

PILED RIVER

THE OFFICIAL PUBLICATION OF THE PILE DRIVING CONTRACTORS ASSOCIATION



Q4 2010 VOL. 7, No. 4

Navarre Beach Pier: A Symbol of Resilience

Project Spotlights:

- ▼ **MB Western Industrial Contracting Company**
- ▼ **US Army Corps of Engineers Rebuild Levees in St. Bernard Parish with T-Wall Construction**
- ▼ **Lake Austin Lakeside Estate**





Jinnings Equipment LLC



- › **Equipment Sales**
- › **Equipment Rentals**
- › **Parts and Services**

- › **Hydraulic Piling Hammers**
- › **BSP SL Models**
- › **BSP CX Models**

- › **Side Grip Vibrating Hammers**
- › **BSP SCV Models**
- › **Power Sources**

› For more information on products, availability, or pricing, contact us at:
Toll Free: 877-546-6464 | Fax: 260-447-4363 | E-mail: info@jinnings.com

› **Jinnings Equipment, LLC** | 4434 Allen Martin Drive | Fort Wayne, IN 46806

www.jinnings.com



PILE DRIVING CONTRACTORS ASSOCIATION
 1857 Wells Road, Suite 215
 Orange Park, FL 32073

P.O. Box 66208
 Orange Park, Florida 32065
 Phone: 904-215-4771
 Toll-free phone: 888-311-PDCA (7322)
 Fax: 904-215-2977
 www.piledrivers.org
 e-mail: steve@piledrivers.org

Published by:
 Lester Publications, LLC
 140 Broadway, 46th Floor
 New York, NY 10005
 Toll-free phone: 866-953-2189
 Toll-free fax: 877-565-8557
 www.lesterpublications.com

President
 Jeff Lester

Senior Vice President
 Sean Davis

Editor
 Stone Wallace

Design and Layout
 John Lyttle, Myles O'Reilly

Advertising Executives
 Kathy Kelley, Quinn Bogusky, Louise Peterson

© 2010 Pile Driving Contractors Association. All rights reserved. The contents of this publication may not be reproduced by any means, in whole or in part, without the prior written consent of the PDCA.

Visit the PDCA Web site at www.piledrivers.org

For reprint information, contact
 Lester Publications, LLC at 877-387-2700
 For a media kit, visit www.piledrivers.org

Individual articles can be provided upon request to the PDCA office. Requests should be submitted to the PDCA via e-mail at steve@piledrivers.org or by calling 888-311-PDCA (7322).

Piledriver is published quarterly. Please contact us by mail at P.O. Box 66208, Orange Park, FL 32065 Phone: 904-215-4771 | Fax: 904-215-2977 or by e-mail at steve@piledrivers.org

Statements of fact and opinion are the responsibility of the authors alone and do not imply an opinion on the part of the officers or members of the Pile Driving Contractors Association. All rights reserved. Materials may not be reproduced or translated without written permission. Direct requests for reprint permission should be made to the executive director of the Pile Driving Contractors Association.

Unless otherwise credited, stock photography is from www.photos.com.

Printed in Canada.
 Please recycle where facilities exist.

PILEDRIVER

THE OFFICIAL PUBLICATION OF THE PILE DRIVING CONTRACTORS ASSOCIATION | Q4 2010 VOL. 7, NO. 4

Contents

PILEDRIVER

President's Message	5
Executive Director's Message	9
2010 Board of Directors and Committee Chairmen	12
PDCA Membership Benefits	17
PDCA Membership Application	19
Did You Know?	21
2011 Awards Announcement	22
2011 Annual Conference	23
2010 PDCA New Members	25



PDCA Member Profiles

MB Western Industrial Contracting Company	31
---	----

PDCA Associate Member Profiles

Menck	35
GRL Engineers	41



Project Spotlights

Lake Austin Lakeside Estate	47
Navarre Beach Pier	51
St. Bernard Parish	57

Featured Articles

Age of Steam Roundhouse	63
Fixed Lead Systems Provide Stability, Guidance and Accuracy while at the Jobsite	67
Business Law	71
Mid-Eastern Builders, Inc.	75
The Sustainability of Timber Pilings	81





**NUCOR-YAMATO
STEEL**

STEEL REINFORCED LEVEES,
FOR PEOPLE THAT
LOVE LIVING BELOW SEA LEVEL.

