park to Alexander Palace Capacity Improvement Works with Network Rail
3. North West Gas Alliance with National Grid



4. Electricity Alliance East with National Grid
5. Terminal 2B at London Heathrow with BAA

“Balfour Beatty has vast experience of alliances, partnering, integrating teams and collaborative working across the majority of our business relationships, and this is instrumental to our success,” said Andrew McNaughton, COO of Balfour Beatty, commenting on the standard.

“This standard gives us the structured strategic framework to use across the group to further develop our collaborative relationships and drive best practice. We look forward to working with our customers and supply chain to create value and build sustainable relationships to meet the challenges of the 21st century.”

In order to win work in sectors, Balfour Beatty agrees that partnerships are prerequisites. The rail sector they collaborated with, Network Rail, allowed them to develop common understanding and approach to the BS11000. The utilities sector with National Grid alliances “are based on collocation, open relationship management and shared best practice, resources and goals and objectives.”

Congratulations to Balfour Beatty for obtaining the award. Your efforts offer further verification that in order to win work, partnerships are essential to help provide better understanding of culture, communication and service for an overall quality of success.

Cox Industries, Inc. recognized for corporate responsibility

Cox Industries, Inc. recognized by the South Carolina Manufacturers Alliance for Excellence in Corporate Responsibility in 2012. This award recognizes merit in categories of community involvement and philanthropy, wellness and safety and environmental stewardship and sustainability.

Since 1954, Cox Industries, Inc. has been a leading manufacturer and distributor of treated outdoor wood products for the residential, commercial, industrial and utility markets. Headquartered in Orangeburg, S.C., this family-owned and operated company produces a variety of quality wood products—from decks, fences and framing to utility poles, pilings, retaining walls and other specialty items.

Included on the South Carolina list of the 100 largest privately held for 2011 companies (listed at number 24), Cox has entered into an agreement to purchase the treating assets of Atlantic Wood Industries, which was founded in 1901. This opportunity to leverage over 160 years of collective expertise, programs and the partnerships of both entities will amplify efforts to make Cox the dominant industrial wood producer

in the eastern United States. Cox will operate 15 manufacturing facilities and seven distribution yards, employing more than 400 people in 12 states.

Cox brand-name products are distributed via select building supply dealers, specialty distributors and utility companies throughout the eastern United States and overseas. Cox was recently named the South Carolina Manufacturer of the Year for 2011 and received the Silver Crescent Award for Manufacturing Excellence.

Thermal Integrity Profiler wins Manufacturing Innovation Project Award

Pile Dynamics, Inc. (PDI) has announced that its Thermal Integrity Profiler (TIP) is among the winners of a Manufacturing Innovation Project Award.

The award is conferred by a partnership between the City of Cleveland, Ohio, Cuyahoga County (where PDI is located), the Manufacturing Advocacy & Growth Network (MAGNET) and the NASA Glenn Research Center and is part of the White House's Office of Science and Technology Policy "Strong Cities, Strong Communities" (SC2) effort. PDI was one of

nine manufacturers selected by an independent panel of judges to work with NASA scientists on incorporating NASA technologies into their already successful products.

"NASA is proud to be a part of a venture that promises to be a successful partnership between the space program and local companies in the City of Cleveland and in Cuyahoga County," said NASA Chief Technologist Mason Peck at the May 23 announcement of the winners.

Following the announcement of the award, PDI was honored by the visits of Jay Williams, executive director of the Office of Recovery for Auto Communities and Workers of the Department of Labor, his Special Assistants Tom Kelly and Lauren Leonard, and SC2 representatives Grace Kilbane (Department of Labor) and Carol Tolbert (NASA). The dignitaries toured the PDI facilities and were briefed on the TIP.

Developed as a joint venture of PDI and FGE, LLC from Plant City, Fla., the TIP is used to evaluate concrete foundations such as drilled shafts and augered cast-in-place piles. It gives information on the integrity and as-built shape of the tested foundation, as well as on the alignment of its



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reinforcing cage, by measuring the temperature of the concrete during the cement curing process. TIP measurements are taken with a reusable thermal probe that is lowered onto specially built tubes built into the foundation, or with Thermal Wires™ tied onto the reinforcing cage prior to concreting.

The collaboration with NASA will focus on the Thermal Wires™ system of obtaining measurements. The wires are built with multiple temperature sensors embedded along their length at regularly spaced intervals. PDI expects that this technology will be very well received by the industry, creating a need for mass production of Thermal Wires™.

“Since the sensors built onto those wires are not recovered, it is important to mass produce them with high quality but low cost,” said George Piscalko, vice president of PDI. “The collaboration with NASA will allow us to identify new materials that will accomplish this goal.”

▼ EDUCATIONAL PROGRAMS

Available Pile Load Test Options Seminar (PLT)

Thursday, Aug. 23, 2012

Location: Renaissance Baltimore Harborplace Hotel

202 East Pratt Street, Baltimore, MD

Support: PDCA of the Mid-Atlantic Chapter

Course Summary:

This is a one-day seminar consisting of three parts. The first part of the program is intended to educate participants on the value of a well-conceived and properly designed Pile Load Test program that will add value and economic savings to the project. This session will be presented by Van Komurka from the Wagner Komurka Geotechnical Group.

The second part of the seminar will include presentations by PDCA members who provide dynamic and static pile load test services, including Remote Automated Load Tests, Pile Driving Analyzer, Osterberg Cell Load Tests, PDA and DLT with Allnamics, Statnamic, Embedded Data Collectors and Rapid Load Tester.

The third and final part of the seminar will be a panel Q&A, with all presenters available to answer questions from the audience.

Driven Deep Foundation Load Resistance Factor Design (LRFD) – Design and Construction (Pilot Program)

Friday, Aug. 24, 2012

Location: Renaissance Baltimore Harborplace Hotel

202 East Pratt Street, Baltimore, MD

Support: PDCA of the Mid-Atlantic Chapter

Course Summary:

The LRFD seminar will be a full day and consist of topics including, but not limited to:

- Fundamentals of LRFD and traditional design platforms: Why change, what is the difference, and what remains the same
- Advantages, limitations and misunderstandings of LRFD: Using the tool correctly and to your advantage on deep foundation public and private projects for all infrastructure industries
- Site Investigations: Scope of subsurface investigations, appropriate soil and rock tests and selecting the correct values of geo-material properties: based on AASHTO

Section 10.4

- Frequently asked questions: How to correctly use LRFD principles for driven piles
- Selection, design and construction monitoring of driven piles (Part I followed by Part II): Best practices, traditional working stress approach and the LRFD approach based on AASHTO Sections 3, 10.5 and 10.7
- Discussion of key issues and staying out of trouble

Pile Driving Inspectors Course

Thursday, Sept. 13, 2012

Location: Courtyard New York, LaGuardia Airport

9010 Ditmars Boulevard, East Elmhurst, NY

Support: PDCA of the Northeast Chapter

13th Annual Design and Installation of Cost-Efficient Piles (DICEP) Conference Registration now open!

Thursday, Oct. 11, 2012

Location: DoubleTree by Hilton Seattle Airport

18740 International Boulevard, Seattle, WA

Support: Pacific Coast Chapter of the PDCA

Course Summary:

The DICEP conference is designed for geotechnical, structural and civil engineers, contractors and other firms or individuals who support, conduct business or are associated with the deep foundations, earth retention and/or the driven pile industry. Presentations are generally technical in nature with an engineering focus.

Presentations:

The PDCA Education Committee is accepting proposed presentation topics and overviews for the DICEP General Session.

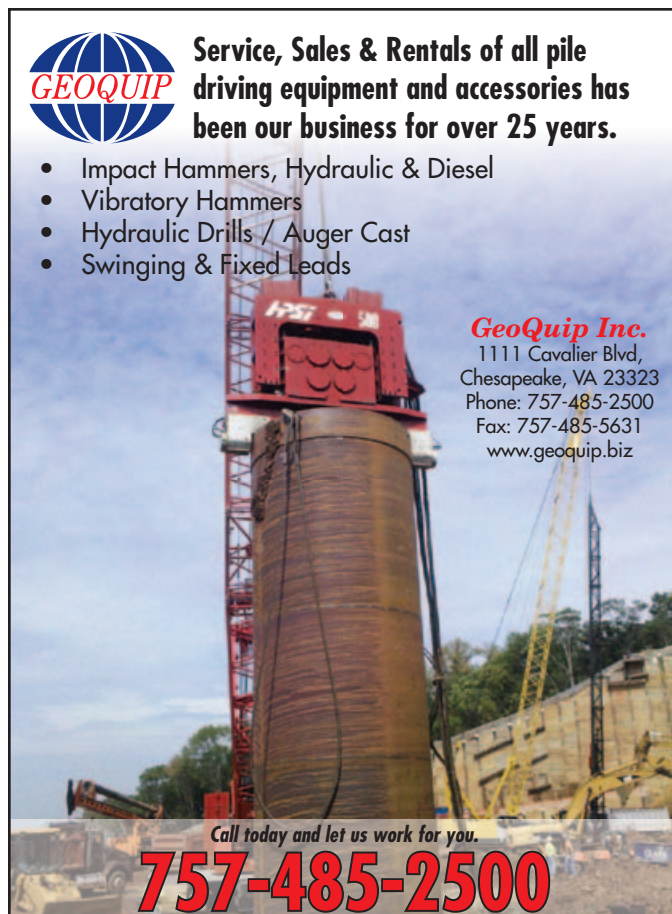


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Interested individuals and companies should submit a title and summary of their proposed presentation to the PDCA Education Committee. Summaries must include enough information for the PDCA Education Committee to gain a complete understanding of the presentation topic.

Deep Foundation Dynamic Testing and Analysis Seminar and Workshop

Oct. 24-26, 2012

Location: Pile Dynamics, Inc. /GRL Engineers, 30725 Aurora Road, Salon (Cleveland), Ohio

Program Summary:

1. Seminar on Deep Foundation Integrity Testing and Wave Equation Analysis
2. Workshop on High Strain Dynamic Foundation Testing
3. Dynamic Measurement and Analysis Proficiency Test

17th Annual International Conference and Expo 2013

April 17-19 or April 24-25

Orlando, FL

The PDCA Education Committee is seeking proposed presentation topics and overviews for the Annual Conference General Session. Interested individuals and companies should contact the PDCA Education Committee or PDCA Office for more information.



▼ CALL FOR PRESENTATIONS

The PDCA Education Committee is seeking presentations for the 17th Annual Conference general session.

Any individual or company interested in making a presentation at the annual conference should submit the title and a summary of the presentation to the PDCA Director of Education and Events, Lori Schneider via email at lori@piledrivers.org. You may also contact Ms. Schneider at 888-311-7322 for more information.

Conference presentations do NOT require a written research type paper, but do require the presenter to meet specific deadlines, which include the submittal of a title and summary of the presentation in MS Word (no .pdf) approximately 12 weeks prior to the conference date and submission of a MS PowerPoint version of the presentation approximately six weeks prior to the conference date.

Presentation topics should focus on the economic advantages or efficiencies of driven pile, unique applications, case histories, technologies, innovative design or engineering, green/environmental advantages or other positive aspects of driven pile. Presentations can apply to marine or land applications, represent steel, concrete or timber piling and be of U.S. or international origin.

All presentations will be considered by the PDCA Education Committee and selected presenters will be notified in a timely manner of the acceptance of their presentation. ▼

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13th Annual Design and Installation of Cost-Efficient Piles Conference

Oct. 11, 2012

DoubleTree by Hilton Seattle Airport, Seattle, WA

Who should attend?

The PDCA 13th Annual Design and Installation of Cost-Efficient Piles (DICEP) conference is designed for geotechnical, structural and civil engineers, contractors and other firms or individuals who support, conduct business or are associated with the deep foundations, earth retention and/or the driven pile industry. Licensed P.E.s needing Professional Development Hours (PDH) can obtain six PDH from this conference.

What will you learn and experience?

The DICEP conference will present modern approaches to maximize Efficiency, Effectiveness and Economy (E³) of driven piles through a series of presentations including positive aspects of negative skin friction, efficient pile design utilizing setup, rebound, pile constructability, pile driving and DOT practices, software, case histories and more.

Exhibitors

All presentations and functions will be held in the same area as the exhibit hall to maximize exhibitor traffic. Exhibitor's space will accommodate six-foot table tops ONLY. Exhibitor fee is \$400.00. Exhibitor registration includes exhibit space and full conference registration for one person. Electrical service will be available for an additional charge. Please contact PDCA for information. Fill out the Exhibitor Registration portion of the conference registration form to reserve your space. The PDCA will assign spaces on a first-registered and paid-in-full basis.

Confirmed presentations

- ✦ A Case History of Testing and Analysis Using UniPile Software
- ✦ A New Method to Reduce Underwater Pile Driving Noise
- ✦ Case History: Pontoon Basin - SR520

- ✦ Columbia River Crossing - Drilled Shaft vs. Driven Pile
- ✦ Design Stage - Drivability Analyses
- ✦ Driven Pile Foundation in the Offshore Fields of Qatar: Installation Problems, Challenges and Potential Solutions
- ✦ Identifying High Pile Rebound sould Using CPT Per Water Pressure Measurements
- ✦ Design Requirements for Driven Pile Foundations of Offshore Wind Turbines
- ✦ Amtrak New Cascades Maintenance (Phase I) and New Warehouse & Administrative & Health Welfare Building (Phase II) King Street Coach Yard, Seattle, Washington

*Course subject to change

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PDCA 16th Annual International Conference And Expo 2012

Thank you for helping us create another successful association event



Photos courtesy of Jill Harris

Once again, the PDCA would like to thank our sponsors and exhibitors at the PDCA 16th Annual International Conference and Expo 2012. Your generous support and participation helped make the program a success. PDCA would also like to thank all of our members and guests who attended the conference. We hope you enjoyed your time in Albuquerque, N.M.

If you did not fill out the conference survey, the PDCA is still interested in your remarks. You can contact Lori Schneider at lori@piledrivers.org or call the PDCA office toll-free at 888-311-PDCA (7322) for more information.

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Presidential Award for Distinguished Service

Build, Inc. Recognized

for Dedication to PDPI Over the Years

Company committed to helping teach professors since 2001

The PDCA's Presidential Award for Distinguished Service has typically been presented to an individual. However, PDCA President, Buck Darling, broke from tradition in the case of the 2012 recipient and it made perfect sense to do so. Buck chose a company for the first time in the award's history.

The Professors' Driven Pile Institute (PDPI) has been considered one of the most important programs the PDCA has ever undertaken. In 2013, the PDCA will conduct the sixth biennial program at Utah State University (USU) in Logan, Utah. In preparation of the initial 2002 program, the PDCA had many individuals and companies contribute to the success of the program. Since that first year, the PDCA has continued to receive both in-kind and financial support from the PDCA family, ensuring the program's continued success over the past nine years.

In a major way, the participation of one company, Build, Inc., has resulted in the PDPI's continued existence and growth.

Build, Inc. and the PDPI

In the fall/winter of 2001 and again in 2002, Fred and Freddie Stromness of Build, Inc. from Salt Lake City, Utah were contacted about contributing to the first PDPI. They both agreed to support the program.

In the spring of 2002, Build, Inc. arrived

on site in Logan, Utah with four 65-foot (12BP53) H-piles to provide reaction for the load test frame. They transported a hammer and crane approximately 90 miles one-way to install these permanent piles at 20-foot centers at the Logan test site.

Several weeks before the first PDPI commenced, Build, Inc.'s crew was on site erecting the steel reaction frame, which consisted of three large beams that are employed to transfer the load that is applied to the pile to the reaction piles. This process required significant welding and fabricating on the part of Build, Inc.'s team.

A few weeks later, on July 22, 2002, the first PDPI was held at USU. Build, Inc. provided and drove a 12.75-inch diameter, 55-foot long closed end steel pipe pile with their S-90 hammer. The hammer was so

big the test pile settled significantly due to just the weight of hammer. Build, Inc. also provided a shorter length closed end steel pile for lateral load testing. At the end of the PDPI program, the team had to de-mob by disassembling the load frame for transport back to Salt Lake City.

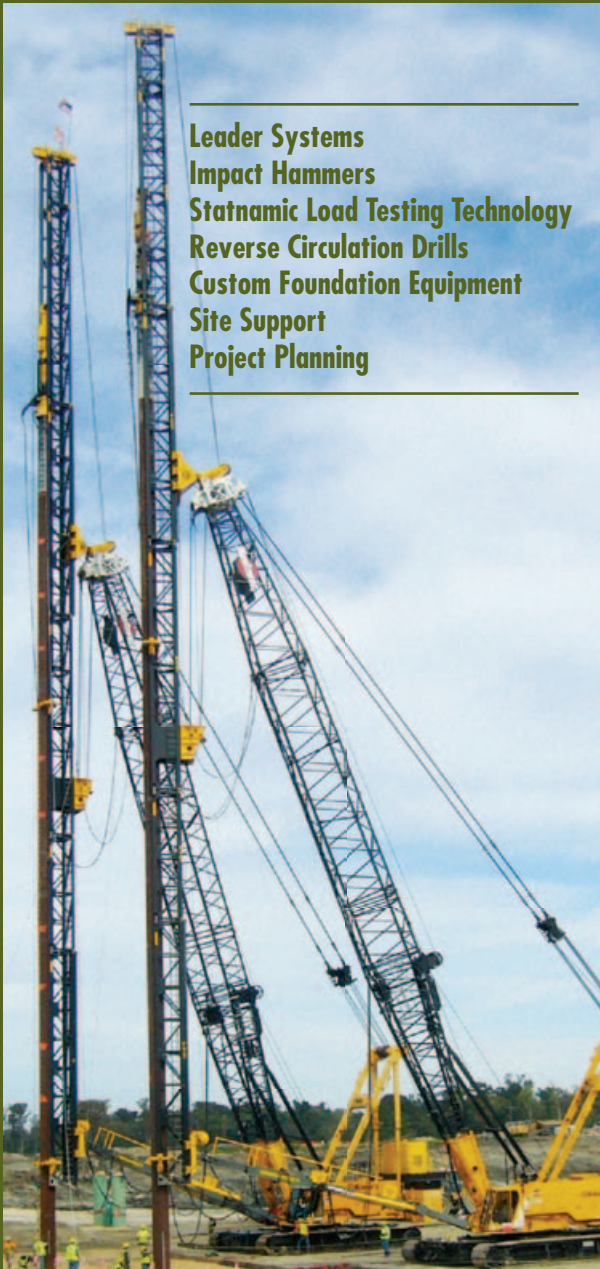
The week of June 9, 2003, the company arrived a week ahead of the program to construct another load frame for the practical demonstrations at the second PDPI. Once again, they provided and drove a 12.75-inch OD, 55-foot long closed end steel pipe pile and once again the crew remained behind to de-mob, requiring disassembling of the load frame for transportation back to Salt Lake City.

PDPI 2005 is referred to as the "horrible" summer. Logan had received a lot of rain and the site was very wet. Build, Inc. arrived on site several days prior to the program, which began on June 19. With the soft ground, they buried their heavily-loaded flat bed at the test site. Additionally, the company lost the transmission trying to free the flat bed, tipped a hydraulic pack spilling fluid due to soft ground conditions and had trouble with some of the cables not spooling correctly. The end result was that the crew worked for days, from early morning to late at night, to get the entire program ready for PDPI.



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In a major way, the participation of one company, Build, Inc., has resulted in the PDPI's continued existence and growth.



Build, Inc.'s headquarters in Salt Lake City, Utah

The result was another successful session with another 12.75-inch OD, 55-foot pile driven for static and dynamic testing. Once again, they disassembled the load frame at the end of the week for transport back to Salt Lake City.

In 2007, materials were donated to USU for fabrication of a permanent load frame. This included several large steel beams including W36-by-150 and W36-by-282 sections. USU structural engineers designed the frame and, as usual, Build, Inc. was on hand with their equipment to lift the beams into place and weld all connections and stiffeners. Once again, they drove a closed-end steel pipe pile for static and dynamic testing.

In 2009 and 2011, Build, Inc., their crew, equipment and materials were back on site orchestrating the field demonstrations for the professors. The positive impact and knowledge the field demonstrations have on the professors is remarkable and cannot be overstated.

Needless to say the PDCA owes a debt of gratitude to Build, Inc. for all of their support and participation at every PDPI since 2001.

Therefore, it is the decision of PDCA President, Buck Darling that the 2012 Presidential Award for Distinguished Service be presented to Build, Inc.

Congratulations and thanks for the years of support. ▼

Photo courtesy of Build, Inc.

Professional Engineer's Service Award

Todd Nottingham Recognized With the 2012 Professional Engineer's Service Award

Dedication to the piling industry and the PDCA evident in his 25-year career

Todd Nottingham received the Pile Driving Contractors Association (PDCA)'s Professional Engineer's Service Award in recognition of his outstanding contributions to the PDCA and the driven pile industry. The award was presented to Nottingham at the PDCA's 16th Annual International Conference and Expo 2012 on April 26, 2012, during the association's Business and Awards Luncheon.

Todd is a registered professional engineer and serves as vice president at PND Engineers, Inc. (PND). He has 25 years of experience working extensively in marine structure and foundation design in a variety of subsurface conditions and environments. This experience has particularly been in specialized niche markets, including pile foundations, the OPEN CELL® sheet pile system and SPIN FIN® pile tips.

Todd has led compression and tension tests of driven piles in a wide array of soil and environmental conditions, including permafrost and frozen soils. Additionally, he has designed high-load capacity structures utilizing pipe and sheet pile structures requiring deeply driven foundations. He has designed pile structures and foundations for cruise ship berths, ferry terminals, heavy-load bulkheads, bridges, wave barriers and boat harbors. These structures can be found throughout Alaska, the contiguous United States and as far away as Trinidad and Iraq. Some of Todd's recent pile driving work has been featured in *PileDriver*, such as the 2010 Project of the Year, Skagway Harbor Surge Control Wave Barrier and the project spotlight on the Louisiana Scrap Metal Recycling Facility project (Q1, 2012).

PND has been a member of PDCA since December 2006. Todd currently

serves on the PDCA Education Committee, is a frequent contributor to *PileDriver* and has presented at several PDCA educational events including annual conferences. He is also a regular participant at PDCA conferences and meetings.

The Professional Engineer's Service Award is presented each year by the PDCA. The award recipient is selected by a panel of distinguished PDCA members and is presented to honor an engineer who has made a significant contribution to the PDCA, the driven pile industry and the engineering profession from the geotechnical, civil or structural engineering disciplines. The panel selects the engineer for his or her achievements based on exemplary leadership, technical innovation and practices that strengthen the engineering field of driven pile as it relates to deep foundations and earth retention systems, as well as who supports the PDCA on various levels. ▼



Todd Nottingham





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American Ingenuity Overseas

What are U.S. companies doing to keep their presence around the world?

As the world becomes smaller due to improved infrastructure and better modes of transport, U.S. businesses continue to expand internationally in order to compete in this new global economy. Construction and design companies that are rising to meet the international demand find themselves working in partnerships to reach common goals. One commonality among these internationally working groups is the need for cooperation in order to truly be successful. It is more than American ingenuity for success when it comes to countries that do not share similar knowledge of infrastructure traits. It is cooperation and understanding of standards and culture which make engineering and construction abroad truly successful.



▼ HONG KONG

Companies such as Gammon Construction, which is partially-owned by the U.S.-based Balfour Beatty, announced in March of 2012 that they have been awarded a £507 million development contract at Hong Kong International Airport (HKIA). The contract is for the construction of the new Midfield Concourse in the central area of the airport, complete with 19 fully-serviced aircraft stands, fixed-link bridges and associated transport links. This is one of the larger “solo” contracts ever awarded showing much growth potential within Hong Kong. The project, under contract P533, is due to start immediately and is scheduled for completion in September 2015.