Check out New Orleans' newest piece of mind.

Made from Nucor recycled steel, our steel pile is driven deep into the Louisiana earth,
and supports this levee that helps protect millions of the most resilient people in America.

Each and every person committed to rebuild New Orleans stronger, safer, and even more prepared for the future.

So it can be filled back up with a sea of fun-loving people.

www.nucoryamato.com

It's Our Nature.[®]



MANDAL PIPE

ORLANDO UTILITIES COMMISSION CURTIS H. STANTON-ENERGY CENTER

The Curtis H. Stanton Energy Center is a strategically phased “powerhouse” comprising a portfolio of clean, modern, fuel-diverse environmentally sound power-generation equipment. Newsweek magazine has described it as “non-polluting.” Others just call it a good neighbor. With good reason: When it comes to protecting the environment, OUC goes above and beyond — always using the best technology available at the time of construction.

Growing demand for clean dependable power in central Florida was met with the construction of the co-generating Electric Power plant near Orlando Florida. Utilizing gas from non interruptible pipelines, the Stanton A unit began commercial operation to help OUC maintain stable power prices by further diversifying their fuel mix and maintaining flexibility through the use of purchased-power agreements. The com-

bined cycle plant includes two natural gas-fired combustion turbines, two heat recovery steam generators and a steam turbine. The project was developed in joint partnership with the Atlanta based Southern Company.

Mandal Pipe provided over 100,000’ of 14” OD steel pipe to provide the foundation for these units in 50 and 60 foot lengths. With a critical delivery schedule, sixty five (65) truckloads of the over length steel pipe were rushed to the lay down area to feed the two rigs operated by Gulf Foundation out of Tampa, Florida. Then thirty two (32) fully loaded bulkhead rail cars arrived on time to provide a continuous product stream to the job-site, allowing the contractor to operate both rigs simultaneously throughout the driving period. Another product **“Melted and Manufactured in the USA”** provided by MANDAL PIPE, helping to keep our infrastructure prepared for the future.

MANDAL PIPE COMPANY

P.O. Box 927

Snellville, GA 30078

Ph: 1-770-573-3022 • Fax: 1-770-573-3380

Mandal Pipe Company... RELIABLE, EXPERIENCED, EFFECTIVE

www.mandalpipe.com



THINK PIPE...THINK MANDAL!



The PDCA Continues To Live Up To Its Promise To Promote Driven Piles

By Don Dolly

2010 is all but behind us and I am sure almost everyone is looking forward to a brighter year ahead. While the world has endured political and economical strife the construction industry has been mired in a tumultuous marketplace that has proven daunting to even the most adept firms. The German philosopher Friedrich Nietzsche said “that which does not kill us makes us stronger”. If that is the case, all of us should be pretty strong by now.

“ Construction is intrinsically risky, but with proper controls in place it is manageable – right? ”

growth in several manners of measure. The PDCA continues to live up to its promise to promote

We have endured and been steadied by the experience of the last two years, and we are eager to start building the future. That fact is exemplified by the steady growth of our association over the last two years. It is noteworthy that our association has recorded remarkable membership retention and

industry through interface with engineering firms, universities, transportation authorities, and other public and private entities.

Our latest educational effort was the PDCA's Design and Installation of Cost-Efficient Piles (DICEP) conference, held in Charleston, South Carolina this past November. The program was well attended and the educational content was excellent. It was my pleasure to see many of you at DICEP 2010, which was co-sponsored with PDCA South Carolina Chapter, led by its President, Mr. Sonny Dupre of Cape Romain Contractors out of Wando, South Carolina. Many thanks to Mr. Dupre and his fellow Officers who worked with Mr. Stevan Hall, Executive Director, PDCA (national), to present an excellent program. Also, thanks go out to Mohamad Hussein, Chairman of the Education Committee, who has shepherded the committee and sub-committees to acquire a preeminent slate of presenters.