For more details please visit : bit.ly/HKIA_2012

▼ MIDDLE EAST



In early March, Tutor Perini Corporation was awarded a \$55-million Task Order from the U.S Army Corps of Engineers (USACE) Middle East District for ballistic covers in Iraq. “The project involves the design and construction of overhead

ballistic covers to protect U.S. government personnel at three locations in Iraq. Perini Management Services, Inc. (PMSI), Tutor Perini’s subsidiary, has built 127 similar structures at military and diplomatic installations in Iraq over the past seven years,” according to the Tutor Perini news website. “The covers are to be built over existing temporary structures such as dining facilities and housing units to deflect and prevent damage from indirect fire of rockets and mortars.” They have stated this overhead coverage solution has been recognized nationally by the Construction Management Association of America (CMAA) and the American Council of Engineering Companies (ACEC). As a special note to this outstanding U.S.-based company, in 2007 they were awarded the USACE Project Delivery Team Merit Award. For more details please visit: bit.ly/PMSI_2012



▼ PANAMA CANAL

In order to double the Panama Canal by 2014, it will take power houses like Richard Goettle, Inc. and L.B. Foster Co. This expansion will allow more and larger ships to pass through expeditiously easing the transportation costs for many imported and exported goods. With an expansion like this we should continue to see port work available to the eastern sea board of the U.S. in order to handle these large ships. Many can agree that the collaborative effort on the canal has made a powerful impact making clients and citizens very proud. To date, the expansion program

has produced approximately 18,000 direct cumulative jobs and has been given five substantial awards:

- Deal of the Year 2009 - Latin Lawyer
- Best International Project 2009 -International Logistics and Material Handling Exhibition
- Most Significant Project in the World-Samoter International
- Best Long-Term Performance Project and Strategic Project of the Year- 6th Annual CG/LA Infrastructure Latin-American Forum
- Best Communications Strategy – 5th Annual PODER-Boston Consulting Group Business Awards

For more details please visit: www.pan canal.com/eng/expansion/



▼ AUSTRALIA

Parsons Brinckerhoff, the tenth largest U.S-based engineering/design firm, has been selected to upgrade and duplicate the Australian highway between Woolgoolga and Glenugie. This huge national building endeavor will construct 19 miles of highway, install 10 major interchanges and erect bridges that will be strategically placed for the consideration of wildlife crossings and build a new overpass. This will mark the biggest and most complex road construction project ever undertaken in Australia in order to decrease travel times between major cities and lift national productivity. The Woolgoolga to Glenugie upgrade is scheduled for completion by late 2016.

▼ EUROPE



Parsons Brinckerhoff has been awarded a twin-rail system contract in the UK. The UK's second high-speed rail line will run between London, Euston and Birmingham. The \$12.8 million contract will be worked on closely with HS2 Ltd., to provide a whole system approach to optimize the overall rail systems design and provide the appropriate balance with safety, sustainability, functionality, cost and value.

These enormous projects are just a small fraction of what PDCA Members are doing around the globe through the understanding of standards and culture to make the engineering and construction field truly successful.

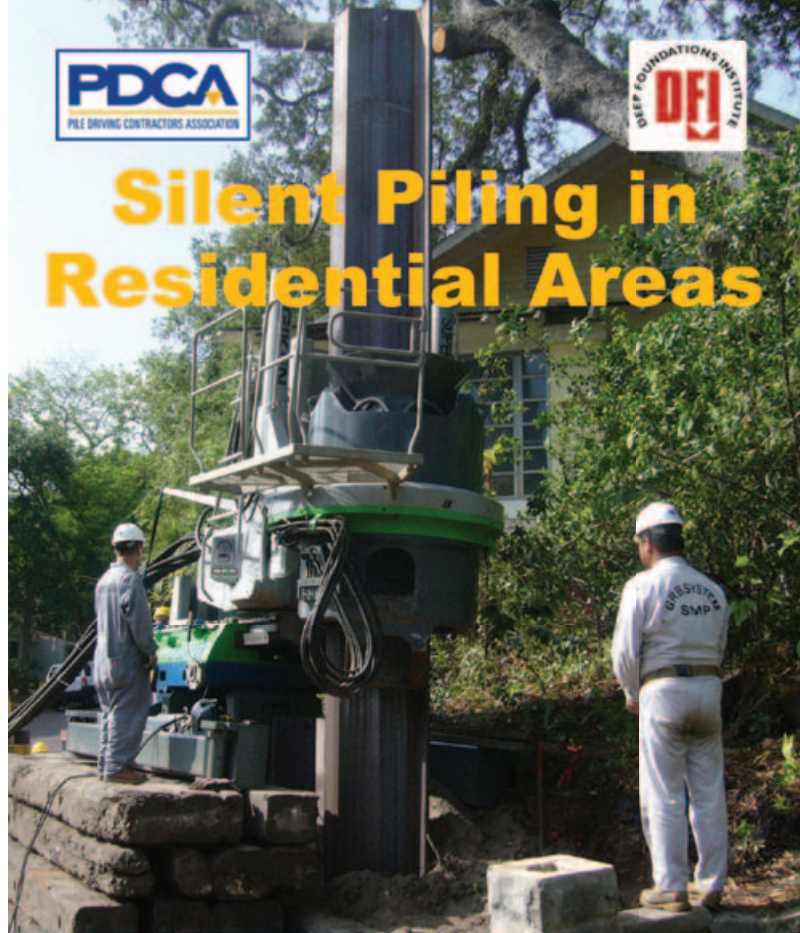
We would like to know what your international jobs you are working on and feature them in our next edition of *PileDriver*.

Please send us two or three photos and a 500-word write-up on your job in international territories and allow us to showcase your company and job information. ▼

Images: Photos.com



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PDCA of Florida Chapter Meeting

SAVE THE DATE:

Thursday, September 13, 2012
Registration opens at 5pm
Cost is \$30.00/person

Ramada Conference Center Jacksonville
3130 Hartley Rd.
(I-295 and San Jose)
Jacksonville, FL 32257

This meeting is open to all interested individuals and companies, including but not limited to, pile driving companies, suppliers, manufacturers, engineers, professors and students.

We would love for you to take an active role in your Florida Chapter and new events, so mark your calendar and join us for this special event.

Please reserve your dinner spot by 9/6/12 by contacting:

Mike Carter – mcarter@blueironllc.com - 407-427-7051
Josh Adams – jcadams@universalengineering.com - 904-296-0757
Tim Dittmeier – tdittmeier@hammersteel.com - 904-284-6800



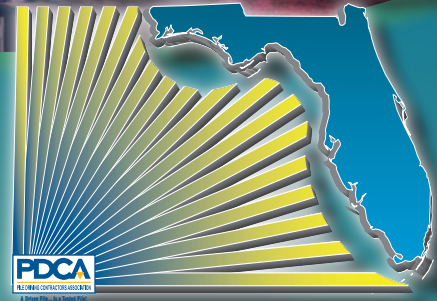
Pay at the door with your credit card, cash or check.

Sponsors: Only four sponsorship spaces left at \$250.00/ea
Please contact one of us to sponsor this event.



The Mandarin area boasts gorgeous greenery, the beautiful St. Johns River, and a wide array of tasty eating and fantastic shopping. When you move a little closer to the downtown area of Jacksonville, you'll be pleased with the rich arts and culture scene of our city.

PDCA of FLORIDA



Dinner Meeting Guest Speaker:

Joe Miller

Senior Director, Facilities Development, JAXPORT

Topic: Future at JAXport

JAXport - What the future will produce...

The vision of the Jacksonville Port Authority is to be a major economic engine in Northeast Florida by continuing to be a premier diversified port in the Southeastern United States, with connections to major trade lanes throughout the world.

JAXPport owns and operates three public marine terminals and one passenger cruise terminal in Jacksonville, Florida.

Please help us in welcoming Mr. Miller at our next dinner meeting.

All participants will receive one Professional Development Hour (PDH) for attending. The PDCA will register one PDH with the State of Florida Board of Professional Engineers for all Florida licensed P.E.'s.



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Contact Pile Driving Contractors Association at 888-311-PDCA (7322) for more information.

PDCA MID-ATLANTIC CHAPTER

JOIN THE NEXT MEETING



General Membership Meeting

If you missed the fun at the West End Grill, we hope to see you in September at the next PDCA Mid-Atlantic chapter meeting.

Location TBA

September 20, 2012 at 5:00 p.m.

For only \$25.00 you get dinner, open bar (beer and wine) for 2 hours and great networking time! Bring along co-workers and let's get this chapter growing.

Sponsors needed!!!

Interested in sponsoring our event:

Contact: Jill Kennedy

E-mail: jkennedy@iceusa.com

Phone: 443-986-8474



A Driven Pile... Is a Tested Pile!

From Last Meeting:

General Membership Meeting was held on June 21, 2012 at 5:00 p.m. at the West End Grill, 2049 West Street, Annapolis, Maryland.

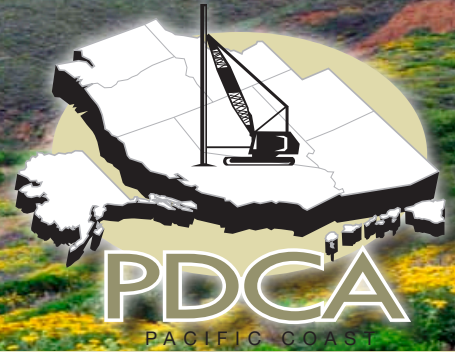
Thanks to Dave Kozera who gave a talk on PDA testing and new Smart Pile.

Dave Kozera, Geotechnical Engineer
D.W. Kozera, Inc. is a geotechnical consulting firm founded in the state of Maryland. Their broad expertise has provided successful solutions to projects requiring geotechnical, geological and environmental engineering services.

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For more information contact Pile Driving Contractors Association at 888-311-PDCA (7322)

Gobble-Gobble for Scholarship Says the Pacific Coast Chapter



PDCA Pacific Coast 2nd Annual Turkey Shoot was held at Camanche Hills Hunting Preserve, Ione, CA on April 6, 2012. The weather was perfect for shooting sporting clays at Camanche in the mid 70° and no wind. The course was set up with 100 shoots at 13 diverse and challenging stations.

The event finished up with a BBQ lunch, awards and raffle prizes. Raffle prizes included a Browning 12-gauge shotgun, a hunting rifle & the grand prize consisting of a pheasant hunt for four at Camanche Hills Hunting Preserve.

Thank you very much to all of our 37 shooters.

During this event, the chapter raised \$2,745.00, which will go toward its scholarship fund.



Team Award: Foundation Constructors, Inc.
(Left to Right) Brandon Watson, Donovan Nixon, Don Dolly and Dermot Fallon



1st place: Gary Wildes, Central Concrete



2nd Place: Brandon Watson, Foundation Constructors, Inc



3rd Place: Steve Hall, PDCA

JOIN THE CAMARADERIE!

“Day at the Races”

General Membership Meeting and betting on the horses
Golden Gate Fields, Turf Club
Berkeley, California
October 19, 2012 at 11:00 a.m. PDT

“Annual Holiday Luncheon”

Hotel Mac
50 Washington Avenue
Richmond, California
December 7, 2012 at 11:30 a.m. PDT



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Please contact Dermot Fallon, Chapter President - Phone (925) 754-6633

PDCA Announces TEXAS Chapter

PDCA Texas Chapter Meeting

The PDCA of Texas Chapter held a General Membership Meeting on August 17, 2012, at the prestigious Marriott Houston Galleria in Houston, TX.

The purpose of the meeting was to introduce the newly formed PDCA of Texas Chapter to all interested individuals and companies either directly or indirectly associated with the driven pile, deep foundations or earth retention industries.

The meeting was attended by pile driving contractors, suppliers, manufacturers and engineers.

The Organizing Committee, which consists of James Buttles, L.B. Foster, Randy Dietel, Piling, Inc., Robert Nunmaker, Skyline Steel and Rusty Signor, TX Pile introduced themselves and then proceeded to discuss the reasons for the formation of a chapter. Additionally, the group discussed initiatives the chapter will focus on in the upcoming months, which included TX DOT highway programs, educational seminars and promotion and marketing of driven pile through demonstrations.

To learn more about the meeting activities or to find out more about the new PDCA of Texas Chapter, contact any of the following members of the Organizing Committee:

James Buttles: jbuttles@lbfoster.com 713-899-7593
Randy Dietel: randy@pilinginc.com 409-945-3459
Robert Nunmaker: rnunmaker@skylinesteel.com 281-992-4000
Rusty Signor: rusty@txpile.com 512-264-8300



The Pile Driving Contractors Association (PDCA) is pleased to announce that the national Board of Directors approved formally, "PDCA of Texas Chapter". Current initiatives of the PDCA of Texas Chapter are:

- Work on getting TX DOT to specify driven piles as an option
- Organize driven pile education seminars for university professors and students
- Promotion and facilitation of driven pile test demonstrations
- Provide driven pile seminars for local structural and geotechnical engineers
- Provide current updates on driven pile specifications to engineers and architects
- Educate on actual noise and vibration produced by pile driving



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For more information contact Pile Driving Contractors Association at 888-311-PDCA (7322).

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Tapertube piles are the only tapered piles available with heavier wall thicknesses ranging up to 0.500" produced from mill-certified 50 ksi steel.

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Sea & Shore Contracting, Inc.

In just over a decade and a half, this company has amassed an enviable reputation for its work ethic and varied project involvement

By Lisa Kopochinski

While smaller and younger than much of its local competition, Sea & Shore Contracting, Inc. has grown considerably since its inception 16 years ago to become an industry leader in marine pile driving and excavation support throughout New England.

Based in Randolph, Mass., company president Michael Lally says his firm's success has come largely due to its investment in its crews, equipment and strong efforts to provide quality, professional service to each client.

"We have worked hard to gather a diversified, experienced and talented group of employees from mechanics to pile drivers to operators," Lally said. "And we have invested back into the company to build a considerable fleet of modern, efficient and safe pile driving, marine construction and site work equipment."

With one office and 24 employees comprised of professional engineers, project managers, crane and equipment operators, mechanics, certified welders, pile and truck drivers, the company has completed numerous projects in Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey and North Carolina.



Working on the permanent retaining wall for the Massachusetts Department of Transportation in Newburyport, Mass. was a \$1.5 million project for Sea & Shore Contracting

We credit this success mostly to our strong client relationships and diversity.

— MICHAEL LALLY, PRESIDENT, SEA & SHORE CONTRACTING

Redeveloping an existing commercial lot to enable the expansion of a mall to provide sufficient space for a Lowe's Home Center in Dedham, Mass. was a \$2.5 million project for Sea & Shore Contracting

Company history

Founded in 1996 by Henry Brown Jr., Lally joined Sea & Shore Contracting in 2001 and later purchased the company from Brown in 2006. Choosing to focus on moderate-sized projects, the company designs and installs a wide variety of excavation support and underpinning systems suited for specific site and ground condition considerations. Types of systems they work with include soldier pile and lagging, sheet piling, timber sheeting, soil nailing, concrete pit underpinning, structural steel beam design, jet grouting and other grouting applications.

“Our designs consider the need for groundwater control, limiting lateral deflections and ground movement behind the support walls, site logistics and potential impacts to adjacent structures/utilities due to installation and removal techniques,” explained Lally. “We have constructed hundreds of systems for a variety of applications, which include designing systems to remain in place after construction as permanent retaining walls.”

The firm also provides marine construction services including pile driving, pier and bulkhead construction, sea wall construction and maintenance, bridge and walkway construction, demolition

as well as marina construction and development. In addition, they also offer complete commercial diving services such as underwater cutting, welding, inspection and existing condition surveys, salvage and demolition services.

“We have also installed pilings for Massachusetts, Connecticut and New Hampshire Department of Transportation bridges, large mall developments and commercial projects, waterfront structures and residential foundations,” continued Lally. “And we offer complete design-build geotechnical services for small to large-scale projects including subsurface investigation programs to develop cost-effective solutions and for value-engineering analyses.”

With a company-wide philosophy to be the “most trusted, reliable and creative construction resource for challenging marine and geotechnical projects undertaken by our clients,” Sea & Shore Contracting has been fortunate enough to have remained busy and profitable throughout the recession,

even though revenue did drop 10 to 15 percent during 2009 and 2010.

“2011 was a very solid [year] for the company that enabled us to continue our growth and investment in our equipment and a push into renewable energy,” Lally said. “We credit this success mostly to our strong client relationships and diversity. While we would likely have had difficulty keeping four pile driving crews or four marine construction crews busy, we found challenging and profitable work in both the public and private sectors that kept one pile driving crew, one site work crew and one marine construction crew busy, while enabling an additional crew to take on work related to renewable energy or infrastructure projects.”

He added that the firm has worked hard to team with the right clients and to select and bid public sector projects that matched their skill set. While difficult, the company has resisted the urge to take on work that was outside of its comfort zone or had too tight of margins in order to get by.

“We are fortunate to have found a good balance of work to keep our pile driving, marine construction and specialty site work divisions active and profitable,” Lally noted.

Notable projects

With an impressive portfolio, one project that the company is especially proud of is its work in redeveloping an existing commercial lot to enable expansion of a mall to provide sufficient space for a Lowe’s Home Center in Dedham, Mass., completed in 2007.

“The building itself required the installation of over 1,400 concrete-filled



Driving piles to redevelop an existing commercial lot



Steel pipe piles used in the redevelopment of an existing commercial lot in Dedham, Mass.

steel pipe piles due to deep fill and organic soils, while site development also required a nearly 600-foot long permanent retaining wall to support up to 22 feet of soil with sensitive utilities and a two lane highway within five feet of the top of the retaining wall," recalled Lally. "The project required a design-build solution to the retaining wall that prohibited tiebacks, soil nails and rakers and included a maximum one-inch lateral deflection criteria of the permanent wall and a half an inch per second vibration tolerance."

Sea & Shore Contracting developed a design incorporating 50-foot long, 36-inch diameter steel pipes installed tangent to one other using a combination of predrilling and static pressing of the pipes. To soften the appearance and conceal the rather industrial appearance of this massive steel pipe wall, the team constructed a full-height, pressure-treated timber façade that better blended the wall into the mall setting.

"We mobilized two fixed lead pile driving cranes for the building's foundation piles and performed site work within the interior of the building for pile cap, grade beam and structural floor construction," Lally explained. "Our completed contract amount exceeded \$2.5 million. However, a more impressive number to us was the maximum 0.90 inches of overall lateral movement measured at the completion of construction of the 22-foot tall cantilevered retaining wall."

Another noteworthy project was the

permanent retaining wall for the Massachusetts Department of Transportation in Newburyport, Mass. Completed in 2011, the \$1.5 million project was originally bid as a soil nail wall with a permanent, steel-reinforced shotcrete facing prior to construction of a single-sided permanent cast-in-place wall.

"Sea & Shore Contracting submitted an alternate design to utilize sheet piling as the temporary construction facing and to attach the permanent soil nails directly to the cast-in-place wall," Lally said. "This change to sheet piling addressed concerns over project schedule and the inability to effectively construct the shotcrete facing during winter months as well as concerns over potentially loose, uniform sands and difficulty to stabilize temporary bench excavation prior to shotcrete application."

The firm retained Brierley Associates and Summit Geotechnical Consultants to prepare the alternate wall design. Brierley Associates performed staged excavation and finite-element modeling of the sheeting to compare the stiffness of the sheeting to the proposed shotcrete to confirm the sheet piling would deflect to allow incremental loading of the soil nails as the excavation proceeded.

Final construction of this 1,250 linear foot by a 20 to 30-foot tall retaining wall, including sheet piling, approximately 1,000 permanent soil nails and cast-in-place concrete facing was completed in six months of active construction.



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At present, the company is completing a timber pile project for the reconstruction of a commercial building severely damaged by massive snowfall in 2011. This project includes the installation of 192 piles with a driven length of 60 feet.

“We are mobilizing to a wind turbine project to provide pile driving and site and concrete foundation construction services,” Lally said. “The pile will consist of 16-inch diameter pipe driven to 160 ton capacity at a total estimated length of 150 feet.”

Sea & Shore Contracting is also completing a program of design-build tension piles to serve the expansion of a hanger for large C-5 cargo aircraft at the Westover Air Force Reserve Base in Chicopee, Mass. The company is also working to complete approximately 1,000 linear feet of braced soldier pile and lagging excavation support for 20 to 25-foot deep trenches for replacement of a 72-inch diameter force main at a regional wastewater treatment facility.

Future endeavors

As for the near future, Lally says the company will continue to provide marine, pile driving and excavation support services throughout New England and increase its in-house capacity in areas of specialty drilling and grouting including soil nails, tie-backs and jet grouting as well as drilled foundation elements.

“We also hope to grow our client base and continue to team with experienced site and bridge contractors to address their geotechnical construction needs,” added Lally.

“Our more recent work in the construction of solar and wind turbine foundations appears to be a growing market for the company. With a little help from the economy, we look forward to a prosperous and successful window of opportunity.”



The permanent retaining wall for the Massachusetts Department of Transportation

Projects of Note

Since its inception in 1996, Sea & Shore Contracting has been involved in numerous projects of various sizes. Some of these projects include the following:

Emerson Hospital – Underpinning, Earth Support and Site Work
Concord, Mass.

Approximate contract amount: \$1.7 million

Slack's Reservoir Dam Reconstruction
Smithfield, R.I.

Approximate contract amount: \$475,000

Fixed Pier Construction – Freezer Facility
Everett, Mass.

Approximate contract amount: \$1.3 million

Omega Pond Underwater Force Main Crossing

East Providence, R.I.

Approximate contract amount: \$600,000

Massachusetts Department of Transportation – Erection of Timber Highway Bridge

Pepperell, Mass.

Approximate contract amount: \$498,000

JFK Presidential Library – Revetment Reconstruction

Columbia Point, Mass.

Approximate contract amount: \$1.4 million

Pile Foundations – PSNH Substations
Merrimack, N.H.

Approximate contract amounts: \$2.6 million

Catenary Pole Drilled Shaft Foundations – New Haven Rail Yard

New Haven, Conn.

Approximate contract amount: \$425,000

Excavation Support/Underpinning

– ESPN Broadcast Studio

Bristol, N.H.

Approximate contract amount: \$325,000

CT River Flood Control Improvements

– Sheet piling and Grouting

West Springfield, Mass. and East

Hartford, Conn.

Approximate contract amounts: \$2.15 million



Photos courtesy of Sea & Shore Contracting

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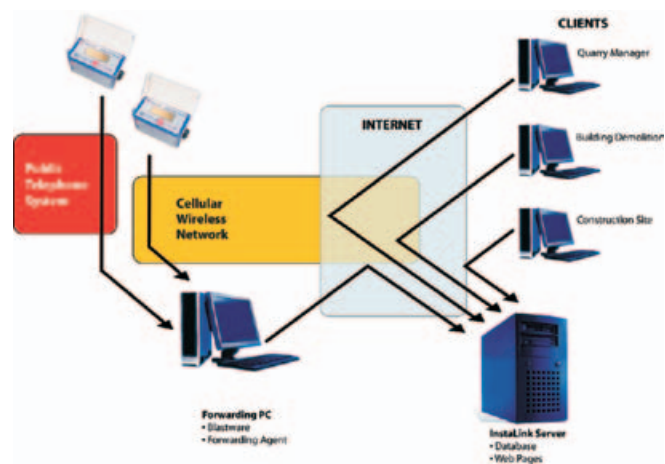
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Power adaptors

T.L. Wallace Construction, Inc.

Full-service construction business not afraid to branch out

By Heather Hudson

What does a successful business do when a multi-million dollar industry falls flat? The good ones reinvent themselves to fit the demands of the market.

T.L. Wallace Construction, Inc. is a study in adaptability. In its 40-year history, it has expanded into new territory, including seven states, started new divisions and amassed a small army of more than 250 loyal employees.

Will Noffke, vice president of the Heavy Civil Division, says the secret to this successful business is twofold.

“Treat your people well and with respect and they’ll turn in an honest day’s work,” Noffke said.

And?