On the horizon are two significant programs. The first exciting program is the PDCA Annual International Conference and Exposition 2011, to be held in Savannah, Georgia, April 26-28. The annual conference will include three days of educational presentations, networking opportunities, and social programs for attendees and spouses. The second program is the PDCA's Professors' Driven Pile Institute (PDPI), which will be held at Utah State University (USU) from June 20-24, 2011. The PDCA invites engineering professors from across the country to participate in the Professors' Driven Pile Institute with the intent that young engineering students will be exposed to the engineering vir-



PRESIDENT'S MESSAGE

tues and economic value of driven piles during their education process. The PDPI program includes five days of intense education with time spent in the classroom, practical applications and field work including driving piles, setting up test frames and static testing and work in the USU computer lab using software designed to support dynamic testing of driven pile. The PDPI is made possible by the generous donations of our members. I hope all of you will consider contributing to this worthy cause in 2011.

In my last message, I noted that the impact our industry has experienced due to the OSHA requirement to certify crane operators to a standard level of proficiency may soon affect all employers that handle rigging. This quarter I would call attention to mitigation of risk. Many feel that the level of risk in the construction industry is inherent and cannot be avoided. On the contrary, some feel that the high risk of the construction business keeps would-be competitors at bay. All that may be true; however, as the global economy is precariously hanging on to perceived recovery, owners and contractors alike are finding ways to diffuse risk by contractually delegating it to others.

How do we define risk? There is the risk of as-bid versus as-built variance of man-hours, equipment and material on a project. But, seasoned contractors use years of experience, historic data bases, and engineering analysis to avoid exposure to catastrophic risk due to those elements. In today's environment, you also have the risk of owner failure. With the use of credit analysis and financial solvency ratings, which can be obtained through a corporate banking relationship or an independent provider, the risk of owner failure

can be mitigated. Safety is always a significant concern with regard to risk, and non-employees can be the biggest exposure as public work is filling a portion of the void left by the deflation of the private sector; thus forcing the performance near a publicly traveled way. However, over the last thirty years corporate focus on workplace safety has resulted in dramatic improvements in the reduction of job site injuries. With the use of a comprehensive Injury and Illness Prevention Plan, and a continuous effort to develop a culture of safety within our businesses and industry, a construction contractor can reasonably control the actions of employees and the condition of its equipment.

Construction is intrinsically risky, but with proper controls in place it is manageable – right? What about your risk to indemnify others for their negligence. With the now ever-present risk diffusion tactics in nearly every contract it is more important than ever to use proper contract administration practices. Whether you function as a prime and are contractually bound to the owner or if you are performing as second or third tier sub-contractor, the risk is great. Many times contractors feel they have qualified their risk and limited their exposure with the use of strong language in their contract by defining scope, inclusions, and exclusions with regard to their performance. Unfortunately, I know from experience that is not the case as the indemnity language in your contract can be in distinct conflict with the language involving required performance.

A common exclusion for pile driving contractors is “Exclude: location and protection of underground utilities”. That exclusion may be formally accepted by both parties between prime contractor and owner or sub-contractor and prime in the body of the contract. However, the indemnity language in the same contract may include language such as “related in any way, directly or indirectly, to the performance of the work defined in ...” and a long list of entities to be indemnified followed by “shall be indemnified by contractor...of and from any and all claims, demands, causes of action...of every kind nature whatsoever arising out of or in any way connected with or incidental to, the performance of the work under this agreement.”. That indemnity language is solid and damning, and although the scope of the contract removes you from responsibility for severing the fiber optic line that was to be “located and protected by others”, your general liability carrier will be paying for its repair and associated losses, which means you are paying in more ways than one.

My point is that all construction risks should be considered while bidding, and executing a construction contract. Use your resources to review difficult insurance and indemnity language such as an insurance broker, surety broker, and attorney prior to the execution of construction contracts. It is not always possible to negotiate the removal of language that makes you legally responsible for another's negligence, but at least you understand the risk before you sign the agreement. And remember, once your project experiences a revolting development only a legal evaluation of your contract language will determine your true responsibility.

Best wishes for good pile driving, and I look forward to seeing you all in Savannah, Georgia. ▼



CENTRIFUGALLY SPUN PRECAST CONCRETE CYLINDER PILES

- ▷ Large combined axial loads and bending moments to support today's pier and bridge requirements.
- ▷ Long unsupported lengths.
- ▷ 36", 54" and 66" Diameters to design criteria.
- ▷ Sustainable product using recycled materials.