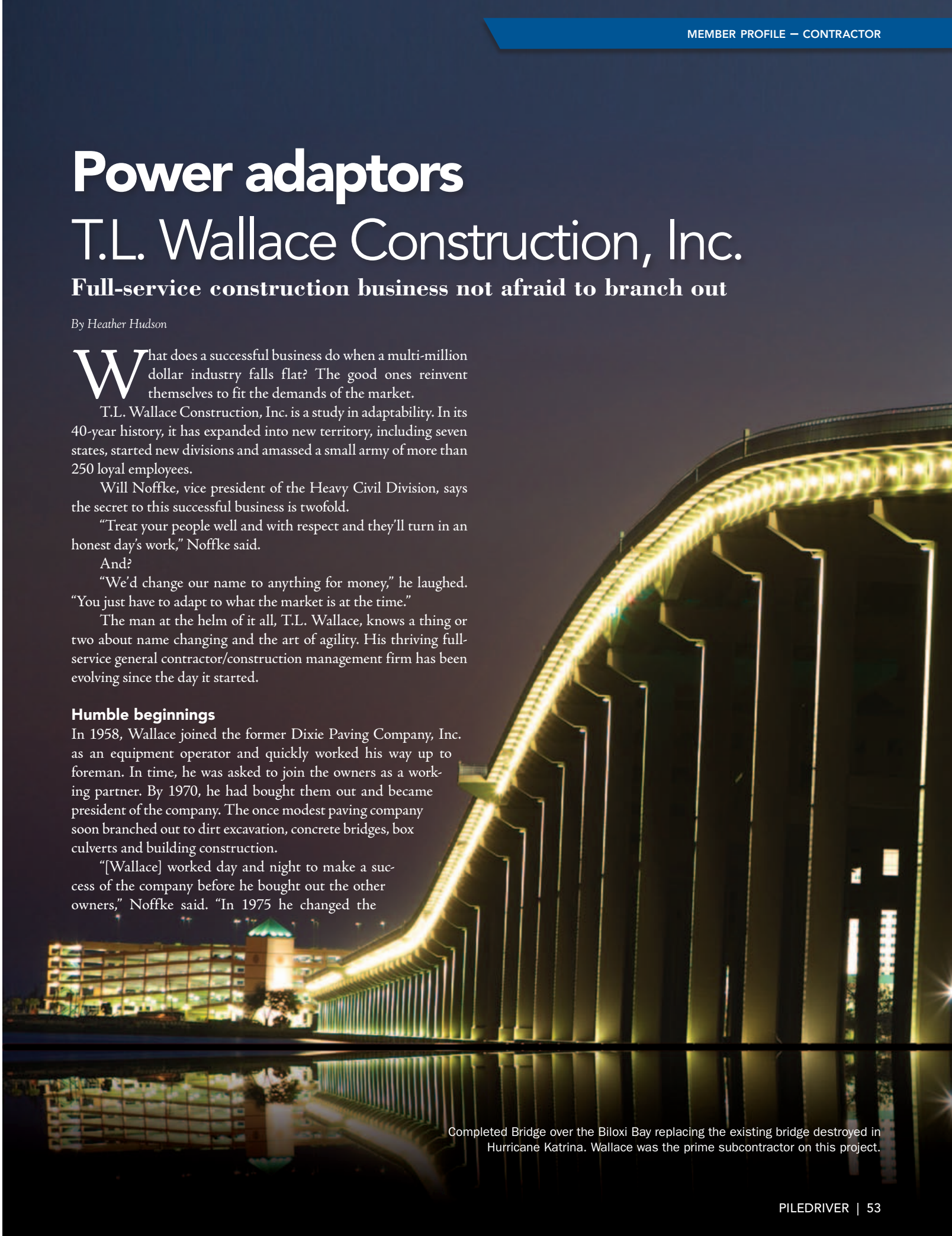
“We’d change our name to anything for money,” he laughed. “You just have to adapt to what the market is at the time.”

The man at the helm of it all, T.L. Wallace, knows a thing or two about name changing and the art of agility. His thriving full-service general contractor/construction management firm has been evolving since the day it started.

Humble beginnings

In 1958, Wallace joined the former Dixie Paving Company, Inc. as an equipment operator and quickly worked his way up to foreman. In time, he was asked to join the owners as a working partner. By 1970, he had bought them out and became president of the company. The once modest paving company soon branched out to dirt excavation, concrete bridges, box culverts and building construction.

“[Wallace] worked day and night to make a success of the company before he bought out the other owners,” Noffke said. “In 1975 he changed the



Completed Bridge over the Biloxi Bay replacing the existing bridge destroyed in Hurricane Katrina. Wallace was the prime subcontractor on this project.



Hanging beams in Marion, Co. for a bridge over the Pearl River on Hwy 43



Driving 16-inch test pile in Attala County on Hwy 12. There were 10 different bridge sites on this project

name to T.L. Wallace Construction, Inc., just the way it should be.”

Today, the company is one of the largest contractors in Mississippi and is licensed to work in Louisiana, Arkansas, Texas, Tennessee and Florida. They’ve been known to work on everything from oil rigs in Texas to bridgework in Louisiana to cleaning up after the BP oil spill off the coast of Florida in 2010.

Even though the company has experienced sustained growth and is prepared for just about anything, Noffke says there have been a few jobs over the years that threw everybody into a tailspin.

One of them was a result of natural, national disaster. After Hurricane Katrina hit in 2005, the eastbound lane of the I-10 freeway outside of Biloxi, Miss. was shut down after six 52-foot spans were moved due to heavy flooding and barges with cranes slammed into the bridge. The impact knocked the deck 37 inches out of line and broke the concrete piling.

“We got an emergency contract to tear that bridge out and rebuild it. We had 31 days to do it, which is not a lot of time. There was a \$100,000 a day penalty and bonus and that got us moving,” Noffke said.

“By working 24 hours a day, seven days a week, we were able to remove the bridge, drive new pile and have the bridge reopened in 21 days.”

As if the timeline wasn’t stressful enough, there was nowhere for crew members to stay, so most of them slept in their trucks or drove 40 miles out of town to a church that had been spared from the storm’s wrath. Food and fuel were scarce and another hurricane just barely missed the work site, which added to the drama of the situation.

The company is justifiably proud of their hard work under pressure and credits the experience with helping them do even better on more routine jobs with what they learned.

“The main reason we were able to do that bridge in such a short time is that we used concrete with super accelerators in them to help it cure faster than normal. We were hanging beams within a day of pouring the caps,” Noffke explained.

“We also used maturity meters in the concrete to make sure it met the criteria before we went on to the next step. They worked so well, we’ve used those meters on lots of jobs since then.”

The dedication of the crew on that job is emblematic of the commitment everyone in the company displays, says Noffke. Most of the 16 foremen throughout the divisions have worked with T.L. Wallace Construction for more than 20 years.

“I’ve been here 24 years and most of them have been here longer than I have. Mr. Wallace has always treated them well and they have a great loyalty to him,” he said.

Noffke credits good equipment, an award-winning safety record, a family atmosphere, competitive wages and steady work as motivation for staff to remain with the company throughout their careers.

While there isn’t the same volume of bids that there once was, thanks to an uncertain economy and a stalled highway program in Mississippi, Noffke is optimistic about the future.

“We hope that it’ll go back to the glory days of the late 1990s and early 2000s,” he said. “In the meantime, we’re continuing to do quality work everywhere we can get it.”

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T.L. Wallace

Construction, Inc.

From humble beginnings doing double surface treatment on county roads in Mississippi, T.L. Wallace Construction now has seven divisions:

Commercial Division – Includes program and construction management, pre-construction services, general contracting and design-build. Marquis projects of late include a \$25 million joint venture to construct two-thirds of the building pad of a brand new Nissan plant in Canton, Miss. The contract called for excavation and placement of about two million cubic yards of embankment compacted in place and lime treatment of sub grade.

Industrial/Plant Construction Division – Executes industrial projects from the ground up, including retrofitting and constructing, and installing complicated tanks and vessels. They also build and customize safety plans for industrial projects.

Disaster Response Division – This division took on real momentum after Hurricane Katrina. In the wake of the deadly storm, the division cleared the streets and highways around the most devastated areas. They also installed temporary housing units all over the Mississippi Gulf Coast and modular homes to replace the initial FEMA trailers.

Heavy Civil Division – Split into bridge, marine/pile driving and concrete projects, this division is one of the mainstays of the business. In the last 20 years, there's been a boom in new bridge construction in particular and the company has positioned itself to be a major player in the industry. Foundation work, shoring, steel and concrete piling, reinforcing steel and setting and placing concrete and steel beams are specialties.

Excavation Division – With a huge fleet of earth moving equipment, this division has always been a busy one. They can move between 500,000 and 750,000 cubic yards per month and process the material in embankments to the densities required by rigid specifications. There are rarely shortages of projects for the team of expert operators in this side of the business.

Asphalt Division – What was once the cornerstone of the business remains a vital part of the company's bottom line today. This division meets the requirements of any DOT, FAA, State-Aid, commercial or residential specifications and is responsible for hundreds of highway paving jobs in Mississippi and Louisiana.

Utilities Division – Crews on this team install gravity sewer mains, low-pressure sewer force mains, water mains, sewer lift stations, sewer and water treatment plants and storm drainage. They're often called on to accommodate developers with a total infrastructure package. ▼

Photos courtesy of T.L. Wallace Construction, Inc.

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Steeped in history

For 80 years C.D. Perry has continually made clients' visions a reality

By Margaret Anne Fehr

It may be fair to say that everyone who has resided in the state of New York within the last four generations has been affected to a greater or lesser degree by the business history of C.D. Perry, LLC located in Troy, N.Y.

The company's construction projects include the building of bridges, electric powerhouses, roads, dams, dikes and walls that provide the services, routes and infrastructure upon which people depend everyday.

C.D. Perry is on the eve of celebrating its 80th anniversary as a highly experienced, multi-disciplined enterprise participating in the arena of heavy construction.

Founded in 1933 by Cutler D. Perry, the company's project roster includes work that has achieved near iconic status including the Erie Canal System, the St. Lawrence Seaway and most power generation stations on the Hudson and Mohawk Rivers.

For over four generations, C.D. Perry has established an impressive resume of work on the water-related assets at some of New York state's most well-recognized

locations. Wharf construction, reservoir dredging, construction of intakes and trash racks, cofferdaming and linear/cellular sheet piling are just a sampling of some of the recent accomplishments taking place at locations including Lock C-2 NYS Thruway Authority (\$22 million), Locks 10E, 11C, 12E NYS Department of Transportation (\$20 million), the Port of Albany (\$13 million), Lock 0-1 NYS Department of Transportation (\$3 million) and Lock C-3 (\$1 million).

Hydro electric power plants are also an area where the company's expertise is well utilized such as dam rehabilitation for NYSEG (\$8 million) and Forebay reconstruction- Niagara Mohawk (\$3 million).

In addition to C.D. Perry's well known reputation for high performance in the area of more challenging water-based construction sites, the company's talents are equally effective on site projects like Empire Generating 800 MW Co-Gen site work (\$17 million) and International Paper Company Foundation (\$3 million).





We work year round. We've weathered many a winter spent in the cold not to mention the occasional hurricane that decides to pass through during the warmer seasons.

— JAY RYAN, GENERAL MANAGER AND VICE PRESIDENT, C.D. PERRY



Early days of C.D. Perry, site excavation in upstate New York





A cofferdam in the Hudson River for the installation of an outfall pipe for the Empire Generating Facility in Rensselaer, N.Y.

Bridge construction and rehabilitation has long been one of the company's key areas of expertise. Some of the larger jobs include Freeman's Bridge Construction (\$8 million) and Ogdensburg Bridge (\$7 million).

Jay Ryan, the company's general manager and vice president, coordinates the multi-functions that C.D. Perry performs at the direction of executive president and vice president, Jack and Cynthia Perry.

"This is still very much a family business in the best sense of the words," Ryan said.

"The Perrys have put in place a plan for the company to go on for many more years. They are dedicated to that and they continue to support us with that goal in mind. Jack Perry's goal is to see this place in operation long after he's not involved."

It's only natural to wonder what attributes affect the length of service that C.D. Perry has forged over its nearly 80-year history.

"Our talents are many," said Ryan. "We are a heavy highway marine contractor with talents in diverse categories including bridges, powerhouses, site preparation, reservoir

dredging, cofferdamming and sheet piling, intakes and trash racks, dams, dikes and walls, substations and transmission facilities, roads, rigging and equipment setting, foundations, gates and valves, penstocks, power canals and tailraces."

Getting the job done requires an extensive equipment arsenal that can be

mobilized on a moment's notice, as-needed timeframe. As such, C.D. Perry's employable assets include crawler cranes, dozers, Quadra float barges, tug boats, wheel loaders, trucks and trailers, excavators, air compressors, tractors, welders and light plants.

The company has recently launched its own equipment rental business, Ryan added.

"We've added some mobile cranes and have the ability to work with other contractors in renting them equipment. We have a lot of crawler cranes," he said. "We recently purchased a 100-ton truck crane that's working right now on a \$100 million dollar project out of New York Throughway for one of the major contractors in the area."

C.D. Perry now offers a full selection of rentals from 200-ton cranes to construction saws; more specifically Terex RT335 Rough Terrain 35-Ton, Link-Belt 8060 Rough Terrain 60-Ton, Link-Belt 138 Crawler 80-Ton, Link-Belt 218 HL Crawler 110-Ton, Link-Belt 248 HL Crawler 200-Ton, Link-Belt HTC 8690 100-Ton and Link-Belt HSP 15 Rough Terrain 15-Ton.

Additional equipment available for rental includes tug boats, segmental barges,

pile hammers, vibro hammers, bull dozers, loaders, excavators, demo hammers and saws. The company welcomes inquiries on heavy equipment not listed and encourages clients to consult the company website at www.cdperryandsons.com for further details.

C.D. Perry's self-sufficiency allows for lower cost levels because of the enhanced economy of scale.

"We do everything. We use very few subcontractors," Ryan said. "We have multiple trades that are signatory to every major construction trade out there. We do our own piling and our own concrete. We have our own marine floating equipment. We fabricate. We have a crane rental business and a fleet of cranes. We do our own trucking and hauling. We do almost everything in-house."

A perennial strength of the company has been its acclimatization to cold weather conditions. There's not much that Mother Nature can deliver in this northeastern location that affects the company operations when there's a deadline to be met.

"We work year round. We've weathered many a winter spent in the cold not to mention the occasional hurricane that decides to pass through during the warmer seasons," Ryan said. "We are also experienced with protective techniques that assure the continuance of electric power generation or other industrial process activities during construction. There's very little that slows us down."

The company's dock location in Troy, N.Y. accounts for three-quarters of a mile of shoreline that provides facilities to off-load and transport on the far-ranging canal system that traverses New York state. The company's employee base ranges from 40 to 80 people depending on the season, number of projects and time sensitivity issues, Ryan added.



Sheeted jacking pit for the Albany Wastewater Treatment diversion pipe

There's a perspective to be gained when a company has been around for multiple decades in terms of "what's old is new again."

"The canal system in the Hudson River has become more viable," said Ryan. "[It] seems like things are coming full circle where people got away from transportation on the river. Rail and marine transport seems to be coming back because of the cost of trucking and other factors. We're centrally located in New York state and right on the Hudson River so we have the ability to move large quantities of material with great efficiency."

Company mission statements are integral to today's business practices by keeping management and employees focused on their company's core competencies. Quite likely, Cutler D. Perry did not put pen to paper to formalize his vision for his startup company back in 1933, but the company's present day mission statement upholds what he had in mind. It reads, "Dedicated to bringing life to our clients' visions."

"It continues to be what guides us in all we do," Ryan affirmed. ▼

Photos courtesy of C.D. Perry

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Pile Dynamics, Inc.

A 40-year reflection

By Garland Likins and Frank Rausche

How do you take an abstract, unheard-of idea – Dynamic Pile Testing – and grow it into a method that is state-of-practice? How do you improve quality assurance procedures in the deep foundations industry? These were the challenges facing the founders of Pile Dynamics, Inc. (PDI) in 1972. With now four decades since PDI was founded, such a milestone allows reflection on the path from the early days to the present.

The design of a typical pile driving installation 40 years ago included a static soil analysis to estimate bid lengths and likely a driving criterion calculated by a dynamic formula. On larger projects, the design was confirmed by a static load test. Change has been significant, all benefit-

ting the pile driving industry. The industry standard procedure for driven piles now routinely includes high strain dynamic pile tests, as standardized by ASTM D4945 and mentioned in specifications, standards, norms and industry guidance documents all over the world.

The actual roots of dynamic testing date to the 1958 Master's Thesis "A Preliminary Laboratory Investigation of the Prediction of Static Pile Resistances in Sand" by Robert Eiber under the direction of Dr. Harry Nara at Case Institute of Technology ("Case", now Case Western Reserve University – CWRU) in Cleveland Ohio. Dr. Nara became Assistant Dean at Case, and in 1962 turned his research over to Drs. R. H. Scanlan and G. G. Goble,

who obtained funding from the Ohio Department of Transportation (ODOT) to continue studying dynamic testing and stress wave propagation on piles.

Dr. Scanlan soon left Case for a Princeton University position, but the "Pile Project" continued through the mid 1970s, developing reusable acceleration and strain sensors and analytical methods for reliable predictions of pile capacity. Notable among the analytical methods were the "Case Method" for immediate calculation of pile capacity in the field and the signal matching software CAPWAP® that estimates resistance distribution and total bearing capacity. Both "stress wave based" methods originated from the 1970 PhD dissertation of Dr. Frank Rausche.

PDI now has a 41,000-square-foot facility in Cleveland



Jorge Beim, senior engineer for PDI, teaches in the training room

The earliest acceleration and strain records were collected in the field during pile driving by a Honeywell Visicorder that recorded the data by shining a light-beam on light sensitive paper spooling at 80 inches per second. Graduate students laboriously manually digitized the graphs for further study. After 1970, a portable, though heavy, instrumentation tape recorder from HP enabled recording of massive amounts of data that was automatically digitized by a Honeywell Minicomputer (8K memory of vacuum tubes). CAPWAP analysis was performed on a mainframe computer, and field data processing was done by an analog “Pile Capacity Computer”. The second such instrument was used by ODOT for about two years. A later model included a printer.

Against this background, in August 1972 Dr. Goble incorporated PDI to commercialize “Pile Capacity Computers”. Those had to be built in house by PDI, since established electronics manufacturers could not produce it at a reasonable cost. Following successful demonstrations of

dynamic pile testing by the consulting firm founded by Dr. Goble and his graduate students Frank Rausche and Garland Likins (today GRL Engineers, Inc.), PDI received expressions of interest on its equipment from a couple of organizations. With that, PDI designed its first commercial product, and manufactured three of them. When the next generation instrument was developed in 1974, the “Pile Capacity Computer” was renamed, and the “Pile Driving Analyzer” (PDA) was born.

After his contributions to the initial PDI efforts, in 1977 Dr. Goble left CWRU for the University of Colorado in Boulder, turning the management of PDI over to Garland Likins and Frank Rausche (Dr. Goble retired from PDI in June 2000). Garland and Frank ran all day-to-day operations of PDI (and GRL Engineers). As the popularity of the PDA kept increasing, PDI kept growing and evolving, adding other foundation quality assurance products to its line, and attracting a host of talented, hard-working and dedicated engineers.

PDI went global in 1978, when it was approached by Swedish contractor Goteborg Betongpalar who had interest in adding stress wave measurements to their international concrete pile manufacturing business. The PDA became an integral part of their “Balken Piling System” that was exported to Asia, Australia and other European countries. This led to a worldwide exposure, ultimately resulting in PDI users now in more than 90 countries.

Always attuned to the latest development in electronics, PDI kept modernizing its line of products as new technologies emerged. The switch from an analog to a digital PDA happened in 1982, and the first PC-based system was produced in 1990. PDI pioneered portable devices with user friendly touch-screens, such as the Pile Integrity Tester (performs low strain pulse echo surface methods standardized by ASTM D5882), in the early 1990s. In 1996, it incorporated this technology into the PDA, and, in a visionary effort, added remote testing capabilities to further improve testing efficiency and reduce costs. Convenient cable-less data transmission from the transducers to the PDA was added in 2008.

Although PDI was founded specifically to develop, build and market the PDA, which remains its flagship product, over the years it has diversified its product line to include many powerful and easy to use electronic instruments for the foundation industry, as well as exceptional software. The Saximeter, developed in the late 1970s, automatically counts and records blows during pile driving, and determines the stroke for open-end diesel hammers.

Instruments developed specifically for evaluating the integrity of drilled foundations were designed, such as the Pile Integrity Tester, the Cross Hole Analyzer (performs cross hole sonic logging standardized by ASTM D6760), and the Pile Installation Recorder for augercast piles. The most recent addition to the PDI line of

Always attuned to the latest development in electronics, Pile Dynamics kept modernizing its line of products as new technologies emerged.



products is the Thermal Integrity Profiler (TIP) for drilled foundations. TIP, developed in cooperation with FGE of Plant City Florida, evaluates concrete quality during early curing both inside and outside the reinforcing cage.

PDI has certainly come a long way from its humble beginnings in a small rental office atop a grocery store. After expanding into a larger rental space in a Cleveland suburb in 1980, in 1985 the company moved to its own building and, after outgrowing that space, into its current 41,000-square-foot facility in July 2010.

In as much as PDI's founders were visionaries, the mission would not have been accomplished without many other talented individuals who also deserve credit for the success of this company. PDI's sophisticated instruments are designed by a dedicated staff of electronic engineers (now headed by vice-president George Piscalko) and software engineers, and produced and serviced by highly skilled technicians.

Civil engineers complete the team, providing new-user training, continuing education seminars and prompt technical support to users. For the past 40 years, first class technical support has been a PDI priority, and this has been appreciatively recognized by its customers. Case in point, a note sent recently to PDI principal Dr. Frank Rausche by Dipl.-Ing. Jan Fischer



Frank Rausche and Garland Likins

(Technische Universität Braunschweig) reads, "... It has always been between zero and two days until I got a detailed answer from you – solving my difficulties. It's just so good to know, that someone is 'out there' to support me."

The PDI team is now 50 strong, with all dedicated to transforming state of the art research into practical, technically sound

systems built to the highest standards of quality and supported through and through. These people are the heart and soul of PDI.

Certainly, the testing tools developed by PDI have improved quality assurance in today's foundations industry. Testing has indeed become "state-of-practice". Mission accomplished. ▼



PDA testing in Florida in 2010

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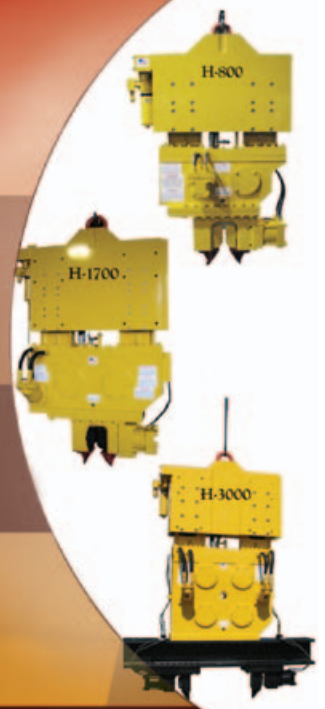
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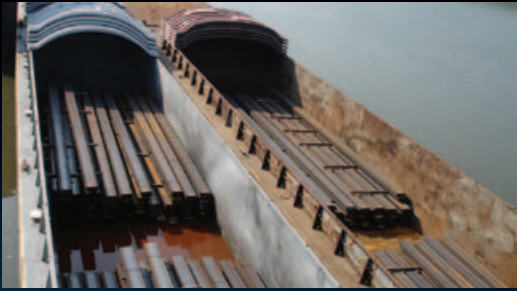
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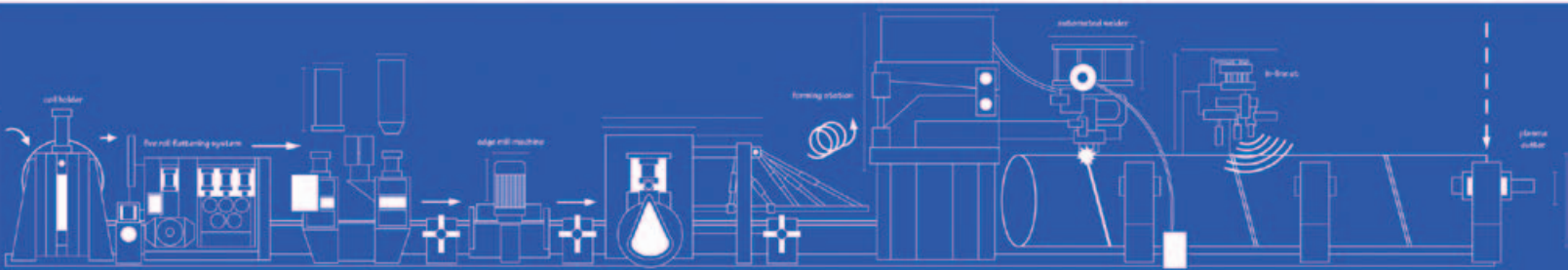
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Trinity Products Inc.

Strong customer focus and top quality products spur aggressive growth

By Gloria Taylor

In 2005, Hurricane Katrina walloped the Gulf Coast from central Florida to Texas, decimating property and killing more than 1,800 people. The natural disaster was the costliest in U.S. history, racking up more than \$81 billion in property damage alone.

Hurricane Katrina's extensive destruction was blamed partly on hurricane "surge protection" or flood wall failures in New Orleans.

Four years later, the U.S. Army Corps of Engineers (USACE) was hard at work on a massive structure designed to protect the Gulf Intracoastal Waterway and the Mississippi River Gulf Outlet from a highly-destructive, one-in-100-year flood. The Inner Harbor Navigation Canal Surge Barrier Project aimed to protect the coastal region from a storm surge coming from the Gulf of Mexico and Lake Borgne and it consisted of building a structure similar to a flood wall but a larger, stronger barrier.

Standards were rigorous and only the best companies audited by the USACE would be allowed to participate in the project. That put Trinity Products Inc. of Missouri in good company.

The manufacturer of steel pipes and



60-inch Trinity Lo-Profile Spiral Weld Steel Pipe being welded. The piles have received a favorable review from the U.S. Army Corps of Engineers' Innovation Team.

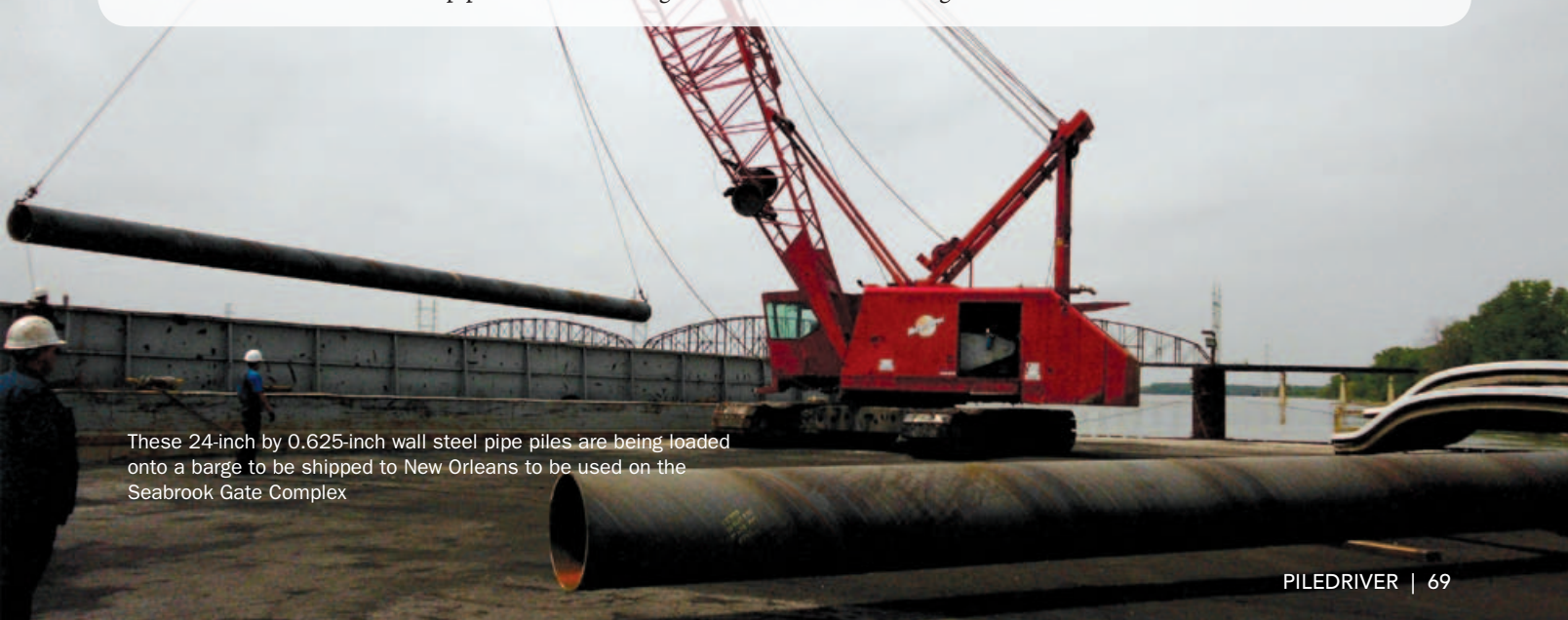
steel fabricated products was already approved as a vendor to the USACE. This is just one of several audits and approval processes that the aggressive company has passed during its 33 years in business.

"We are an AISC [American Institute of Steel Constructors] audited and approved steel fabrication facility," said Vince Hasen, vice president of sales for the company that is proud of its intense customer service philosophy and record of developing good products and delivering them on time and on budget.

"We have been audited and are also on the approved vendor list for the State of California, State of New York, State of New Jersey and the U.S. Army Corps of Engineers."

As for the navigation canal project, Trinity Products stepped up to the challenge.

"We supplied millions of dollars worth of 36-inch by 0.500-inch detail pipe piles for a 130-foot wall that we barged down the Mississippi River," said Hasen.



These 24-inch by 0.625-inch wall steel pipe piles are being loaded onto a barge to be shipped to New Orleans to be used on the Seabrook Gate Complex

Project and products

The USACE wall project was just one of numerous mega projects that Trinity Products has worked on over the years. The steel manufacturer and fabricator has supplied product for some of the largest North American infrastructure projects.

“Trinity Products has also been instrumental in assisting the [Army] Corps to develop a pipe specification that encompasses the quality requirements of API, ASTM and AWS while still being a cost effective product,” added Hasen.

Another recent significant project for the company was a mental health facility in Bronx, N.Y.

“For this project, we supplied 12.75-inch by 0.344-inch, 80,000 feet of steel pipe,” Hasen explained.

While they work throughout North America, mostly in the U.S., Trinity Products has found a market in the Caribbean, where contractors have been buying products from them for about eight years.

“We supply them with steel fabrication services and steel pipe piling,” said Hasen, referring to its offshore buyers.

Trinity Products ships its pipes, piling accessories and fabricated products directly to contractors in the United States and Canada using a combination of delivery resources. It partners with logistics companies in Canada when its products must be shipped north of the U.S. border.

The company’s products include not only piles and custom fabricated goods but products for other industries such as high rise sign structures, billboards, sign pole fabrication and cell towers. One of the chief services the company offers is applying pipe coating.

Rising to unexpected challenges

With its many products and markets, the company has had to be versatile and innovative to meet a variety of challenges in order to keep growing.

One example of Trinity Products’ ability to creatively rise to a challenge came when they were delivering the steel pipe to contractors working on the navigational canal.

For the first time in its history, the company set its steel pipes on barges to transport them to where construction crews

were working on the massive navigational canal project in New Orleans. It would not be the only time the company would resort to the waters for transportation; the steel manufacturer has used the transportation method more than once since.

Bo Griggs, national account manager and son to Robert Griggs, who founded and still owns Trinity Products, says it was made possible because of the company’s strategic location.

“We are 20 miles outside of St. Louis City and we’re close to two accessible sites where we could offload the pipe onto barges on the Mississippi. In terms of delivery, that suited us pretty well. We brought them by truck, offloaded them onto barges and barged them down the Mississippi to New Orleans where they were needed,” explained Griggs, referring to the canal wall.

“We are strategically located for trucking in the middle of the country where it’s not too expensive to ship material out. We can ship by rail or, in this case, by barge.”

For the first leg of any outbound shipments, Trinity Products maintains its own fleet of trucks.

(From left) Brad Lemen, Sales Rep.; Pete Carnaghi, Sales Rep.; Allan Andres, Sales Rep.; Jeff Ware, Sales Rep.; Tony Baker, Sales Rep.; Patrick Kane, Sales Rep.; Kyle Richardson, Sales Rep.; Sean May, Purchasing Manager; Vince Hasen, Vice President, Sales and Co-Owner; Brian Davis, Sales Manager; Martin McClain, Sales Rep.; Bo Griggs, Sales Rep.; A.J. Griggs, Sales Rep.; Robert Griggs, President and Owner; Jeff Nuernberger, Sales Rep.; Justin Herren, Sales Rep.; Brian Gibson, Sales Rep. and Fabrication Manager



Innovation and recognition

The manufacturer's innovative practices were also recognized by the USACE when it reported on Trinity Products' Spiral Welded Pipe Piles in 2009.

The USACE had formed a special Innovation Team to find alternative products, advanced technologies and cost effective methods to aid in its infrastructure projects designed to protect against hurricanes and storms. The team evaluated Trinity Products' Spiral Welded Pipe Piles, only to come up with very favorable reports about the piles which are used as structural supports for a variety of flood control structures.

The spiral or helical welded pipe piles showed advantages over traditional piles such as they have a higher holding capacity than H-piles, are less expensive per square foot, more readily available and could be purchased in lengths up to 150 feet.

Open-book management key to success

Call the company aggressive and Hasen doesn't take exception to the term. In fact, he is uncharacteristically open enough to reveal the company's sales figure projections.

"This year, we are on target to do \$75 million in sales," said Hasen, adding that Trinity Products is one of the largest privately-owned companies in the industry.

Their goal is to realize \$100 million by 2014, according to Hasen.

That openness is all part of an important company philosophy that both Hasen and Griggs credit with helping the company to grow. Management shares financial information with its 150 employees at two locations, St. Charles, Mo. and O'Fallon, Mo. and offers a profit-sharing plan to include workers in the manufacturer's financial success.

"We embrace the open-book management philosophy, sharing all the financial information," Hasen said.

"If we share the financial information on a daily basis, [the employees] will work toward making us a better company. Everybody understands how hard it is to make money in this difficult economic climate that we're in. But with our employees knowing the financial health of our company, they can contribute to the bottom line by being more engaged in what it takes for our company to make money."

It's a management strategy that has worked well for Trinity Products.

"What this also does is help our employees understand that our best asset is our customer. So, if we take care of our customer, we all will have jobs for the rest of our lives," he added.

In 2001, the State of Missouri recognized the hard work and dedication to growth at Trinity Products by presenting them with the Governor's Achievement Award for Economic Development and the 2001 Innovative Training/Workforce Development Award for the Implementation of Open-Book Management.

Regardless of the awards, Hasen keeps it all in perspective.

"First and foremost, we are a customer-focused organization. We are a customer-service organization that manufactures steel products," he said. ▼

Photos courtesy of Trinity Products Inc.

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Bellingham Marine Industries

An award-winning world leader in marina design, manufacture and construction

By Judy Penz Sheluk

A large white yacht named 'RESOLVITE' is docked at a marina. The yacht is white with black accents and has the name 'RESOLVITE' printed on its side. It is moored at a dock with several black pilings. The background shows a blue sky with some clouds and a body of water.

Wherever you might be geographically located, wherever your vacation travels may have taken you, if you're looking at a world-class marina chances are Bellingham Marine Industries (BMI) was an integral part of the process. BMI's products and services cover virtually every aspect of the marina industry from its flagship line of floating moorage to its dry stack storage systems.

As a world leader in the design, manufacturing and construction of marinas and related products and services, BMI has installed more than 20 million square feet of dock systems throughout the world, including many high profile, landmark projects located in city waterfront centers. Recent award-winning marina projects include the marina at Keppel Bay in Singapore (2011 Grand Prix International Public Design Award) and the Royal Motor Yacht Club, Broken Bay in Newport, Australia (2011 Australian Club

Marina of the Year).

BMI has also worked for the U.S. Navy and the U.S. Coast Guard manufacturing and installing floats and access docks for their vessels. In 2011, the company was recognized by the U.S. Navy for outstanding safety performance during execution of Fiddler's Cove Marina Naval Base in Coronado, Calif.

In addition to design and manufacturing services, BMI often performs as a general contractor for marina installation projects. In conjunction with float manufacturing, BMI has crews trained and experienced in site construction work and project management. Site work, such as pile driving, dredging, float placement, fire protection, potable water and electrical-mechanical utility installations, is performed under experienced supervision using only skilled crews and subcontractors.



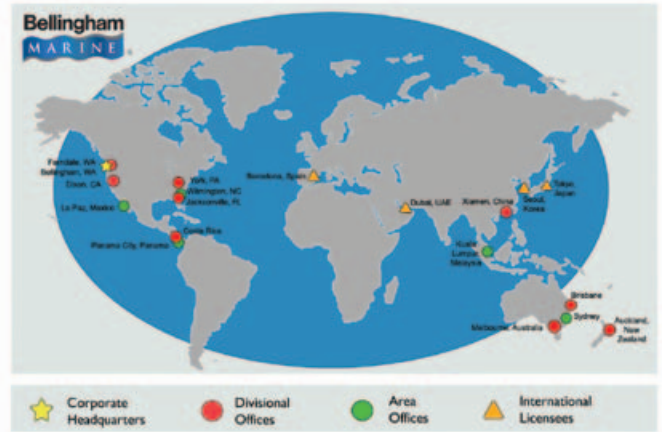
Left: Using a HDPE sleeve protects steel pile driven in salt water
 Right: The steel pile before the HDPE sleeve is placed over the pile
 Opposite: HDPE sleeves were used at Yacht Club Costa Smeralda in the British Virgin Islands



Location, location, location

Located in Bellingham, Wash., the company's origins date back to 1928 when it was incorporated under the name of Bellingham Builders Supply, Inc. In 1954, Gaasland Construction purchased Bellingham Builders Supply and a few years later, they obtained the manufacturing rights to the patented concrete Unifloat® product. Among the first Unifloat® projects, started in the 1950s, was the Port of Seattle's Shilshole Marina, a 1,500 slip double-berth marina.

Increased demand led the company to establish a manufacturing facility in California in 1977, which in turn allowed for expanded sales and production for the entire west coast, from Alaska



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Above: HDPE sleeves were used at Yacht Club Costa Smeralda in the British Virgin Islands

Below: The Ocean Reef Club Marina docks in Key Largo, Fla. feature a telescoping pile system for 80-foot finger piers — a first for marinas in the south east



to Mexico. In the early 1980s, the company's name was officially changed from Bellingham Builder's Supply to Bellingham Marine Industries to reflect the company's focus on marina construction.

Today, BMI's scope of enterprise is global with locations in Washington, California, Pennsylvania, North Carolina, Florida, New Zealand, Australia, Malaysia, China, Mexico, Costa Rica and Singapore. International partners include Septech Emirates, UAE, CKIPM Marine Group, Korea, C.M. Ferrer, Spain and Nishida Tekko, Japan.

"Wherever you are, you are served by a local division of Bellingham Marine, offering the broadest spectrum of professional, trained marina experts together with active relationships with the industry's leading consultants and designers," said Everett Babbitt, BMI's president and CEO. "The group's patents and trademarks are registered in countries around the world. Additionally, our clients can be assured they are dealing with a financially-sound, debt-free corporation."

Research and development is also an ongoing commitment.

"Marina owners and developers are becoming more environmentally conscious and environmentally active and are looking to industry leaders for help," said Babbitt. "Bellingham Marine has partnered with several marina owners to pioneer new technologies for the 'green marina.'"

One 'green' technology is the use of a high-density polyethylene (HDPE) sleeve to protect steel pile driven in salt water in lieu of galvanizing and/or using zincs to minimize corrosion.

"We have used this technology successfully in Australia for over a decade," said Babbitt. "It has since been used on several other projects requiring use of steel pile, including a project in West Palm Beach, Fla. for Rybovich and most recently [for] Yacht Club Costa Smeralda, the first deep water moorage in the British Virgin Islands. Using the HDPE sleeve rather than galvanizing offers cosmetic as well as environmental benefits; the look is clean, sleek and long lasting, and it will not leach chemicals or negatively impact the water quality."

While the technology is still relatively new, proponents of the HDPE pile sleeve claim that the protection given by the plastic barrier is indefinite—the steel will never suffer from corrosion. The strength in the performance of the sleeve comes from the

fact that once the initial oxygen contained beneath the sleeve is consumed, no more oxygen can get in and therefore no corrosion can take place. Once the steel pile is driven, a three-quarter-inch to one-inch thick HDPE pile sleeve is driven over top of the pile and is embedded into the ground. An HDPE cap is then welded on top of the sleeve sealing the steel pile in an airtight sleeve.

Recent innovations

Throughout their history, BMI has brought the world's attention to its capabilities, with several high profile design-build projects, including the Harbour Town Marina on Hilton Head Island, S.C., the Sunroad Marina in San Diego, Calif., Elliot Bay Marina in Seattle, Wash. and the Olympic Marina in Sydney, Australia. The company is often selected for its innovative solutions when faced with challenging conditions, including a fairly recent innovation for the company — telescoping pile.

"The use of telescoping pile was first used in 2006 in the construction of a 150-meter long floating wave attenuator and inner marina for Royal Sydney Yacht Squadron at Kirribilli," said Babbitt. "The council agreed to the replacement and extension of the existing breakwall but required that no piles be seen above the floating surface."

The telescopic pile system has two parts; an outer sleeve pile and an inner male piston pile. The sleeve pile is driven into the seafloor first with the elevation below the mean low water line, through the use of a driving pin. Then the piston pile is lowered by crane into the sleeve pile. The top of the piston pile has a solid cross bar which is set into a pocket on the pile guide which is attached to the dock. As the height of the water changes with the tides and storm surges, the piston pile moves up and down within the sleeve pile. Water depth, tidal range and storm surge are critical in the telescopic design.

"There must be enough of the piston pile inside the sleeve pile at the highest tide (or storm surge design) to transmit the loads properly," said Babbitt. "The lengths of the two piles as well as the diameter and wall thickness are extremely important in how the two interact and operate as a single pile. The beauty of the telescoping pile system is that it provides all the benefits of a standard pile system but sits below the deck of the dock, creating an uncluttered dock surface. Since it was first used at the Royal Sydney



The Ko Olina Resort & Marina in Oahu, Hawaii presented a unique challenge of driving pile into coral

Yacht Squadron, we have used telescoping pile in several other projects, including a recent project in Key Largo, Fla. for the Ocean Reef Club.”

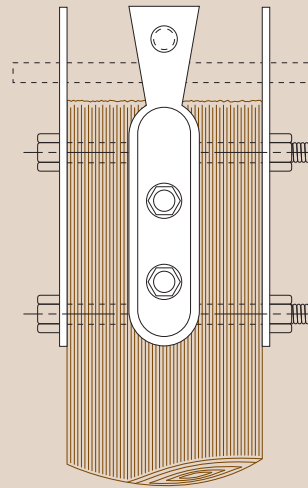
While any marina project comes with inherent challenges, the Ko Olina Resort & Marina in Oahu, Hawaii presented a unique challenge of driving pile into coral that would specifically resist lateral loads.

“Typically a project requiring octagonal precast/pre-stressed pile would utilize steel but steel has a shorter lifespan than concrete especially in a tropical environment, so we went with concrete,” said Babbitt.

“In situations like Ko Olina, with predrilled holes, the drilled hole is often filled with a grout-type material but in this case our engineer opted for sand which was installed with vibration to get it properly compacted. Innovative solutions such as this are what makes Bellingham Marine stand out.” ▼

Photos courtesy of Bellingham Marine

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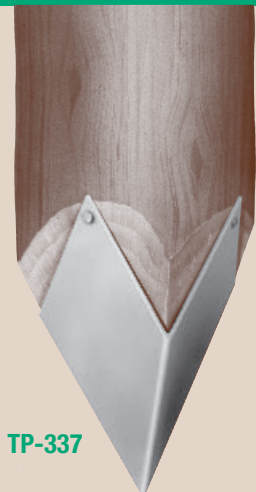
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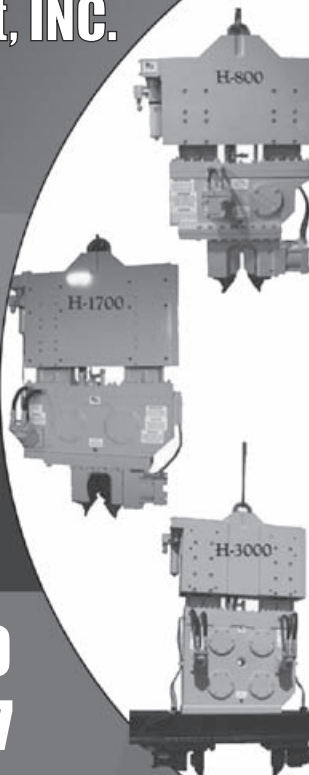
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Glen Cove Ferry Terminal


Long Island firm completes its biggest project to date

By Jim Chliboyko

It is an urban renewal project which is hoping to take some cars off the road, improve transportation between Long Island and Manhattan, N.Y. and reinvigorate a particular portion of the town of Glen Cove, N.Y. – all built on a small parcel of waterfront land with a few soil contamination issues.

The first of three phases of Glen Cove's new ferry terminal construction wrapped up in May 2012. While the firm behind the initial work, Chesterfield Associates, has among its past clients the U.S. Navy and the U.S. Coast Guard, the Glen Cove project was the largest the company had ever been involved with, says general man-

ager Jeff Grube. Specifically challenging, Chesterfield's main task was the building of a floating dock system for the ferries themselves at the terminal site just off of Garvies Point Road on the north bank of Glen Cove Creek. It's an area that has some residential properties leading up to it, but is a former industrial neighborhood.



Floating landings and gangway system by Gator Dock in the foreground, concrete floating docks and ferry landing platform beyond by Bellingham Marine Industries. 88-foot long pipe piles to guide the entire system through the eight foot tide range at the site.



84-foot long pipe piles, 20 inches wide, were used to support fixed landings leading to the new floating dock system. The piles were first vibratory driven until refusal and then impact driven to final elevation.

“We just had the final walkthrough with the city,” said Grube in May, close to the last day of their involvement in the project. “Now, New York state and FHWA need to do the final inspection.”

The project is a federally-funded attempt to reclaim and repurpose the Glen Cove waterfront and to re-establish water passage into New York City from Glen Cove. Historically, steamboats made the trip back and forth as far back as the 1830s. Media reports suggest that the current plan will be to use two ferries, carrying roughly 140 passengers each, to ply the waters between Manhattan and the town on the north shore of Long Island. Previously, there was a brief attempt to use much larger, 400-passenger ferries about a decade ago with the trip taking around 45 minutes. In normal driving conditions for automobiles, it may take 45 minutes to drive

to Manhattan, but up to two hours in rush hour or during bad weather. Though plans are not yet finalized, it is assumed that the boats will run to such high-demand destinations as LaGuardia Airport and its neighbor, the New York Mets’ Citi Field.

However, the town needed to build a ferry terminal first, which is where Chesterfield came in.

Chesterfield is a 40-year-old company in the marine construction business. Besides the U.S. Navy and the U.S. Coast Guard, they’ve also done work for the New York Department of Transportation as well as several different cities and municipalities. In addition to construction, Chesterfield also does excavation and demolition, small bridge projects, timber pile driving for oceanfront homes, as well as a “good amount” of steel sheet pile and H-pile work.