Piles Produced in basic 16 ft sections with 4 ft, 8 ft and 12 ft available



Gulf Coast Pre-Stress, Inc.

(228) 452-9486

Pass Christian, Mississippi

PCI Certified



PDCA Member since 1995



BAYSHORE CONCRETE PRODUCTS

(757) 331-2300

Cape Charles, VA 23310

PCI Certified



PDCA Member since 1998



CONSOLIDATED PIPE & SUPPLY Co., INC.

STRUCTURAL DIVISION

-Steel Pipe

- All Sizes and Specifications
- Cut to Length
- Tested Material
- Mill Certification
- Coating and Lining to all Specifications

-Applications for:

Piling, Foundation,
Marine, Bridge, Tunnel
Bore Casing, Micropile

-Sheet Piling

-Prompt Delivery



CONSOLIDATED PIPE & SUPPLY
1205 HILLTOP PARKWAY
BIRMINGHAM, AL 35204

WATS 1-800-467-7261
BUS. (205) 323-7261
FAX (205) 251-7838
Cell (205) 739-1211

BRIAN ROGERS
brogers@consolidatedpipe.com



CONSOLIDATED
PIPE & SUPPLY Co., INC.

"DEDICATED TO SERVICE"



The PDCA Annual Conference, Savannah, GA:

“What better way to expand your knowledge than to learn from those who are at their very best within your industry”

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

Once again, the year has just about come to an end and by the time you receive this *PileDriver* magazine most of you will probably be anticipating the upcoming Holiday Seasons and preparing for what lies ahead in 2011. That's right, this is the fourth quarter (Q-4) 2010 edition of the magazine and the last edition for this year. As in the Q-4 2009 edition, once again it is my pleasure to tell you that *PileDriver* magazine has been extremely successful from an editorial and advertising perspective, bringing the news of our industry to more than 7500 readers on a consistent basis.

I hope you have enjoyed the articles and found value in their content. I also hope that you will take the time to contact us if you have any suggestions on how the PDCA can improve *PileDriver* in 2011.

Do you have a project that you are especially proud of and would like 7500 people to know just what you are capable of doing?

Of course publication of *PileDriver* in 2010, like previous years, was not without its challenges. The one challenge that continues to be a mystery to me, however, is the difficulty in having PDCA members volunteer to submit articles for the “Contractor/Associate Member Profile” and the “Project Spotlight” sections.

The “Contractor/Associate Member Profile” is simply an article provided by a PDCA member in good standing that describes their company – a profile, containing information such as the company's history, work performed or services provided, chronological highlights, awards, or unique assets. The “Project Spotlight” is about your completed project where driven piles are the center of attention. It is a case (or project) history on paper.

Both the “Contractor/Associate Member Profile” and “Project Spotlight” are absolutely free to PDCA members. Each profile article is approximately 850-1000 words; and in 2011, the PDCA will have 6 Contractor profiles and 4 Associate profiles in each edition of *PileDriver*. Why not take advantage of this free member benefit. Volunteer to write a profile and your company information will be read by approximately 7500 individuals who are directly or indirectly associated with the pile driving industry. You can buy that kind of visibility, but the PDCA is offering it to you for free – just for being a member. You don't have anyone in-house to write the article for you – no problem, the PDCA can assign a professional writer who conducts an interview (about 1 hour), writes the article on your behalf, allows you to edit the piece, and then submits it to the magazine. This service is also free!

The “Project Spotlight” articles are a little longer, maybe 1200 – 1500 words. Do you have a project that you are especially proud of and would like 7500 people to know just what you are capable of doing? If so, submit an article for the “Project Spotlight”.

You can contact the PDCA to get your company or project scheduled on the Editorial Calendar.

I recently returned from attending my 40th high school reunion. Do the math – Yes, I graduated in 1970. This was the first reunion I attended, so I had not seen many of my classmates in 40 years and yet when I recognized them or they recognized me (usually by the benefit of a name tag), it was if we had only been separated by a short period of time. It was great to see old friends once again, reminiscing about old times and realizing the qualities and attributes I gained from having these individuals in my life, and hopefully some that they garnered from me. In 2011, the PDCA Annual Conference will be held in Savannah, Georgia. You can read more about it in an article in this edition of *PileDriver*. The PDCA Annual Conference can be similar to a reunion, in the context that you get reacquainted with so many old friends you have made throughout your association with the PDCA – reminisce about old times, catch up on how everyone is doing, and talk about that PDCA Annual Dinner Theme Party a few years back when you showed up in leathers, a do-rag, and won the high

STEEL PIPE.