Crafting a unique ferry terminal

The Glen Cove job had a number of different elements to it.

“There was quite a bit of site improvement to the contract,” said Grube, from his Westhampton Beach office. “We did build a concrete floating dock system for the ferries with a timber pile foundation and a structural slab for a future building project.”

There was also some work to be done on the esplanade behind the bulkhead, as well as plantings and the addition of a site drainage system. The terminal itself, when complete, will not resemble ferry terminals of the past, where the ferry would back into or out of a larger building like a car entering a carport. With the Glen Cove Ferry Terminal, the ferries will park parallel alongside an open-air dock, much like a passenger train stopping alongside an outdoor train platform.

The terminal, however, is just one element of a grander scheme.

“A conceptual site plan for 52 acres on Glen Cove Creek has been proposed. The components of the plan include residential condominiums, a hotel, a commuter ferry terminal, retail and office buildings, cultural arts and entertainment venues,” the project’s official website reads.

Materials make the project

Per usual with this type of marine job, several different kinds of piles were used.

“It was all different types of piles, actually. We used treated timber piles up on the land for the building foundation. We had sheet piling for both the bulkhead structure and the deadman structure that held the bulkhead back,” Grube noted. “Steel H-piles also were incorporated into the deadman system. Steel pipe piles were the foundation piles for the fixed aluminum platforms and we had guide piles for the floating dock system.

“I believe we drove about 130 12-inch by 30-foot timber piles for the building foundation,



There was quite a bit to it. It was a challenge. It was the largest project we’ve ever accomplished, a lot of what we’ve done before, but this job was just on a larger scale.

—JEFF GRUBE, GENERAL MANAGER, CHESTERFIELD ASSOCIATES

32 20-inch-O.D., 5/8-inch wall by 88-foot steel pipe piles for concrete floating dock guide piles and about 1,100-wall feet of steel sheet piling, ranging from 22 inches [in] length to 55 inches [in] length.”

The team needed some flexibility when it came to placing the piles. Chesterfield’s initial plan regarding the pre-drilling for some of the piles underwent a change, specifically for the closed end pipe piles when it was decided that what they were doing was not working as well as they’d liked.

“We switched over to vibratory methods to get the piles started and then we finished driving them with the impact hammer,” Grube said. “Those were for the steel pipe piles specifically. We were auguring in the water and created turbidity in the waterway. It actually worked out quite well.”

Environmental challenges

Environmental conditions in the area provided challenges as well.

“The groundwater, specifically,” said Grube. “After we drove the bulkhead sheeting, the groundwater on the site rose seven to eight feet. It created problems when we went to do the site drainage and water main work.”

The land around the terminal site presented a number of serious environmental issues due to the fact that part of Glen Cove had been a former State Superfund site. Over the last couple of decades, Glen Cove has received millions of dollars for land reclamation to deal with some of the historical deposits of waste.

Prior to the ferry terminal construction, radioactive waste from a former tungsten facility was another issue Glen Cove had to address.

The land had also been used as a dumping ground in other ways.

“The ferry terminal will lie on part of 50 acres of land along the waterfront that was among the most highly contaminated industrial areas in the State of New York,” according to the project’s website.

With such high levels of contamination, Chesterfield needed to have a specific plan to ensure long-term safety.

“There was a lot of contaminated soil to deal with,” said Grube. “We excavated all of it. It had to be stockpiled... they took care of it, but we had to bring in a sub-contractor, an environmental firm to do the sampling and testing. Basically, anything that was excavated, with very few exceptions, had to be disposed offsite and then clean fill had to



Above: Steel sheet piling (40 feet long) was necessary to support the excavation for a storm drain pipe that passed through the new bulkhead at 10 feet below Mean Low Water (MLW). A SSP cofferdam (not visible in photo) was employed on the outside of the new bulkhead to control the seawater.

Below: The completed project with gravel parking and lighting beyond the new SSP bulkhead. The new concrete floating dock system by Bellingham Marine Industries is in the foreground along with the aluminum floating landings and gangways by Gator Dock.





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be brought in.”

Further complicating the situation was the size of the site, which had to accommodate the construction, the equipment and the collected, soon-to-be-disposed soil.

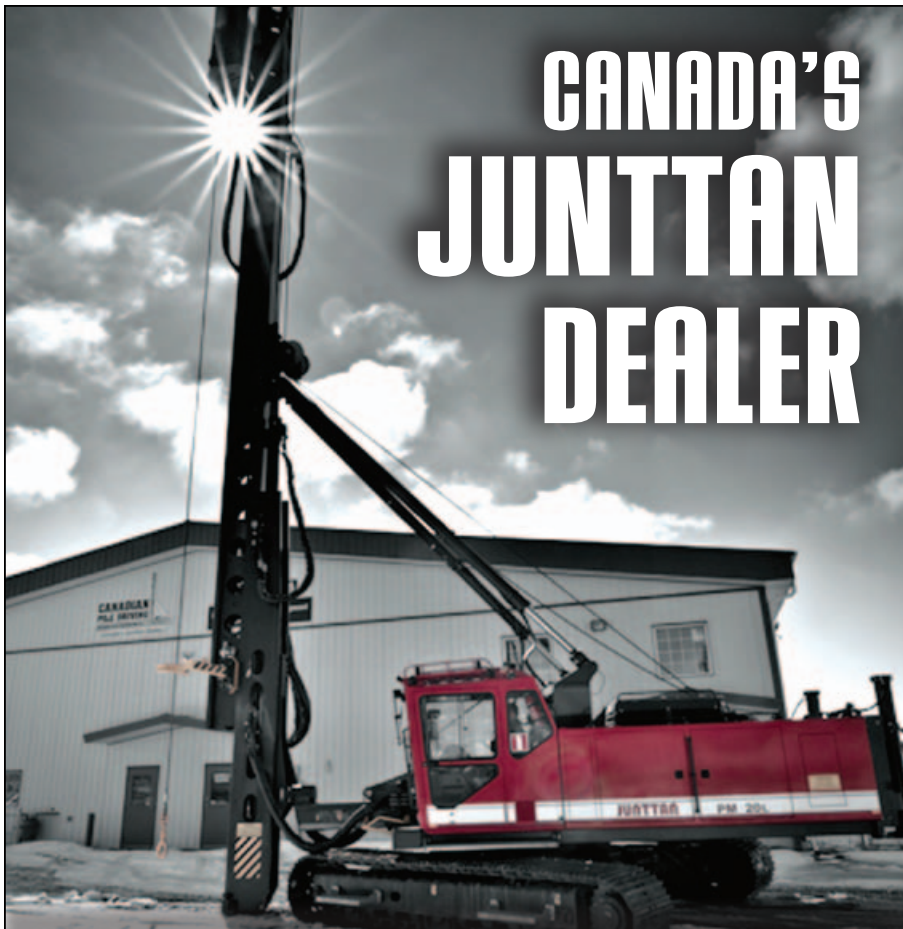
“It’s actually a small site, only three acres. It was quite a challenge in stockpiling the contaminated soils,” Grube explained. “At times we had piles [of soil] all over the place. There was the anglers’ club on one side and a redevelopment and it’s bordered on one side by the road and on the other by the waterway.”

The crew, including subcontractors, ranged from a six to eight-man team, said Grube.

“There was quite a bit to it. It was a challenge. It was the largest project we’ve ever accomplished, a lot of what we’ve done before but this job was just on a larger scale,” said Grube.

And in the end, it will have been a Long Island company that started the work to bring Manhattan a little closer to the North Shore. ▼

Photos courtesy of Chesterfield Associates



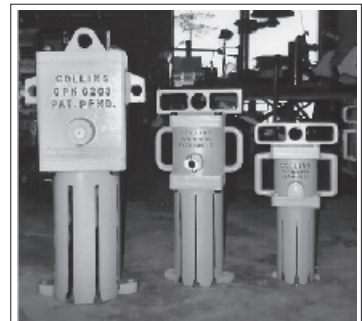
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Historic Rova Farms Bridge

Pile driving necessity is accomplished with ZR technology

By Lou Lucas

The Rova Farms Bridge in Ocean County, N.J. was originally built in 1929 as part of the infrastructure that is known today as historic Rova Farms. Located in Jackson Township, the bridge is currently being replaced with a steel and concrete structure by Lucas Brothers, Inc. to protect it from flooding and water damage.

The historic location of Rova Farms Bridge was discovered by Russian settlers in the 1700s. It became a gathering place for Russian-Americans where Russian traditions could continue and flourish. In 1934, The Russian Consolidated Mutual Aid Society of America (ROOVA) bought 1,600 acres of land in the historic Cassville section of town and established a rural cultural center known today as Rova Farms. This site contains two historic Russian Orthodox churches, Saint Vladimir Memorial Church and Saint Mary's Russian Orthodox Church, as well as a Russian restaurant and flea market. The area was a resort throughout the 1940s and '50s.

Originally, the Rova Farms Bridge was a dam and spill way for Cassville Lake. Route 571/Cassville Road runs over the bridge in Ocean County and can be quite a busy area at times. However, as the water from the lake was starting to undermine the road during heavy rains which caused major flooding, Lucas Brothers won the bid to replace the bridge.



Bridge sheet piling

The bid included a plan to replace the current bridge and widen the spill way for the lake. The company would also increase the safety of the bridge by adding shoulder space, updated guard rails and parapets.

Lucas Brothers started the job in July 2011 and is expected to finish in July 2012. This \$1.5 million bridge project seemed easy enough initially but, as it turns out, was full of unique challenges.

As the Rova Farms District is listed on the state's register of historic places, the bridge, dam and spillway are considered con-

tributing resources to the historic district.

As a result, Pat Kipp, superintendent for Lucas Brothers, had to manage multiple priorities in addition to construction.

One of the biggest challenges Kipp's team tackled was the task of attaching the new structure they were building to an older section of the spillway without damaging the older pieces. Additionally, there were also vibration monitors that had to be set up for two nearby residential structures and the old spillway. As well, some of the piles had to be predrilled in a very small work area.

Power lines running over the job that could not be moved far enough away and had to be de-energized when pile driving, coupled with managing the flow of the water during the construction were also very challenging aspects for the team to work around.

While the historic facets of the area presented challenges for the team, they weren't the only restrictions Lucas Brothers faced during the project.

For example, the company couldn't disturb the waterway during certain times of the year per New Jersey's Bureau of Dam Safety and Flood Control nor could they spill anything into to the existing waterway. Due to the area being prone to floods, the work was tough to keep on schedule during rainy times. Among other issues Lucas Brothers had to incorporate into their project planning were environmental concerns and spawning fish.

Adding to the list of considerations, the state requested that all traffic lanes stay open during construction. To ensure this was possible, the job had to be done in sections. Lucas Brothers added to the east side of the bridge first, then routed the traffic to that side while they completed the other additions.

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Lucas Brothers also utilized a combination of variable movement, zero-resonance and low-head room vibratory hammers to make this job as friendly to the historic environment as the road remaining open was to the residents of the area.

The team drove both permanent sheeting and temporary shoring over the course of the job. They drove 25-foot PZ-27s for the permanent sheeting and 25 feet of various types sheeting for the temporary. A variable moment hammer drove a large road plate (eight feet wide by three-quarters of an inch thick by 20 feet long) and some 45-foot H-beams in no time.

In some of the mid-phases of this job the company had to bring in impact hammers to ensure proper and safe foundations. Driving these closed-end flat-bottom 12-inch by 60-foot long piles were the ICE® I-12 impact hammers.

Once the bridge deck was poured, the team could demolish sections of the old bridge which were separated from sections to remain by cable cutting through four-foot thick concrete walls and footings. The old section of the 20-inch thick bridge deck had to be cut into several 54-inch wide manageable pieces with an oversized road saw for removal. The extremely heavy and fragile pieces had to be loaded into a postage-stamp sized work area



Bridge sheet piling

while traffic passed. Installing and handling some of the pre-fab sections of the new bridge required some very intricate rigging as well as needing to be tripped in mid-air once unloaded.

Despite the challenges and site-specific demands, Lucas Brothers looks forward to a successful completion of the project later this year. ▼

Lou Lucas is the owner of Lucas Brothers, Inc.

Photos courtesy of Lucas Brothers, Inc.

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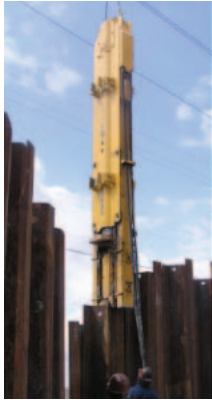
Pile Equipment, Inc. keeps history in mind as they evolve

By Mark Rutland

“It has been over 25 years since we started this little company. I remember the days when Kobe, MKT, Berminghammer, ICE and Delmag were the leaders in manufacturing diesel hammers,” Mark Rutland, CEO and co-founder of Pile Equipment, Inc. recalled.

“Kobe had the water-cooled cylinder and used the needle valve fuel pump approach, like MKT, to change the stroke. ICE and Berminghammer had the high pressure injected fuel pump which sent fuel into the impact area in more of a mist or atomized state. Delmag had the spurt of fuel that was sent into an annulus on the impact block via low pressure injectors with a four position fuel pump. Air hammers were built by Vulcan and Conmaco. Vibratory hammers were becom-





BSP SL Series

ing popular from ICE, MKT and Foster.”

That’s the way it was when Rutland along with Dick Nelson and Mike Elliott founded Pile Equipment, Inc. in 1987.

Hammer selection

In the late 1980s and early ‘90s there was a strong push in the business to use the Wave Equation Analysis Program (WEAP) and Pile Driving Analyzer. Pile hammer selection was changing in a big way, according to Rutland.

“Pile hammer energy was no longer just about a weight of a ram times its fall. Pile refusal was no longer about driving 10 blows to the inch being refusal and 20 blows being absolute refusal,” he

said. “It was all about how the hammer driving characteristics affected the integrity of the pile and production.”

The late Dick Nelson, the grey hair of Pile Equipment, sold through education. His resume included a civil engineering degree as well as being the product manager of MVE/MKT. He introduced Elliott and Rutland to using the WEAP for pile driving prediction. As a service to their customers they would run WEAP programs prior to job bidding.

“Using our speedy IBM 286 computer, each hammer input would run for 55 minutes before it was completed,” Rutland said. “Today it takes less than 30 seconds to run the program.

“We believed the Delmag/Pileco diesel fuel atomization design was the best suited hammer for these new engineering perimeters,” Rutland noted. “It took several years, but now ICE, MKT, PILECO and Delmag, to a certain degree, all sell the same Delmag-style fuel pump and hammer make up.”

Less downtime equals less worry,
equals more piles in the ground,
equals more money for you.

— MARK RUTLAND, CEO, PILE EQUIPMENT, INC.

Taking it one project at a time

Pile Equipment’s staple has been to look at each project’s pile driving requirements thoroughly. Mike Elliott, president of Pile Equipment, has been looking at project plans for over 30 years. To this day, he will meet with contractors to look at soil borings, hammer specifications and discuss job conditions, then try to come up with the best suitable hammer or equipment to do the job. Rutland believes this way of doing business is a lost art.

Today, the small company of 13, which is well-versed in the process of pile installation, prides itself on the expertise their team holds.

“We have a service department complete with certified hydraulic technicians. Some have been with us since the late ‘80s,” Rutland noted. “Our parts department is well-equipped to keep your downtime to a minimum.”

Hotel bidding and DOT requirements

Rutland recalls a time before electronic bidding when each department of transportation (DOT) would have bid openings at a hotel located in the state’s capital. He and other salesmen would often stay in the hotel overnight to prepare for the intense process.

“As a salesman, you would load up with literature and prepare quotations for all the jobs with pile driving. We would knock on

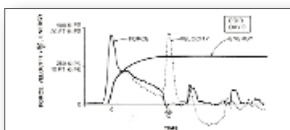


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PILECO Diesel hammer

doors through the night and early morning hours," Rutland said. "Most of the contractors and suppliers would go to the opening to hear the bid results. It was always a fun time and excellent place to get face-to-face with customers."

Back then, each DOT had its own specification for pile driving. Florida had the 455 specification, for which Elliott was on the structure specification sub-committee and specifically the review committee. Georgia had the modified engineer news formula.

"In South Carolina they required each pile hammer be approved prior to working on a project by using the WEAP analysis," Rutland said.

"Contractors would simply submit every hammer they owned prior to bid thus flooding the DOT with many WEAP studies to run. I remember suggesting the SCDOT start providing the WEAP input data prior to bid. Shortly after, they started putting the data on the plans."

Changes to an industry

At a time when bridges were beginning to be designed to withstand a major flood, the word "scour" turned much of pile driving into drilled piles, according to Rutland.

"No more simply driving a pile to refusal. Now piles had to be driven five feet into a rock socket to prevent piles from being undermined from scour," he said. "Pre-drilling pile holes all of a sudden became a necessity. As the pile holes got larger the small contractor had to call the specialty drilling contractor sometimes to drill only a few holes."

Eventually, as Rutland recalls, it made it difficult for the small guy to compete.

"That's when the drilled pile really took off," he said. "It switched from a pile driver needing a driller to a driller needing a pile driver."

Out of need, the dedicated drill manufacturers designed special pile driving rigs to drill or drive piles. Hydraulic hammers were now a big part of the picture. A hydraulic hammer can be mounted to the drill rig in place of the auger. The high price and high production drill rigs were here to stay. This caused a major shift in how jobs were designed and built. It's also about the time the Pile Driving Contractors Association (PDCA) was born.

Maintaining excellence

Pile Equipment, based in Green Cove Springs, Fla., sells and rents hydraulic vibratory, hydraulic auger, hydraulic impact diesels and its own line of Pilemaster air hammers as well as all accessories.

They represent HPSI, PILECO, Jinnings, Dawson and Pile Hammer Equipment who are all active members the PDCA.

"Mike Elliott has sat on the Board of Directors and served as chair and member of the Market Development Committee in the past," Rutland said.

The company is also a member of the Florida Transportation

Builders' Association (FTBA) and the Carolinas' chapter of the Associated General Contractors of America (CAGC).

While pile driving requirements have changed with the times, Rutland maintains that the way Pile Equipment treats its customers is the same as it's always been.

"We still approach renting and selling hammers the same Maytag repairman way. Remember the old commercial of the Maytag repairman sitting around with no washing machines to fix? We represent products we believe are the Maytags of our industry," he explained. "Less downtime equals less worry, equals more piles in the ground, equals more money for you. Like everyone else we're in the business to make money but moreover we enjoy what we do. We are grateful to our customers for giving us the opportunity."

Despite the evolutions in pile installation, from million dollar rigs to special engineering considerations, the company remains true to its roots.

"Pile Equipment still runs the WEAP study as a service to their contractors," he said. "The truth be known, we often go back to basic thumb rules we learned many years ago. To this day they still apply. They've become our own family recipe we keep locked away." ▼

Mark Rutland is the CEO and co-founder of Pile Equipment, Inc.

Photos courtesy of Pile Equipment, Inc.

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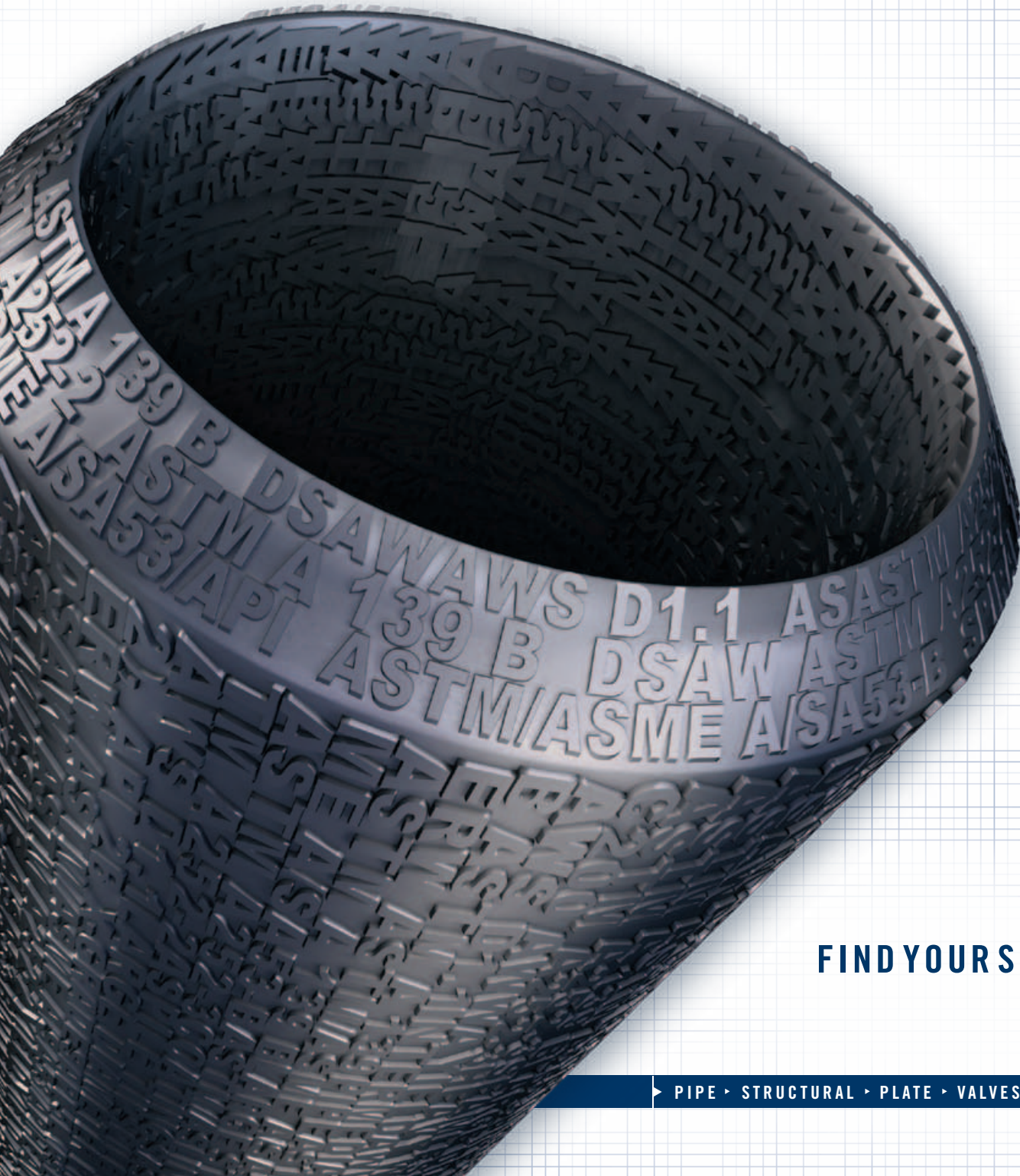


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Geotechnical aspects for this project included dynamic compaction of the landfill and pile foundations for structures, New Jersey Route 18, N.J.



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In the beginning - the Geotechnical Group in 1979



Geotechnical engineers lay the foundation for U.S. infrastructure improvements.

– DANIEL HART, GEOTECHNICAL MANAGER, GANNETT FLEMING

By Terri Deavor

It all began in 1979, when eight Gannett Fleming geotechnical engineers with experience in dams, water and wastewater assignments and transportation combined to form a new group. Recognizing that infrastructure projects were its bread and butter, the Gannett Fleming board of directors had a vision to grow beyond providing support services to develop its own client base.

In those days, the geotechnical staff was located in the firm's corporate headquarters in Harrisburg, Pa. Even though Gannett Fleming was not as widespread then as it is today, there was the opportunity to work on projects across the country and, to a limited degree, beyond U.S. borders. The company's engineers were able to work on projects in just about every geological setting, which made life interesting and provided some unique challenges.

For the next two decades, Gannett Fleming's geotechnical group expanded up and down the East Coast and into the Southwest. At the turn of the 21st century, the firm acquired Quantum Geophysics. This division specializes in surface and down-hole geophysical methods to identify subsurface conditions that support engineering, environmental and groundwater investigations.

The team of Gannett Fleming and Advanced Construction Techniques, Ltd. (ACT) has become recognized as the leader in foundation grouting. Through investments in research and development, this team has advanced the science of grouting with

IntelliGrout®, a comprehensive integration of real-time data collection, display, analysis and computer control of grouting operations. The system consists of both hardware and software components – all designed and constructed to allow project participants to collect, visualize and understand vast amounts of complex data in real time.

Today, Gannett Fleming's geotechnical practice has grown to a staff of more than 100, including engineers, geologists, engineering geologists, computer-aided design and drafting (CADD) technicians and laboratory technicians. Arguably, the group features the largest, most experienced, highly educated and committed group of geotechnical professionals within any multi-disciplined engineering firm. This ensemble provides solutions for foundations, underground construction, earth structures, ground water resources, foundation rehabilitation and marginal building sites. Gannett Fleming geotechnical engineers and geologists specialize in landslides, sinkholes, mine subsidence, seepage, expansive soils and seismic activity.

Health and safety

At Gannett Fleming, employees are guaranteed a safe and healthy workplace. This is ensured by providing the appropriate tools and equipment to get the job done properly and preparing the work procedures that return employees home safely at the end of each



Gannett Fleming has the in-depth knowledge and expertise to excel on even the most challenging geotechnical projects

business day. Gannett Fleming's safety promise is manifested through everyday tasks, such as reviewing project-specific health and safety plans and keeping an inventory of safety equipment. Long-term examples include development of a behavior-based safety program. Gannett Fleming's full-time Corporate Safety Group is a continuous reference for employee training, awareness and compatibility regarding federal regulations, on topics such as occupational safety and health administration.

Pile driving prowess

Subsurface investigations are supported by a fleet of drill rigs, cone penetrometer units, barges and all-terrain vehicles. Inspection of drilled shafts and driven piles are complemented with pile driving analyses, electronic data collection equipment and submerged inspection devices. Gannett Fleming geotechnical professionals routinely install field instrumentation, including piezometers and inclinometers, as well as provide manual and remote data monitoring and transmission.

Clients want the in-house ability to maintain equipment and deliver it to a project site on schedule. With various truck-mounted drill rigs, track-mounted drill rigs, a portable tripod rig and complete water support equipment (including quadtoon barges and a crew boat), Gannett Fleming responds to client needs directly.

Not dependent on subcontractors to get the job done, Gannett Fleming also has equipment for monitoring pile driving and inspecting drilled shafts. Geotechnical staff provides instruction and training through various subsurface investigations, pile driving and drilled-shaft inspection courses for the National Highway Institute (NHI).

Project snapshots

Gannett Fleming's assignments, highlighted below, are significant in one way or another reflecting innovations, cutting-edge technology, complexity or award-winning efforts.

The pile load testing program for I-279 in Pittsburgh, Pa. was a \$1 million testing program, including a variety of pile types, to determine if elimination of relaxation and higher capacities could be achieved in the local geology. The results of that investigation led Gannett Fleming to participate in a National Cooperative Highway Research Program study, the precursor to Load and Resistance Factor Design.

The St. Lawrence Seaway project in Massena, N.Y. was huge, requiring analysis of 100-foot-high gravity lock walls. Gannett Fleming engineers used extraordinary field testing to determine properties of coarse granular backfill.

The design of Section E-3 of the Washington Metro required the analysis of an over-under tunnel arrangement instead of the

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usual side-by-side configuration. This was the first time it had been done for that subway system.

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What's next?

For more than 30 years, Gannett Fleming has amazed clients with innovative geotechnical solutions and practical applications.

“Geotechnical engineers lay the foundation for U.S. infrastructure improvements,” said Daniel Hart, P.E., a geotechnical manager with Gannett Fleming.

The firm is expanding its geotechnical practice into the west and southeast to continue this trend, while sustaining a working environment where its geotechnical staff is challenged and derives satisfaction from success. Gannett Fleming is a high-performance company that produces

quality projects, meets expectations and delivers the job on time and on budget. ▼

Terri Deavor is a marketing specialist with Gannett Fleming.

Photos courtesy of Gannett Fleming

Pile Load Testing Program for I-279, Pittsburgh, Pa.



H.B. Fleming

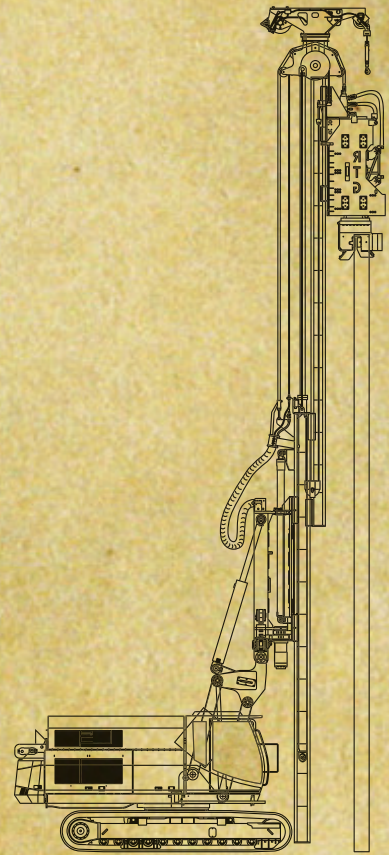
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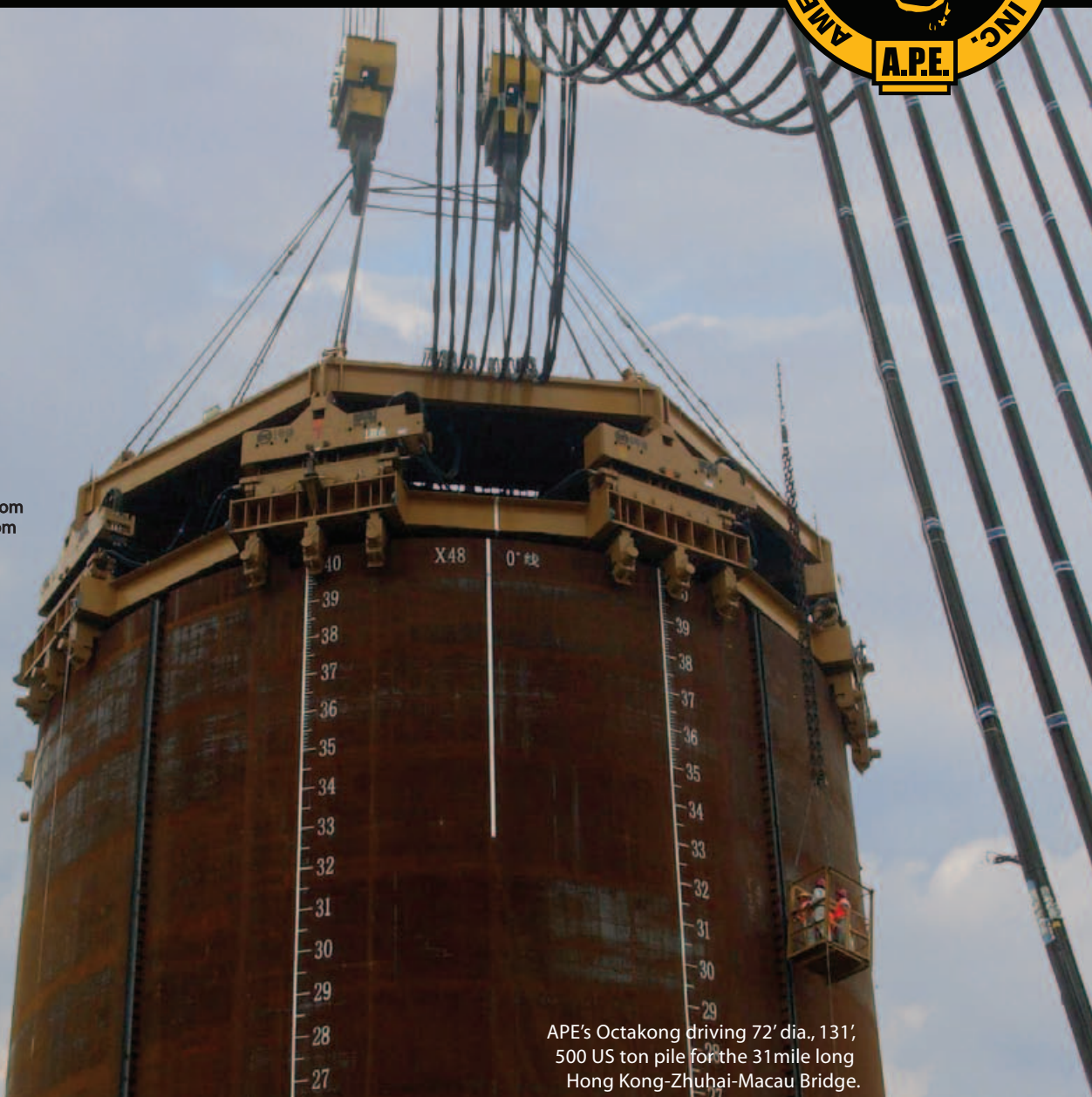
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The OctaKong awaits transport back to land after final pile is driven



Hong Kong-Macau-Zhuhai Bridge

APE's OctaKong hammer a key part of project success

By Geordie Compton

In 2010, the China Construction Bureau approved the large diameter steel caisson method to create the two man-made islands for the Hong Kong-Macau-Zhuhai Seaway Project. The islands would serve as the tunnel mouths and transitions to the eastward and westward bridgepans. In November 2010, American Piledriving Equipment, Inc. (APE) of Kent, Wash. won the bid to produce the OctaKong hammer for Number One Marine Group and the China Construction Bureau to begin construction on April 15, 2011.

The origins of this innovative and ambitious concept were in the 2001 driving of a 40-foot diameter, one-foot thickness concrete pile for a channel wall for the Yangtze River. Thirteen thousand tons of drive force were needed to drive this immense pile. The largest APE vibratory pile hammer at the time, the Model 400, supplied only 360 tons of driving force. APE decided to link four 400s together to achieve 1,400 tons of drive force. Syncing the hammers was the critical engineering challenge and it would be crucial that the hammers were synced within an accuracy of 1/300ths of a second. Each 400 vibro linked physically by a drive shaft to sync the eccentrics and through a single hydraulic circuit. Each hammer, served by a 1050 HP power unit, were also linked. The whole system was controlled by a central computer allowing the system to be operated as a single unit. Although it had never been done before, the potential speed advantages of this method won APE the opportunity to put the QuadKong into practice driving these 400-ton concrete piles along the Yangtze River.

When the Yangtze Channel Project was completed with success, the accomplishment was followed up the next year using steel piles for a land reclamation project for a five-star hotel in Panyu Nansha, GuanDong. For this project, 64 44-foot piles were driven using the same four vibratory hammer configurations.

Would it work with eight hammers?

The 31-mile long bridge and tunnel project as planned comprised three spans and a tunnel to provide large vessel access. Two islands would need to be constructed in the Pearl River Delta for the tunnels. Each artificial island in the seaway project was designed to be approximately 30 acres to accommodate for the



The final pile of the project being transported to the drive location



APE China Managing Director, David White, standing next to 37-foot sheet pile prior to test driving

A crane set to pick and drive a 500-ton pile



tunnel-bridge transition infrastructure. In the planned area of the Pearl River Delta, the opening to the South China Sea, water depths are approximately 80 to 100 feet. As well, currents are strong, seas are choppy and typhoons are common in this body of water.

To construct the islands, island bulkheads needed to be constructed, completing a perimeter as with a cofferdam, using cells and wing walls. Using traditional sheet pile methods, if even possible under these conditions, would have taken several years. Unfortunately, the contractor was given only two.

The past successes of APE on the large diameter, multi-vibro driven piles must have stuck in the minds of the engineers from Number One Marine Group, First Harbor Marine Group and First Harbor Engineering Bureau. If the island bulkhead cells, designed at 72-foot diameter, could be manufactured and each driven as a single pile the schedule savings would be immense.

Piles of this size had never been fabricated, let alone driven. A hammer, capable of supplying the drive force necessary to drive such a mammoth pile, had never been built. It would take eight Model 600 vibratory pile hammers to supply the 4,480 tons of drive force necessary to drive the 500-ton pile.

"It's safe to say more time was spent in the planning and designing phase than in the manufacturing, shipping and construction phase," said Dan Collins, president of APE.

After two years of research, design, redesign and sleepless nights, a contract to drive the 72-foot steel piles and a contract to drive the 37-foot interlocking piles was awarded to APE.

Challenge in design

When a vibrating pile is 72 feet in diameter, it means that the hammers are 72 feet away from each other so keeping them in perfect sync is a huge mechanical challenge. The eight hammer system would be connected via 14 gearboxes to regulate the timing on the vibratory power transmission synchronizing the vibration of each of the vibros. The timing of the gearboxes was the critical issue, especially to achieve the timing specification of 0.005 inch.

APE manufactured everything in two months; the eight Model 600 vibratory hammers, eight 1200 HP power units and



It's safe to say more time was spent in the planning and designing phase than in the manufacturing, shipping and construction phase.

— DAN COLLINS, PRESIDENT, APE




The OctaKong set to swing into action

24 custom clamps. The OctaKong, as it was now being called, was shipped and assembled dockside in about 18 days. A crew put it together in two teams; a power unit team and vibro assembly team.

Stepping beyond its traditional role as manufacturer, APE assumed additional responsibilities in cooperation with Number One Marine Group and the Construction Bureau of China. The company ensured the hammer was inspected before and after every pile for safety reasons, operated the hammer, drove the piles to grade and assisted in the research as well as development of large diameter pile driving methods, which has essentially become a new field.

(Continued on page 101)

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Above and right: Crews worked tirelessly on the project with APE equipment

On May 15, 2011, the first production pile was driven. The pile positioning took three hours while installation took seven and a half minutes. Each individual hammer was attached to the pile with three clamps. Amplitude on the vibration was four millimeters, much higher than previous multi-vibro projects as the pile, being much larger would also be penetrating much deeper. Positioning the piles for driving started on the dock as they were loaded pre-positioned onto the cargo ship. While the piles were circular, they still had to be set with precise location on the vertical axis and correctly rotated to align the interlocks for driving wing walls. The interlocks are the tracks welded onto the 72-foot pile exterior to guide the connecting wing walls when driven between the two adjacent circular piles. The margin of error on the vertical angle was less than half a degree. In the crane control panel, levels positioned on four sides of the pile would tell the operator what cables need pull or slack. A GPS at the top of the hammer ensured driving on target once axes were aligned and rotation corrected. The eight 1200 HP power units powered the eight hammers from the barge deck.

Following behind the OctaKong, two APE tandem Model 200-6 vibros would drive down the 37-foot steel sheet wing-walls between two interlocks joining the large circular piles.

Presumably, these would be the largest sheet piles ever driven, allowing additional speed in construction over traditional methods.

On the second island, APE and Number One Marine Group encountered some very peculiar challenges specific to driving super large piles. Driving for the first island near Macau, they encountered fairly uniform N-value 27 sand, which made driving fairly smooth. The soil on the Hong Kong side of the second island was very complex, often N-value 15 sand on one side of the pile and N-value 40 on the other. Essentially the pile was so big that the OctaKong was driving through two different soil conditions at once and also penetrating through new layers on one side of the pile before the other side hit the same layer. When using vibratory hammers, the frequency of the hammer can be changed on the fly to better match the soil condition. Sometimes, a low frequency is more efficient when driving in hard soil and high frequency is more efficient in soft soils. However, under these unprecedented circumstances, there was no frequency that satisfied both soil conditions that were being penetrated at the same time. Therefore, the driving time for the first pile where these conditions existed, took three days.



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Many hours of meetings and strategic thinking were involved to figure out how to drive the pile straight due to the fact that the pile would lean in the direction of the softer soil. This challenge, solved by methods that remain closely-held trade secrets, enabled APE to get the drive speed up to two piles per day for this difficult driving.

All told, 128 piles were driven for the two island walls. The OctaKong has 4,480 tons of drive force, is 553 tons in weight, and requires 9,600 HP to run.

The entire project lasted just under seven months, an incredibly fast time to make two full island foundations. ZPMC, the Shanghai-based company that fabricated the piles, could hardly keep up pile production with the driving speed of the project. At the fastest point, APE drove three piles in a single day to grade and seven piles in three days. APE can report that the equipment never had one day of downtime - something the APE team is very proud of. The OctaKong hammer never wasted one day for repair and service.

“The contract called for two years to complete the piles,” said Collins. “It was completed more than a year ahead of schedule.” ▼
Geordie Compton is the principal at Construct Marketing, LLC.

Photos courtesy of Construct Marketing, LLC



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Damage from the 2005 flood



Saving a City from the 100-Year Floods

Scour protection provides security for community

By Brian Tolley

The city of St. George, Utah lies in the red rock country of the southwestern Utah desert. The pioneering community has become a haven for many escaping the snowy winters in northern Utah and from 1995 to 2005 the population grew 64 percent. Much of this growth occurred along the beautiful Santa Clara River in new housing developments.

During the second week of January 2005, the Santa Clara River overflowed its banks due to quickly melting snows from the nearby Pine Valley Mountains with elevations as high as 10,365 feet. The river reached flows not seen in that part of the country since floods carried away several settlements and settlers during the winter of 1862. Dozens of homes were flooded or collapsed into the river. Total losses were placed between \$150 to \$180 million dollars.

In 2009, Ralph L. Wadsworth Construction Company, LLC (RLW) won a construction manager/general contractor (CMGC) project to construct a new Dixie

Drive Interchange on I-15 in St. George as a joint venture partner with Washington County Constructors. The project included a new bridge over the Santa Clara River in addition to the construction of new surface streets and river trails. As a nationally recognized heavy highway bridge contractor, RLW has developed a variety of piling and shoring systems to assist in the efficiency of bridge building. Early in the design phase of the CMGC project, the project team was asked to design and install a scour protection wall along the banks of the river as an additional part of the project.

With a contract amount of approxi-

mately \$3.1 million, RLW's scope of work included the design and incident-free installation of 84,000 square feet of sheet pile to provide scour protection for property adjoining the Santa Clara River.

The river runs directly through St. George. This new sheet pile wall needed to be hidden so as not to impact the pristine appearance of the city and surrounding landscape yet protect the neighboring roads, properties and buildings from erosion during a flood event. The work had to be performed with minimal impact to the community and the completed work had to blend in with the surrounding environment.

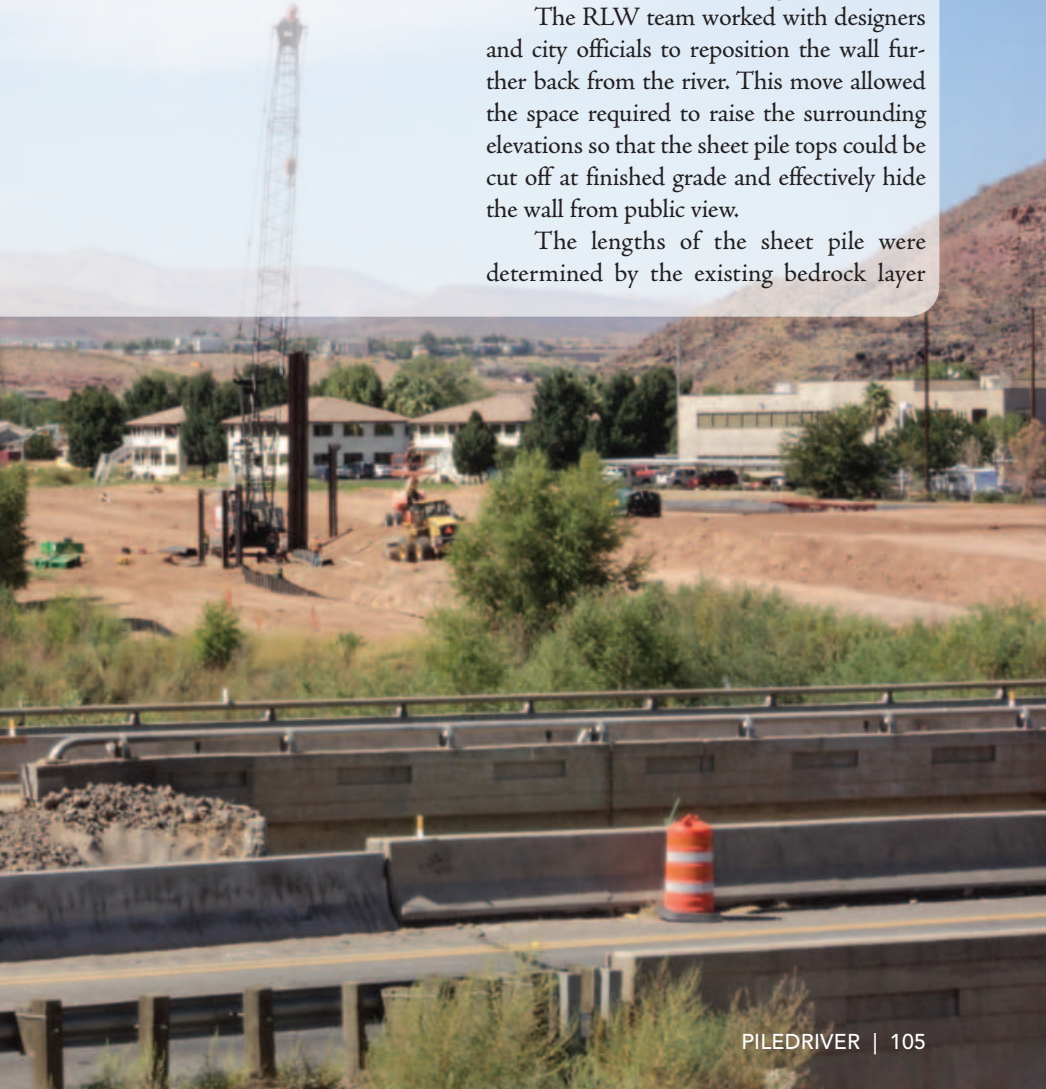
The RLW team worked with designers and city officials to reposition the wall further back from the river. This move allowed the space required to raise the surrounding elevations so that the sheet pile tops could be cut off at finished grade and effectively hide the wall from public view.

The lengths of the sheet pile were determined by the existing bedrock layer



Above: Crews working on installing sheet piling for the project

Background: View on the construction site





Installing sheet-pile scour protection wall along Santa Clara River

which varied along the entire distance of the wall. In order to mitigate costs, RLW worked with its supplier, Skyline Steel, to develop a sheet-by-sheet cut plan and provide material at the specifically required lengths. Taking the time to individually layout every sheet and pre-cut them to length netted over \$50,000 in savings to the project.

During the design process, it was identified that at times the bedrock elevation was not much lower than scour depth. This

potentially could have resulted in portions of the sheet pile wall not having the required embedment to withstand a severe flood event. RLW worked with the designers to implement tiebacks at these portions of the wall to provide added stability.

The material had to be brought in on an as-needed basis due to the limited work-space and proximity to existing homes and businesses. Furthermore, since every sheet was cut to length, the challenge was to bring out the right sheet for the right place at the right time. RLW worked with Skyline to develop a transport plan wherein each sheet pile was delivered to the project in small increments in the order in which they were to be installed. This greatly reduced the need for on-site storage space.

Environmental constraints were significant challenges to the project. The project encroached on the breeding grounds of the southwest willow fly catcher bird. The RLW team went to great lengths to map the sensitive breeding locations and work its schedule around discovered breeding nests. At times, this required the RLW team to skip portions of the wall during installation. Attention to layout became paramount in order to ensure that both sides of these “fill-in” portions of the wall could be interlocked with the previously installed sheets. Additionally, the environmental constraints required continual construction monitoring by various government agencies to ensure



Over 84,000 square feet of sheet-pile was installed down to bedrock along the bank of the river that no threatened or endangered species were harmed and that any disturbance to the natural environment was kept to a minimum.