Valiant Steel has been proudly servicing customers nationwide for over 40 years. With three locations in southeastern United States, Valiant has what it takes to provide superior service and value.



VALIANT STEEL

AND EQUIPMENT, INC.

Steel Caisson & Pipe Piling

Phone: 770-417-1235

Fax 770-417-1669

Toll-free: 800-939-9905

E-mail: pipesales@valiantsteel.com

hand at Texas Hold 'Em (Phoenix, 2008). However, you get so much more by attending the PDCA Annual Conference than you could ever get from attending a class reunion. Aside from the quality educational programs, the opportunities you derive through networking and getting reacquainted with old friends can often times be invaluable. Think about it – what better way to expand your knowledge than to learn from those who are at their very best within your industry; those who are experienced, successful and want to share their knowledge with someone who possesses the same passion, enthusiasm and drive as they have for pile driving. Someone once said, “You will never out-perform your inner circle. If you want to achieve more, the first thing you should do is improve your inner circle.” If you want to improve your inner circle, if you want to be the best, you need to associate with the best – and if you associate with other members of the PDCA, then you are by definition associating with the best! Don't miss the opportunity to improve your business, your knowledge, your inner circle and yourself – join the PDCA family in 2011 for the Annual International Conference and Expo in Savannah, Georgia.

At this time of year, I always want to thank the PDCA members who have faithfully and enthusiastically supported the PDCA throughout 2010. Your participation and support has been the foundation of our success. Your continued support in 2011 will mean a great deal to our continued success, our ability to represent your industry in a positive manner and to expand on the successes we have accomplished, while furthering our Mission Statement of promoting driven piles and providing exceptional support and services to our members. ▼



The Pile Driving Contractors Association

Announces

SAVANNAH, GA

As the site for the
**15th Annual
International Conference
and Expo 2011**

April 26 - 28, 2011

Supporting the Nations Structures... Since 1897



For more than 100 years, Underpinning & Foundation Skanska has provided foundations and excavation support for some of the world's most famous structures - from the New York Stock Exchange and Philadelphia's City Hall, to the new Yankee Stadium and the World Trade Center Transit Hub.

As one of the premier foundation constructors, we have access to the latest technologies and trends across the U.S. and around the world. Our unique combination of experience, cutting-edge equipment and worldwide engineering expertise allows us to evaluate complex projects and provide high-quality foundations for our clients.

When you need to build a strong foundation, build with Underpinning & Foundation Skanska.

2010 PDCA Officers, Directors, Committee Chairs & Committee Members

Officers

Don Dolly
President
Foundation Constructors, Inc.
P: 800-841-8740
F: 925-625-5783
P.O. Box 97
Oakley, CA 94561
ddolly@foundationpile.com

Herbert "Buck" Darling
Vice President
Herbert F. Darling, Inc.
P: 716-632-1125
F: 716-632-0705
131 California Drive
Williamsville, NY 14221
bdarling@hfdarling.com

Dave Chapman
Secretary
Blakeslee Arpaia Chapman, Inc.
P: 203-483-2947
F: 203-488-3997
200 North Branford Road
Branford, CT 06405
dchapman@bac-inc.com

John Linscott
Treasurer
H.B. Fleming
P: 207-799-8514
F: 207-799-8538
89 Pleasant Ave.
South Portland, ME 04106
john@hbfleming.com

John King
Immediate Past President
Pile Drivers, Inc.
P: 843-763-7736
F: 843-763-7974
4530 Hwy. 162
Hollywood, SC 29449
kingpiledrive@aol.com

Stevan A. Hall
Executive Director
P: 888-311-PDCA (7322)
F: 904-215-2977
P.O. Box 66208
Orange Park, FL 32065
steve@piledrivers.org

Directors

Crandall Bates
Balfour Beatty Infrastructure
P: 707-427-8900
F: 707-427-8901
2333 Courage Drive
Suite C
Fairfield, CA 94533
cbates@bbiius.com