Shortly after the construction of the wall, heavy rains caused the second 100-year flood event in a decade. The Santa Clara River again crested its banks to within a few inches of the top of the wall. Neighboring properties and businesses were saved and damage was held to a minimum from the severe erosion of 2005.

The completion of the wall was celebrated by city and county personnel as well as the general public. ▼

Brian Tolley is the manager of the Piling and Shoring Division for Ralph L. Wadsworth Construction Company.

Photos courtesy of Ralph L. Wadsworth Construction Company



The completed scour protection wall

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An Innovative Use for Sheet Piling from RLW

Working around active train tracks to build the Galena Bridge

By Brian Tolley

Sometimes the smallest project presents the biggest challenges. The Galena Bridge Project in Draper, Utah was a complicated shoring project on a tight budget for the construction of a bridge for two train tracks, working under live train traffic and large load with minimal vibration conditions. Fortunately, Ralph L. Wadsworth Construction Company, LLC (RLW) thrives upon these types of projects and fulfilled the contract on time and on budget.

Early in 2011, RLW's Piling and Shoring Division was approached to design and build specialized shoring for the Galena Bridge Project. The project involved simultaneously working with both the Union Pacific Railroad (UPRR) and the Utah Transit Authority (UTA) to provide shoring for a two-phase railroad bridge structure serving both entities. With a shoring budget of approximately \$220,000, RLW's scope of work included the design and incident-free installation of over 12,400-square feet of sheet pile to shore up the existing and active UPRR track during the construction phase of an adjacent commuter-rail train track belonging to the UTA designated as FrontRunner South.



Sheet-pile shoring supporting the Phase One bridge during construction of Phase Two



The completed Galena Park Blvd Bridge

Undoubtedly, the most constant project challenge was working next to and maintaining the integrity of the live rail line on a daily basis. Union Pacific train traffic must continue to flow day and night and this project was no exception. RLW faced the challenge with a design and construction schedule to allow for continuous construction within the project zone with no delays in rail traffic.

Early in the project team partnering session, several design options were considered as to how to provide the optimum shoring design to meet the project's construction and safety requirements. Economy, constructability, safety and time constraints were all balanced along with the need to maintain uninterrupted "revenue-bearing" transit service along the rail line. After exploring all the needs and constraints, RLW team members determined that the use of sheet pile with tiebacks provided the quickest and most reliable solution.

RLW developed a timed design plan wherein a sheet pile shoring system was installed between the two adjacent rail alignments. The structure to support the UTA FrontRunner rail was installed first. At completion, the UPRR rails were pushed temporarily onto that structure while the phase two, or permanent UPRR structure, was constructed. Train traffic was allowed to continually flow during the day and night. The shoring system was central to this plan since it facilitated and supported the end result. The shoring system acted as a double-sided system — providing shoring for either phases or both sides of the construction, all while maintaining the safety of the workers and railroad personnel.

RLW's extensive experience and relationships with UPRR and UTA helped in devising a way to minimize the offset distances required between track lines and shoring faces. This was achieved by RLW's design team working with UPRR and UTA to guarantee that the company's customized shoring methods would not allow soil or structure movement during rail use, due to the tight proximity needed for the zero construction clearances.

Sheet pile and large-diameter tieback anchors were used to provide the 35-foot cut shoring and the necessary load capacity. A concern with using sheet pile was the installation of the sheets, using an ICE 4450 vibratory hammer, could settle the ballast and cause the rails to shift. That result could have been catastrophic to the passing trains. The RLW solution was to create and implement a continuous monitoring system that ensured that the rail line was not compromised.

Positioned nine feet off track centerline, the 35-foot high shoring wall had to support Copper E-80 loading with less than one inch of horizontal deflection. Shoring had to be placed within a two-inch tolerance to accommodate the train clearances and construction phase lines.

In addition to the design challenge of providing a tall enough wall that was strong enough to support the high lateral loads, very poor soil conditions existed at the project site. Geotechnical reports revealed the presence of flowable sands and clay layers under the track. The real impact of vibration from passing trains to the soil strata added to the wall's design challenges.

Poor soils under the track extended throughout the project

Installing sheet pile nine feet off track centerline



site. Before RLW crafted a solution, soils were incapable of supporting the loads of RLW's equipment. Excavation equipment and cranes would sink up to their cabs in the soft ground. With the spring thaw, access into the site was hampered by water from snow-melt and rains, in one of the wettest years in Utah history. RLW imported fill, crane mats and metal plates which were used to stabilize the work area and provide safe work platforms.

Working under live rail conditions requires a specialized schedule and trained construction crews. With trains frequently running hourly each day, all workers needed to be warned ahead of time and alerted to approaching traffic and then be required to stop operations and vacate the area for each passage. As many as eight to ten trains passed through the construction site on any work day.

The project was successfully completed in June 2011. This was achieved by implementing an unyielding commitment to planning and partnering. RLW conducted daily meetings with all parties. These meetings provided a mechanism wherein RLW recognized and solved problems and concerns before they adversely affected the project. The daily planning meetings also fostered a relationship of trust and confidence with all team members, which created a synergy in expediting the solutions to challenges as they arose.

Additionally, UPRR and UTA project managers were very complimentary of the project.

"Wadsworth didn't disappoint us. Their safety protocol was top-notch in every way and exceeded our expectations. Working with our local construction managers and flagmen, Wadsworth constantly came up with innovative construction techniques that reduced and minimized UPRR train delays," said Jim Marshall, Union Pacific's program manager-commuter.

"They always found a way to work around our periods of high rail traffic and stayed on schedule. This is not the first time we've worked with Wadsworth, but their work ethic, scheduling and quality work on this project continued to be at the highest level



Supporting the existing rail line during Phase One of bridge construction

that we've come to expect of them. We consider them one of our contractors of choice when it comes to working on or around the Union Pacific Railroad." ▼

Brian Tolley is the manager of the Piling and Shoring Division for Ralph L. Wadsworth Construction Company.

Photos courtesy of Ralph L. Wadsworth Construction Company



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So what's next? While we are having to rebuild the plant from the ground up again, we are taking the time during this temporary set-back to increase our round size capabilities in Decatur to 14" OD and 16" OD with walls up to .625". New tooling has been purchased and modifications are being made so we will be able to manufacture these two new sizes when Decatur opens early next year.

In addition, we have purchased tooling and are now making 8.625" OD, 10.750" OD and 12.750" OD in our Marseilles, IL Division. As a result, when our Decatur, AL Division is operational again, we will be able to make these A500 ITC50 Pipe Sizes and A252 Pipe Piling sizes in two locations with quicker cycle times to get the product to you when you need it.

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Connecting the Capitol

Yards Park Bridge the newest addition to the Anacostia Riverwalk Trail

By April Peconi

The Yards Park, named “Best New Public Space” by Washington City Paper and one of “America’s Best New Parks” by The Atlantic Cities, has become a must-see area of southeast Washington, D.C. In 2011, Corman Marine Construction, Inc., out of Baltimore, Md., constructed one of the main features of the park, The Yards Park Bridge, which connects Yards Park to Diamond Teague Park and, as a result, Nationals Park (home to Major League Baseball’s Washington Nationals). The completion of this new \$3.2 million pedestrian bridge is monumental as it allows for an easier commute between the three parks while helping to create a continuous one-mile riverwalk trail that is publicly accessible within the Capitol Riverfront.

“This bridge is the latest milestone in knitting together the Capitol Riverfront neighborhood,” said Deborah Ratner Salzberg, president of Forest City Washington.

“It also provides the latest link in the ongoing development of the Anacostia Riverwalk Trail. It’s a wonderful neighborhood amenity for recreation and just enjoying the riverfront.”



Completed bridge the day of the ribbon cutting ceremony



Structural steel after being placed on the previously driven/cut off pile

Air pipes used to penetrate the existing river bottom to find the edges of the siphons to determine their exact location prior to pile layout and subsequent pile driving

It also provides the latest link in the ongoing development of the Anacostia Riverwalk Trail. It's a wonderful neighborhood amenity for recreation and just enjoying the riverfront.



— DEBORAH RATNER SALZBERG, PRESIDENT, FOREST CITY WASHINGTON

Corman Marine built this 20-foot by 700-foot pedestrian bridge using IPE wood with timber, steel framing for the bridge deck and 18-inch steel pipe piles for overall support. The project was completed on schedule and on budget, including approved time extension and change orders by the owner, Forest City Washington.

Risk mitigation through innovative construction techniques

The risk of damaging sewer lines and causing a major environmental concern during construction of the Yards Park Bridge was extremely high because of the very old siphoned structure and lack of accurate as-built drawings. As a preventive measure, Corman Marine had divers survey the lines twice to determine their exact location and depth. The results turned out differently than what was shown in the contract documents, so Corman Marine erected a platform and probed very carefully from the top of the water to determine the precise line location and depth. Based on their findings, engineers were instructed to revise the pile locations and as a result, Corman Marine was not allowed to drive the piles within eight feet of any of the sewer lines, providing a very small window to work. In addition, they were not allowed to use an impact hammer until the tip of each pile passed the bottom of the lines, so they had to be driven very gently using templates.

Another risk of the project was to provide a strong enough foundation to support pre-fabricated structural steel deck by driving piles into the soft soils below the water. In order to provide enough support, Corman Marine had to cut the piles and drive them very precisely to a specified elevation within a fabricated steel tolerance.

Cost-saving measures

Unfortunately, the piles ordered by Forest City Washington to complete this project did not have the right amount of coating lengthwise to meet the specification. Instead of the more expensive option of sending the piles back to the facility for additional coating because of the error, Corman Marine suggested overdriving several piles an additional 15 feet to get the required amount of coating under the mud line and then splice the top of each pile. This proposed solution was accepted because it was easy to perform, less expensive and within the parameter of the contract. ▼

April Peconi is the proposal coordinator for Corman Construction, Inc.

Photos courtesy of Corman Construction, Inc.

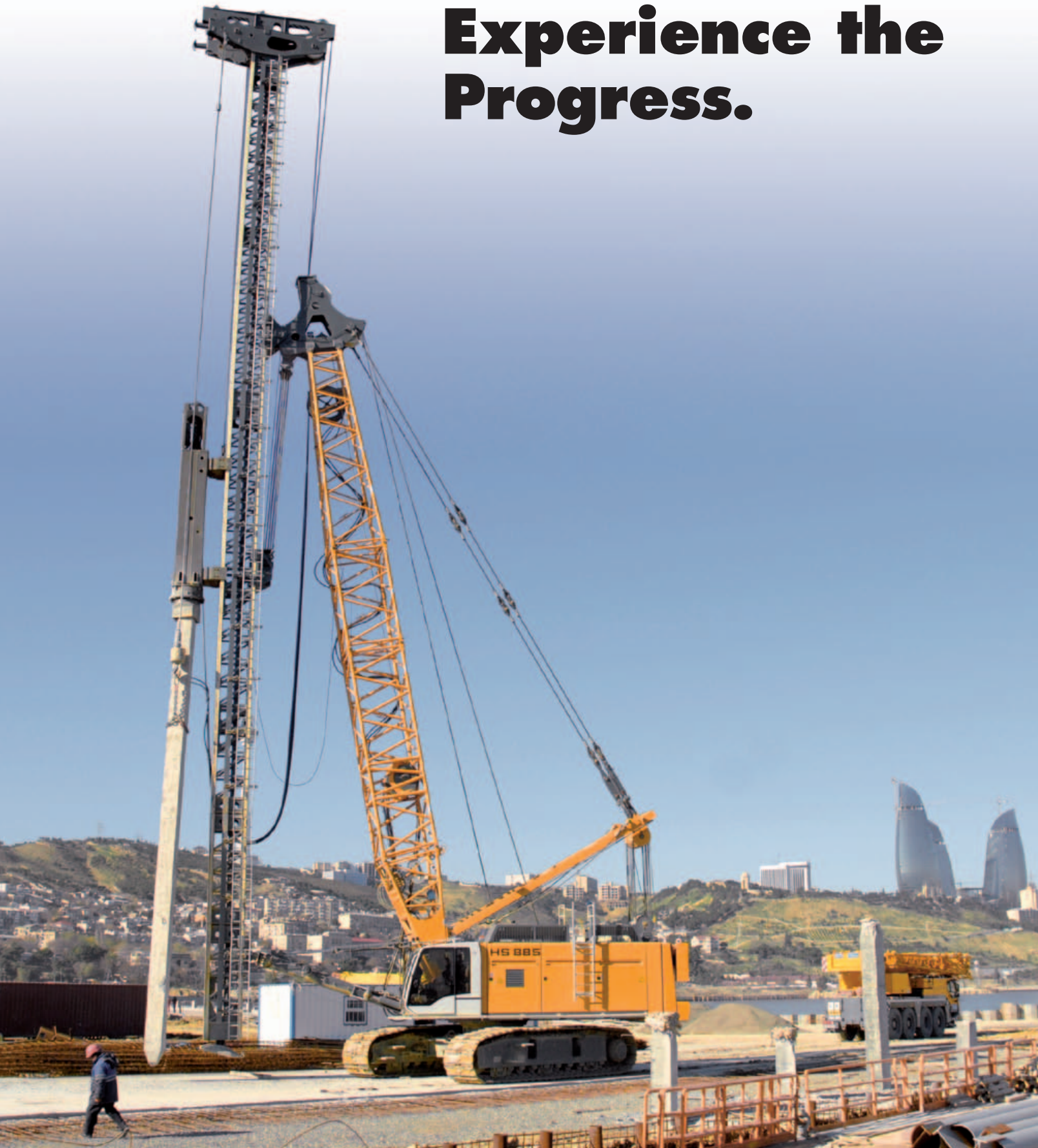
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Evolution of a Partnership

Federal Highway Administration updates on the horizon

By Silas C. Nichols, P.E.

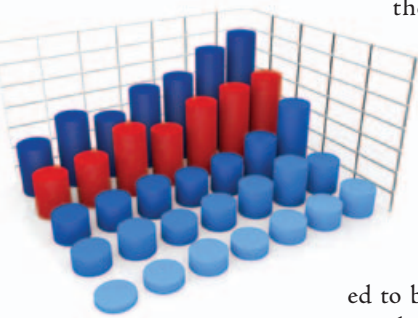
Over the next few years, the Federal Highway Administration (FHWA) will be updating several products that should be of interest to the membership of the Pile Driving Contractors Association (PDCA). The National Geotechnical Team in partnership with the National Highway Institute (NHI) will soon initiate a number of efforts to review and upgrade the recommended technical guidance for the design and construction of driven pile foundations. Products that will be part of this work include manuals, training courses, computer software programs and research reports. The goal of this series of efforts is to bring FHWA guidance into better alignment with the current state of the practice and to identify and promote the state of the art. Several of the products that we will be working on are briefly described in the following paragraphs.

Geotechnical Engineering Circular (GEC) 12 – Driven Piles: LRFD Design and Construction

FHWA is beginning a comprehensive update of our recommended technical guidance on the design and construction of driven pile foundations for bridges and other transportation structures. This is a high priority item since driven piles are a staple in the transportation industry and our current guidance is outdated and not consistent with the state of the practice. The primary purpose of this effort will be to update our guidance to align with the Load and Resistance Factor Design (LRFD) platform. In addition, we will review and update design methodologies and construction control methods, revise details on equipment and construction procedures and review and update our guideline specifications. When complete, the updated manual will become the twelfth manual in our Geotechnical Engineering Circular (GEC). The GEC series defines the FHWA's recommended technical guidance for the design and construction of structural foundations, walls and other geotechnical features.

Computer program for determining ultimate vertical static pile capacity

As part of the update to our driven piles recommended technical guidance, FHWA will also look to update the computer program DRIVEN.



The program was developed as a design aid for foundation engineers and follows methods and equations presented in the current FHWA technical guidance on the design and construction of driven piles. As we develop GEC 12, DRIVEN will need to be updated to be compatible with newer operating systems and to align with the current state of the practice for driven pile design and construction.

Geotechnical Engineering Circular (GEC) 9 – Lateral Load on Deep Foundations

In 2004, the FHWA attempted to develop a guidance document on the design and analysis of laterally-loaded deep foundations. For several reasons, the guidance was never published. We are preparing to restart this effort and develop a manual that provides recommended technical guidance for the design and analysis of laterally-loaded deep foundations that support transportation facilities. When complete, the manual will become GEC 9.

The primary objectives of this effort will be to a) identify a recommended state of practice on the design and analysis of deep foundations for laterally-loaded highway facility applications in

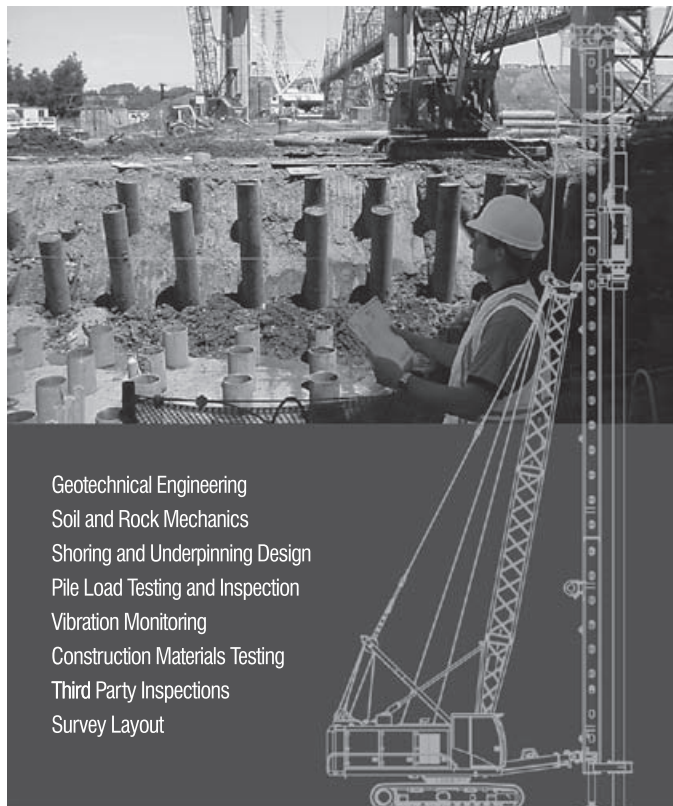
the LRFD platform; b) create uniformity in design practice; c) provide a logical design process for laterally-loaded foundations that can be easily followed by practicing engineers; d) provide clear design guidance on determining minimum pile embedment depths; and e) identify gaps in current practice.

Design of large diameter driven piles

This research effort will evaluate current design methodologies to determine their applicability to large diameter driven piles (i.e. greater than 24 inches). The state of practice for bridge design is moving toward the use of larger diameter foundation elements to reduce footprints and handle larger loads. Current practice in driven piles has shown difficulty in predicting the behavior of large diameter open-ended pipe and cylinder piles that do not bear on rock. This is a problem that has not been addressed very well in FHWA technical guidance. The primary objective of this effort is to improve design reliability for large diameter piles as foundation elements by refining current design and verification methods to more accurately predict capacity.

National Highway Institute (NHI) training

In support of technical guidance development, the FHWA National Geotechnical Team will work with NHI to update three training courses on driven piles. Many of you are familiar with NHI through one of the many reference manuals developed and widely used for design and construction of geotechnical features. Two examples include FHWA-NHI-05-042 and FHWA-NHI-05-043 Design and Construction of Driven Pile Foundations, Volumes I and II. These publications which have



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been mentioned in this article were developed and maintained by NHI as part of geotechnical engineering training course development.

NHI is the training and education arm of the FHWA and develops courses to address the full life cycle of the highway transportation system. NHI offers hundreds of courses in a broad range of topics including structures, pavements and materials, traffic operations, construction and maintenance, hydraulics, freight, real estate, environment, intelligent transportation systems (ITS), planning, civil rights, highway safety, site and personal safety, communications and, of course, geotechnical engineering. Within geotechnical engineering, NHI currently offers 34 courses on the design, construction and inspection of structural foundations and geotechnical features.

In conjunction with the development of GEC 12, the FHWA will be updating training courses in design and construction of driven piles, construction of driven piles and construction inspection of driven piles. The updated courses will be developed on several platforms to provide stand-alone, web-based and instructor-led training. It is anticipated that instructor-led courses will range in length from one to four days and will be available in combinations to address specific needs. The web-based training will be developed primarily as a prerequisite to the instructor-led course, but will also provide basic information that will be useful in stand-alone form.

The FHWA has appreciated successful partnerships with PDCA and its membership in development of past products. Recent examples include intellectual content provided for development of our existing NHI training courses and reference

manuals and the joint effort with the AASHTO Subcommittee on Bridges and Structures to develop a comprehensive update to the LRFD Bridge Design Specifications. These partnerships have been extremely successful and I hope that we can continue to nurture the relationship in the update and development of these upcoming products.

The FHWA National Geotechnical Team will continue to look to the membership of PDCA for assistance in developing and maintaining the program and products. ▼



For more information, contact Silas Nichols, Principal Bridge Engineer, Geotechnical for the Federal Highway Administration, Office of Bridge Technology at silas.nichols@dot.gov

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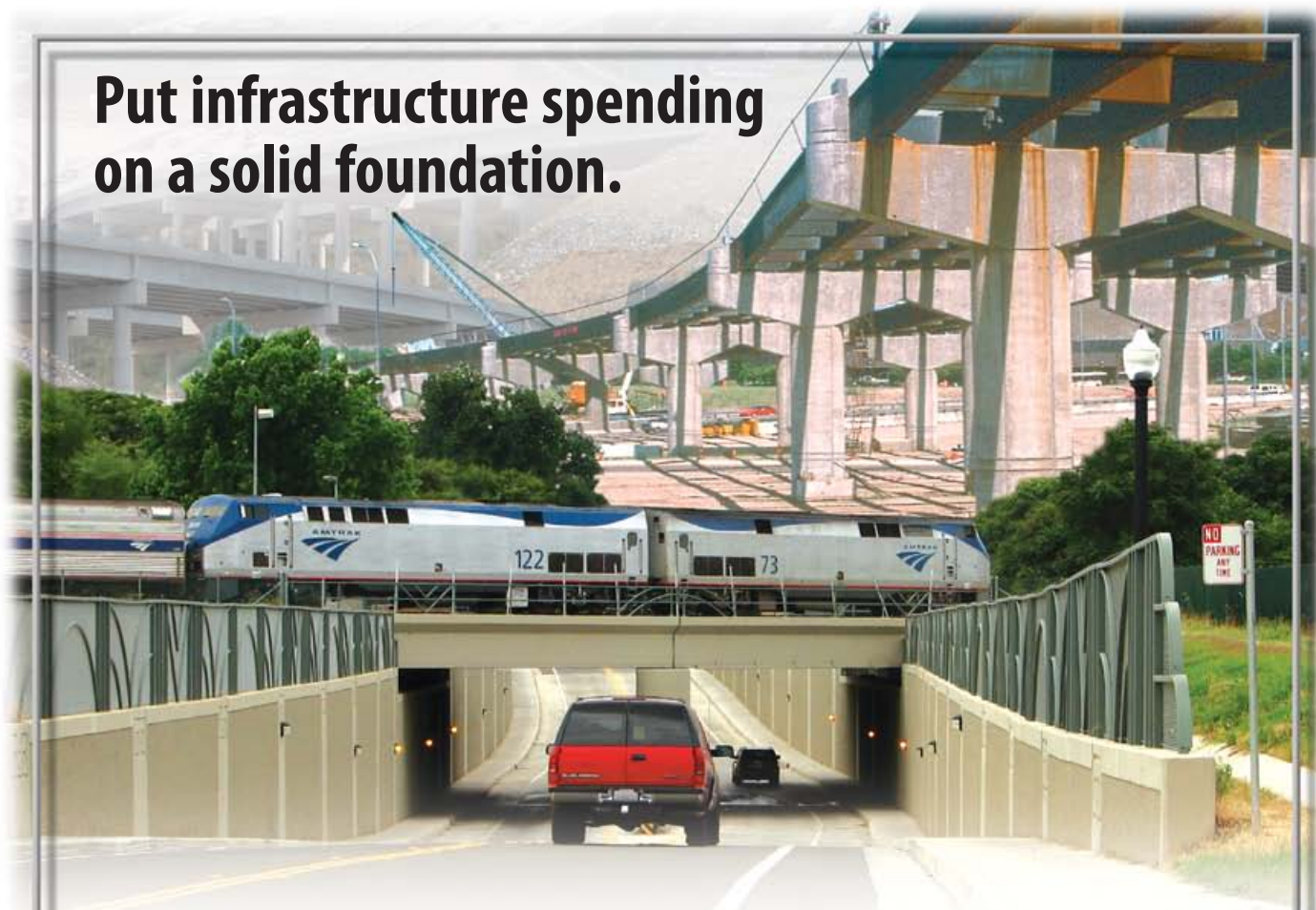


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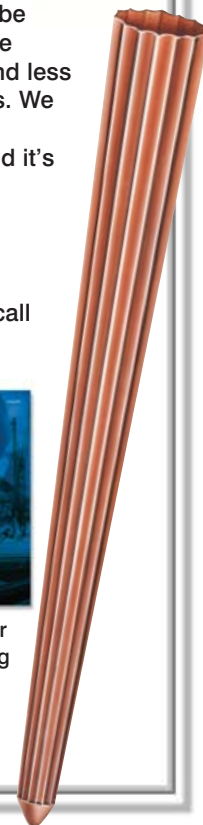
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The Destin Harbor Boardwalk Project

Southern pine piles integral to the beauty of the boardwalk

By Keith Harris

Well over 15 years in the making, Destin, Fla.'s dream of a unified harbor boardwalk finally came true. Phase one of the project was completed at the end of May 2012 and opened over half a mile of public access to the northern edge of the Destin Harbor.

The boardwalk is part of a multi-year, \$90 million capital improvement program for the 400-acre Destin Harbor District which includes a public park and plaza, roadway improvements and land acquisition as part of the initial \$15-million phase. Known as the "World's Luckiest Fishing Village", Destin offers unparalleled recreational opportunities and easy access to the aqua waters of the Gulf of Mexico. Its beautiful white sand beaches, world-class fishing and family-friendly atmosphere draw approximately 4.5 million visitors per year.

Using more than 200,000 board feet of southern pine and 1,080 driven timber piles, the six-month-long project is certainly impressive. Wider walkways, better lighting and the beauty of new natural wood highlight the improvements.

"All of these improvements provide for a user-friendly, relaxed atmosphere which encourages and promotes use and enjoyment by the public," Public Services Director for the City of Destin, Steve Schmidt, said.

Speegle Construction, Inc., the general contractor, and Decks and Such Marine were responsible for the project consisting of driv-

ing the southern pine piling treated with CCA preservative. The eight-inch tip piles ranged from 20 to 40 feet in length. Early plans to reuse piling had to be changed and all new piling was driven. Special precautions had to be taken in areas where the boardwalk was in very close proximity to businesses. In these cases instead of vibrating the piling in, which was the original plan, "they took a proposal to the CRA Board that would instead use an auger type of system to install the piling," said David Campbell, the city's CRA project manager.

City planners also chose to top the substructure with real wood decking. Over 85,000 board feet of two-by-six decking was supplied by Cox Industries, Inc.

"While there are other options available, such as plastic-based alternatives, real wood gives builders the beauty and flexibility they are looking for, not to mention the cost savings," said Haigler Bozardt of Cox. "Real wood can be 30 to 50 percent cheaper than its competitors."

The DuraPine decking was treated with an innovative wood stabilizing solution which is free of heavy metals. Viance Chemical produces the Ecolife preservative, a wood stabilizer system that offers the natural beauty of real wood combined with advances in dimensional stability, weathering protection, fastener performance and environmental attributes.

"As a renewable resource, by choosing southern pine piles



Key contributors reviewed progress of Destin Harbor Boardwalk



Newly renovated EcoLife stabilized weather-resistant wood walkway



Upgraded treated timber substructure

and decking, as a building material, the city of Destin definitely put their hands on a “green” product. Family-owned companies farm the southern pine used by Cox Industries on plantations,” said Keith Harris, vice president of marketing for Cox Industries. “About one billion southern pine seedlings are planted annually. Typically replanting exceeds harvest by more than 30 percent each year.”

Given the focus on maintaining nature and protecting the environment interwoven throughout the tapestry of Destin, it’s no surprise that real wood was chosen to complete the boardwalk project. The city’s focus on and awareness of natural-made products and their cumulative effect on the environment dovetailed perfectly with natural wood.

“The harbor area is a beautiful and inviting place so it’s an honor for our team to be chosen to supply the natural wood that is being used to add to the warmth of Destin,” Harris said.

The project, according to Harris, would not have happened or even been possible without the great working relationship between Cox, Hodges Brothers Lumber, and the city of Destin, as well as with contractor Speegle Construction, who subcontracts to Decks and Such Marine.

The project ties together much collaboration including seven property owners and nine different properties.

“We are thrilled to see this project come to fruition,” said Community Redevelopment Agency Board Chair, Sandy Trammell. “This boardwalk gives us the continuity and marketability that we have always needed along our harbor and our businesses, residents and tourists will be able to enjoy it for years to come.” ▼

Keith Harris is the vice president of corporate marketing for Cox Industries, Inc.

Photos courtesy of Cox Industries, Inc.

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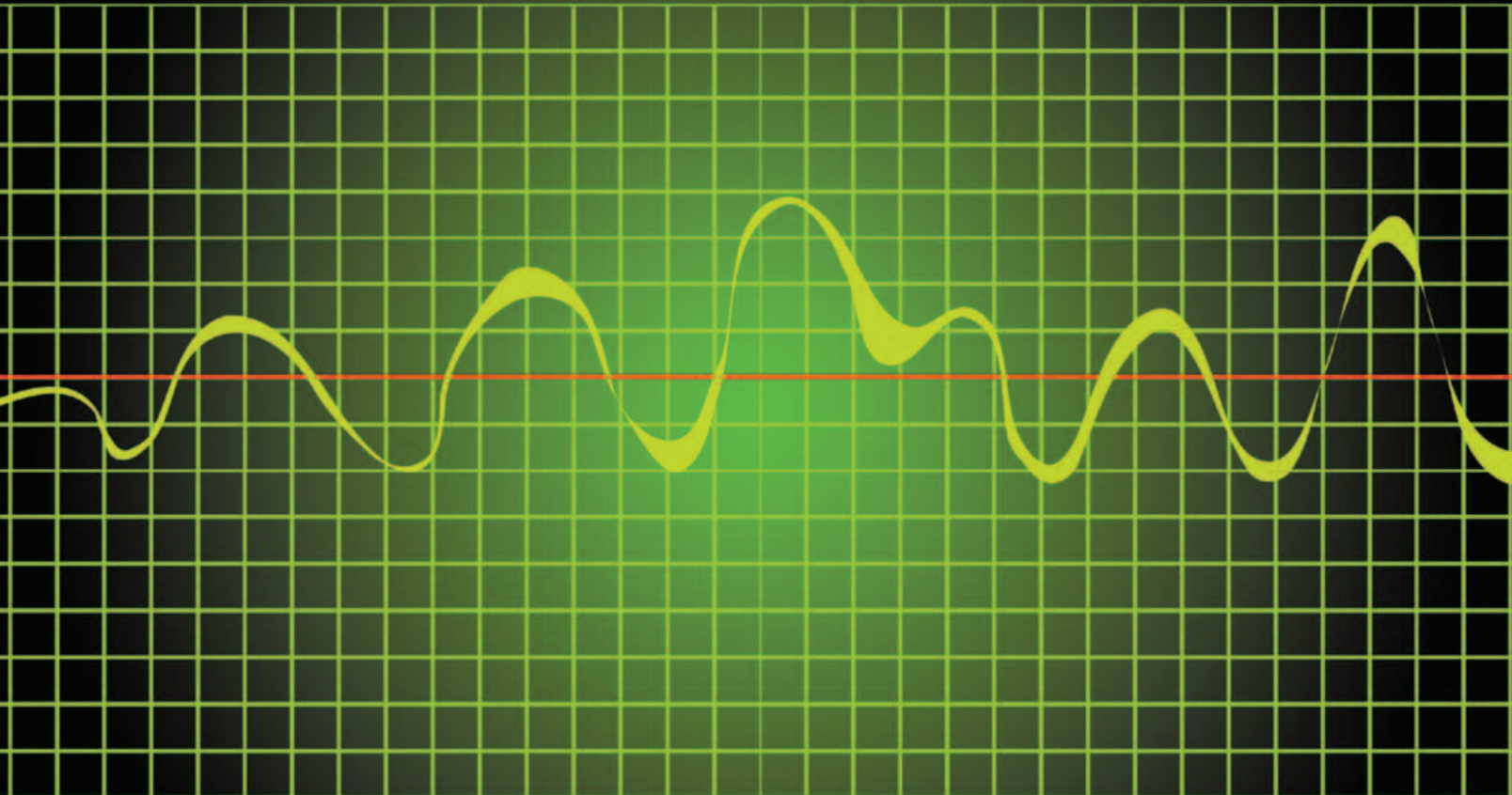
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Balancing Peace and Progress

The Tappan Zee Bridge all began with pile driving

By Pollyanna Cunningham



Sound violations in pile driving appear to be a major concern across the globe in various projects. In this case, those involved in the \$5.2 billion Tappan Zee Bridge Replacement Project are tasked with balancing neighborhood peace with needed noise.

Pile driving is necessary to ensure safety and security of our structures and as the PDCA suggests, “A Driven Pile... Is a Tested Pile.” However, the question becomes how does the industry maintain peace and quiet for the community during the process? When a project starts, one thing is for sure – noise can expect to be followed by community resistance, met with compromise and succeeded with progress.

The Tappan Zee Bridge Pile Driving Project is set to take place near the Hudson River in New York state to prepare for a new crossing. This three-mile long bridge replacement will also

include the implementation of public transit services across the full length of the I-287 corridor and will have eight lanes for general traffic, dedicated lanes for bus rapid transit, specific lanes for pedestrians and bicyclists and the capacity to add a commuter rail.

The replacement of the bridge is projected to be a five-year assignment that began with test driving piles to ensure safety and stability of the new structure. This assessment will determine load capacity at seven strategic locations in the future path of the new bridge, enabling proposers to gauge how many supports and at what depth and distance to place the footings.

The series of Tappan Zee Bridge pile driving tests began on May 5, 2012 with the immediate reaction of complaints from nearby residents concerned about noise. Neighbors in the village of South Nyack promptly contacted the New York

Continued on page 125



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In the end, the progress will show a new, safe and improved structure that will be used by local residents and travellers alike.

State Department of Transportation (NYSDOT) and voiced complaints that they were not warned about the first round of pile driving nor were they happy this took place on a weekend.

In order to find a balance between keeping the peace and managing noise due to pile driving, the NYSDOT, New York State Thruway Authority and contractors worked together to address these issues. Some ways they dealt with complaints included:

- ✦ Improved communication for the remainder of the project. The NYSDOT alerted neighboring communities in advance about the upcoming noise and provided a pile driving schedule.
- ✦ Daily work schedules are enforced to abide by the noise ordinances of the local community and allowances of the NYSDOT. Work is permitted between 7:00 a.m. to 7:00 p.m. Monday through Saturday. No work takes place on Sundays.
- ✦ Ongoing noise is monitored during the project. Contractors walk in the corresponding neighborhoods with a hand-held device taking measurements periodically.

- ✦ A proposed noise barrier is being considered for the remaining bridge replacement process. A result of the “Building Barriers to Traffic Noise” meeting on May 15 gave residents of South Nyack, Grandview and Upper Grandview the option to vote for a noise barrier aimed at reducing noise by at least five decibels. Ballots to vote for the barrier were mailed to residents in late May.
- ✦ Assurances of “Smart Early Work” intended to identify and lessen the noise from future construction. “Smart Early Work” refers to early preparation work that includes pile driving tests to ensure the structure is built correctly, safely and on a schedule. This “Smart Early Work” will enable the Tappan Zee Bridge ground breaking in early fall.

Public Involvement Plan

There is nothing more important than public outreach efforts when it comes to a project of this scale and impact. The project’s Public Involvement Plan (PIP) is intended to engage the public and agency

participants. The quality of planning and execution of the support from agencies in community relations, public information and community outreach is the objective of the PIP.

The PIP is run by the state and encourages as much public involvement as possible. The project team held formal public meetings and open houses to discuss original scoping and scoping updates as well as general project and community information. These forums all offered the same opportunities for providing comments and for one-on-one interaction with the PIP project team. Additional formal and informal meetings will be held throughout the remainder of the project.

When residents take into consideration increased safety, easier access, shorter commutes and the positive impacts on their local economy, many may be convinced that the inconvenience now should have great return to them in the not so distant future.



The Tappan Zee Bridge during rush hour



Testing for the design-build proposals

With much consideration to its nearby residents and before work begins, many testing requirements must be met. Overlooking the project tests are New York Thruway Executive Director Thomas J. Madison and Harriett Cornell, the chairwomen of the Rockland County Legislature.

Two project tests will be jointly administered by NYSDOT and the New York State Thruway Authority. These tests will evaluate the composition and characteristics of the river bottom.

A WEAP or similar test procedure kicked off the project to determine the soil conditions for driving piles for the bridge. In order to determine the load capacity at seven strategic locations in the future path of the bridge, test tube piles, approximately 180 feet long, 10 feet in diameter and some set as much as 300 feet deep have been driven.

The results of the \$17.8-million-dollar test project, paid for with federal funds, will enable the proposers to gauge the depths, distance of footings and the amount of supports that will have to be placed in the design of this new bridge.

The process takes the state of testing sound mitigation techniques during the driving. They will first measure without any moderations and after this process is finished, they will move into different measuring techniques. Noise measurements include a

precision sound level meter which monitors equivalent sound levels as well as fast, slow and impulse time weightings, sound exposure, maximum noise levels and statistical levels. Professionals will either be walking around with hand-held instruments or setting up tripods with appropriate microphones and storage systems in the areas of Elizabeth Place and Broadway, Smith Avenue near Broadway, South Nyack, Van Wart Avenue and Washington Place, Tarrytown and Ferris Lane between Interchange-1 and the Tappan Zee Bridge.

The placement of each pile, on average, is proving to take about an hour and a half. Setting these piles will take a combination of vibratory technology and impact driving equipment.

How is this job going to bid?

The legislative and NYSDOT groups involved have determined that a design-build process would be appropriate for this massive bridge project. Pre-selected teams will submit technical proposals to be evaluated. The selection committee appointed by agencies will give an overall technical rating of each proposal. Proposals were required to include the provision of evidence given to the contactors to carry out proper engineering design, architecture landscaping, surveying with the state, the design and construction solution of the bridge, the management approach, the experience



An overhead view of the Tappan Zee Bridge

- ♦ **Tappan Zee Bridge Partners, a Bechtel/Tutor Perini Joint Venture**
 - ♦ Bechtel Infrastructure Corporation
 - ♦ Tutor Perini Corporation
- ♦ **Tappan Zee Constructors**
 - ♦ Fluor Enterprises, Inc.
 - ♦ American Bridge Company
 - ♦ Granite Construction Northeast, Inc.
 - ♦ Traylor Bros., Inc.

Submissions of final proposals were due in mid-June. After the design-build proposals are reviewed, one of the four

short-listed consortiums will be selected to build the new bridge later this year.

Until then, the NYSDOT will continue to openly communicate with residents and work with neighbors by adhering to the noise ordinance schedule and utilize noise measuring devices to find balance between peace and progress. In the end, the progress will show a new, safe and improved structure that will be used by local residents and travelers alike, the Tappan Zee Bridge. ▼

Pollyanna Cunningham is the chair of the PDCA Communications Committee.

Photos supplied by Pollyanna Cunningham



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of the key personnel, environmental compliance and, of course, public outreach and coordination with stakeholders.

With all these preliminaries met, four qualified bidders have been named.

The New York State Thruway Authority and the NYSDOT released the list of the competitive bidders which include:

- ♦ **Hudson River Bridge Constructors**
 - ♦ Dragados USA, Inc.
 - ♦ Flatiron Constructors, Inc.
 - ♦ Samsung C&T
 - ♦ E&C Americas, Inc.
 - ♦ Yonkers Contracting Company, Inc.
- ♦ **Kiewit-Skanska-Weeks Joint Venture**
 - ♦ Kiewit Infrastructure Co.
 - ♦ Skanska USA Civil Northeast Inc.
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Distinguishing Between Requests for Equitable Adjustment and Contractor Claims

A distinction that makes a difference



By Frank Murray, Foley & Lardner, LLP

Contractors working with the federal government often use the terms request for equitable adjustment (REA) and claim interchangeably. The blending of those two concepts is, in some ways, perfectly understandable, as both an REA and a claim are considered “non-routine” requests for payment or adjustment

of contract terms and share many of the same features. Yet that confusion also overlooks important distinctions between the two concepts that could affect the scope or amount of a contractor’s recovery from the government if the contractor submits a request using the wrong terminology. Thus, it is important for contrac-

tors to keep those distinctions in mind when preparing a submission to the contracting officer seeking additional money or time. Contractors who mislabel an REA as a claim can inadvertently squander their opportunity to recover the professional and consultant service costs – the fees charged by attorneys, consultants and accountants – that were incurred in preparing, documenting and refining the contractor’s request. Similarly, contractors who mislabel a claim as an REA may fail to comply with certain formalities required by the Disputes Clause and thereby delay their ability to receive interest on their claim or pursue the dispute before a Board of Contract Appeals or the U.S. Court of Federal Claims.



Contractors who mislabel an REA as a claim can inadvertently squander their opportunity to recover the professional and consultant service costs.

Contract administration vs. dispute

Contractors frequently require the assistance of lawyers, consultants or accountants in preparing a request for additional money or time. A consultant may be needed to establish that slippage in the construction schedule is attributable to government-caused delays. Geotechnical experts may be needed to establish that a differing site condition exists. Accountants may be needed to quantify or explain the contractor's damages. Lawyers are often needed to help draft or refine the contractor's request, ensuring that it invokes all available legal theories of recovery, addresses potential government defenses or counterarguments and provides all of the factual information necessary to establish the contractor's right to the relief requested.

Under the cost allowability rules in the Federal Acquisition Regulation (FAR), a contractor is permitted to recover these types of professional and consultant service costs if they are incurred in connection with an REA, but not if they are incurred in connection with a claim against the government. Why does the FAR draw such a distinction, when the nature of the professional services may be identical in both contexts?

The explanation lies in understanding that an REA is viewed as a non-adversarial part of the contract administration process. The professional services costs reasonably incurred by the contractor in preparing an REA provide a benefit to the government by assisting in the efficient administration and resolution of a contract change. While the matter is being handled as an REA, the contrac-





tor and contracting officer are engaged in what should be (at least in theory) a collaborative effort to resolve the issue giving rise to the contractor's request in an equitable, mutually acceptable fashion. If the REA is denied or if the contractor and contracting officer reach an impasse in their negotiations, the contractor can then convert the REA into a claim and request a contracting officer's final decision.

Once a contractor frames their request as a claim, it has invoked the disputes process and embarked down an adversarial path toward litigation with the government. From the government's perspective, there is little benefit to subsidizing a contractor's efforts to improve its chances in a dispute or litigation against the government. That is why FAR 31.205-47(f) specifically prohibits a contractor's recovery of costs incurred in connection with "the prosecution of claims or appeals against the federal government."

There may be a natural tendency by contractors to defer seeking the assistance of lawyers, consultants or accountants until litigation seems inevitable. After all, the thought goes, why incur those expenses if there is a chance to resolve the matter short of a formal claim?

Savvy contractors take a more proactive approach. A shrewd contractor, familiar with the rules permitting recovery of reasonable attorneys fees and consultant fees incurred in preparing an REA, enlists the assistance of attorneys, consultants or accountants from the outset, using them to prepare the most well-developed and comprehensive REA possible. This approach, which "frontloads" the legal/consultant work into the REA process, rather than saving it for the claims process, has two direct benefits to the contractor. First, as discussed above, by incurring these costs in the REA process, the contractor is able to include them in their REA and to recover the costs from the government under FAR 31.205-33. Second, by presenting the most thorough and persuasive REA possible, the contractor increases their chances of convincing the contracting officer of the merits of the REA and the contractor's

entitlement to the relief requested. Thus, a well-prepared, professionally-assisted REA reduces the likelihood that the matter will devolve into a formal dispute and contractor claim. Moreover, if the matter does end up in a dispute, the contractor would have already incurred most, if not all, of the necessary legal and consulting costs, making it a relatively quick and inexpensive matter to convert a well-prepared, thoroughly documented REA into a formal contractor claim.

Confusing the concepts has consequences

Two cases in the U.S. Court of Federal Claims demonstrate the perils for contractors who fail to appreciate the distinction between an REA and a claim and the special rules applicable to each. In *Environmental Tectonics Corp. v. U.S.*, 72 Fed. Cl. 290 (2006), the contractor sought to recover over \$100,000 in costs associated with preparing a certified claim filed with the contracting officer. The court denied the request, pointing out that FAR 31.205-47 makes such "claim preparation" costs unallowable. Note, however, that the contractor could have recovered much of what it characterized as "claim preparation" costs, if they had shown the foresight to have incurred those same costs earlier in the process – as "REA preparation costs" incurred in connection with submitting an REA to the contracting officer. By waiting until the claims process to incur legal/consultant fees, the contractor lost the ability to recover those costs from the government.

A case decided earlier this year by the U.S. Court of Federal Claims, *Agility Defense & Gov't Servs., Inc. v. U.S.*, No. 11-101C (January 20, 2012), demonstrates the consequences a contractor faces when it errs in the opposite direction, by mislabeling as an REA a request it intended to submit as a contractor claim. In the *Agility* case, the contractor submitted a letter it labeled as a "Request for Equitable Adjustment," which included a certification required by the Department of Defense for REAs – a certification that is different from the certification required for contractor claims under the Contract Disputes Act (CDA). When the contracting officer did not respond to a request for a final decision on the REA letter, the contractor filed an appeal with the Court of Federal Claims, contending that the contracting officer's failure to act represented a "deemed denial" of its claim.

The government asked the court to dismiss the contractor's appeal, arguing that the contractor had not submitted a properly certified CDA claim to the contracting officer prior to bringing suit. The Court agreed, finding that the contractor's REA letter had not complied with the necessary formalities to be considered a CDA claim. Because proper certification of a CDA claim is a jurisdictional requirement that must be satisfied before appealing the denial of a contractor claim, the court dismissed the contractor's lawsuit, essentially forcing it to start the disputes process over again by filing a properly certified CDA claim with the contracting officer.

Thus, the contractor in the *Agility* case learned a harsh lesson about the importance of distinguishing between claims and REAs. By incorrectly labeling as an REA a demand for payment it wanted to be treated as a claim, the contractor wasted months of effort it had spent trying to litigate the case at the Court of Federal Claims. Moreover, because interest on a contractor claim runs from the date of certification, the contractor also lost the opportunity to recover 18 months of pre-judgment interest based on having submitted an incorrect REA certification in 2010.





Conclusion

As the two cases described previously indicate, confusing an REA for a claim – and vice versa – can prove to be a costly mistake for a contractor. Whenever possible, a contractor should first present its request as an REA,¹ and should enlist the support of any professionals needed to develop or prepare

the REA (attorneys, consultants, accountants) while the matter is still being handled as an REA and the costs of those professional services are still recoverable from the government. Once the contractor decides to convert the REA to a formal contractor claim, it needs to be attentive to the formalities required for submission of a CDA claim to ensure it can proceed with an appeal if the claim is denied by the contracting officer. ▼

1. It may not always be practical to submit an REA prior to filing a claim – for instance, if the expiration of the six-year limitations period to file a claim is approaching, and the claim might ultimately be time-barred if the contractor awaits resolution of the REA first.

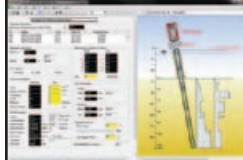
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