Mike Justason
Birmingham Foundation Solutions
P: 800-668-9432
F: 905-528-6187
600 Ferguson Ave.
Wellington St. Marine Terminal
Hamilton, ON, Canada L8L 4Z9
mjustason@berminghammer.com

Sonny DuPre
Cape Romain Contractors
South Carolina Chapter Representative
P: 843-884-5167
F: 843-884-0516
660 Cape Romain Road
Wando, SC 29492
sonny@caperomaincontractors.com

Irv Ragsdale
Clark Foundations, LLC
P: 301-272-8241
F: 301-272-1915
7500 Old Georgetown Road
Bethesda, MD 20814-6196
irv.ragsdale@clarkconstruction.com

B. Cooper
Cooper Crane and Rigging
P: 415-892-2778
F: 415-892-9229
PO Box 2540
Novato, CA 94948
cooper@coopercrane.com

Pat Hannigan
GRL Engineers, Inc.
P: 847-670-7720
F: 847-670-7008
1540 E. Dundee Road, Suite 108
Palatine, IL 60074
pat@pile.com

Robert Baker
Baker Pile Driving and Site Work, LLC
P: 985-792-5001
F: 985-792-0111
1051 Ronald Reagan Hwy
Covington, LA 70433
bakerlandmarine@bellsouth.net

Gene Merlino
MG Forge Construction Company, LLC
P: 973-831-5970
F: 973-831-5974
125 Pompton Plains Crossroads
Wayne, NJ 07470
genem@mgforge.com

John Parker
Parker Marine Contracting Corp.
P: 843-853-7615
F: 843-853-6263
68 Braswell St.
Charleston, SC 29405
johnp@parkermarine.net

Mike Elliott
Pile Equipment, Inc.
P: 904-284-1779
F: 904-284-2588
1058 Roland Ave.
Green Cove Springs, FL 32043
melliott@pile-eqp.net

Rusty Signor
Signor Enterprises
P: 512-264-8300
F: 512-264-8301
18418 Hamilton Pool Road
Austin, TX 787138
rusty@signorenterprises.com

Richard Gilbert
Skyline Steel
P: 800-433-6460
F: 678-584-9778
3250 Peachtree Industrial Blvd.
Suite 203
Duluth, GA 30096
rgilbert@skylinesteel.com



Bill Bonneau
Cianbro
P: 443-400-8284
F: 410-636-3111
605 Pittman Road
Baltimore, MD 21226
bbonneau@cianbro.com

Finance Committee Chair:
John Linscott
P: 207-799-8514
F: 207-799-8538
89 Pleasant Ave.
S. Portland, ME 04106
john@hbfleming.com

Finance Committee Members:
Van Hogan, Wayne Waters, Randy Dietel, Harry Robbins, Stevan A. Hall
Tom Davis – Financial Advisory
Tom Hallquest – PDCA Accountant

Membership Development and Member Retention Committee Chair:
John King
P: 843-763-7736
F: 843-763-7974
4530 Hwy. 162
Hollywood, SC 29449

Membership Development and Member Retention Committee Members:
Van Hogan, Don Dolly, John King, Mark Weisz, Richard Gilbert, Dave Chapman, Irv Ragsdale, Mike Justason, Sonny Dupre, John Parker, Rusty Signor, Pat Hannigan, Mike Elliott, Buck Darling, Stevan A. Hall, John Liscott, Robert Baker, Chris Shannon, Bill Bonneau, B. Cooper, Gene Merlino, Crandall Bates

Education Committee Chair:
Mohamad Hussein
P: 407-826-9539
F: 407-826-4747
8000 South Orange Ave, Suite 225
Orlando, Florida 32809
MHGRL@pile.com

Education Committee Members:
Garland Likins, George Goble, Gerald Verbeek, Jim Frazier, John Linscott, Mark Weisz, Mike Justason, Pat Hannigan, Rusty Signor, Steven Kiser, Van Hogan

Market Development Committee Chair:
Mike Elliott
P: 904-284-1779
F: 904-284-2588
1058 Roland Ave.
Green Cove Springs, FL 32043

Market Development Committee Members:
Stan Baucum, Dean Matthews, Phil Wright, Scot Whitaker, Steve Macon, Rob Jolly, Pollyanna Cunningham

Technical Committee Chair:
Dale Biggers
P: 504-821-2400
F: 504-821-0714
P.O. Drawer 53266
New Orleans, LA 70153

Technical Committee Members:
Billy Camp, Charlie Ellis, Dean Matthews, Garland Likins, George Goble, Gerald Verbeek, John Linscott, Randy Dietel, Scott Whitaker, Van Komurka, David Chapman.

Communications Committee Chair:
Pollyanna Cunningham
P: 888-ICE-USA1
301 Warehouse Drive
Matthews, NC 28104

Communications Committee Members:
Garland Likins, Steve Whitty, Doug Scaggs, Van Hogan, Billy Harris, Don Surrency, Dan Winters

Environmental Committee Chair:
Herbert "Buck" Darling
P: 716-632-1125
F: 716-632-0705
131 California Drive
Williamsville, NY 14221

Environmental Committee Members:
Barry Roth, Camilo Alverz, Bud Abbott, Chuck Blakeman, Ed Hajduk, Jim Bay, Joe Savarese, Mark Miller, Warren Waite

Safety Committee Chair:
John Lanigan
P: 240-508-0281
22 Sage Court
Port Deposit, MD 21904
jlanigan3@hotmail.com

**NEW PATENTED DESIGN
HIGH STROKE AIR HAMMERS**



800 #, 300 # & 150 #

**Allow the fastest driving
of sheet piling + wood
+ steel piling to 12"**

COLLINS COMPANY
Since 1953

**888.300.0100
Cell 360.708.5320
Fax 360.387.2186**

collins@whidbey.net
www.collinspilehammers.com



R.W. CONKLIN STEEL

QUALITY ♦ SERVICE ♦ PRICE



100% Melted and Manufactured in the USA
888-CONKLIN



Buy Quality + Buy Experience
Buy American

**100% Melted &
Manufactured in the USA**

*We Service You
From Mill Rollings!*

We Service You From Stock!



BARGE, RAIL & TRUCK SERVED

Call Today for Availability & Pricing!



**Trusted Stocking Distributor
Since 1983**

BUY the Best, DRIVE the Best, BE the Best!

					
H-Pile	Sheet Piling	Wide Flange	Pipe Pile	Channel	Plate
					
Angle	Steel Tube	Rail Shapes	Structural Tee	Flats	Bars

Additional Services: Fabrication Services ♦ Industrial Coatings & Galvanizing

Call Toll Free 1-888-CONKLIN

Sales Facsimile 513-769-0610

(266-5546)

www.conklinsteel.com



**MacLean
Dixie HFS**



Strength Squared™ Steel Cast Coupling System



Increased Torque Capacity
Bolt Holes Align for Faster Assembly
Bolts Do Not Shear During Installation
Lighter Weight Leads and Extensions
Hot Dip Galvanized to ASTM A-153

www.MacLeanDixie.com

Copyright ©2010 MacLean Dixie HFS

VALUE ENGINEERED SOLUTIONS
TO DIFFICULT PROBLEMS

HERBERT F.
DARLING
INCORPORATED
Engineering Contractors

PILE DRIVING,
TIE BACKS and ANCHORS
Pile Load Testing-All Types
to ASTM Standards

- COFFERDAMS
- SEWER & WATER LINES
- BRIDGES
- MARINE CONSTRUCTION
- DAMS
- SLURRY & BARRIER WALLS
- HEAVY & INDUSTRIAL FOUNDATIONS

131 California Drive, Williamsville, NY 14221
(716) 632-1125 FAX (716) 632-0705
e-mail piling@HFDarling.com

SERVING NEW YORK, OHIO
and PENNSYLVANIA



FOR YOUR HIGHWAY AND MARINE CONSTRUCTION

MATERIAL NEEDS, LODGE LUMBER HAS QUALITY INVENTORY
IN STOCK AND READY TO SHIP NATIONWIDE.

PILE DRIVING CUSHION BLOCKS • FORM LUMBER • BB PLYFORM • HEAVY TIMBERS

WWW.LODGELUMBER.COM **1.800.856.6679**





The Pile Driving Contractors Association
"A Driven Pile is a Tested Pile"

JOIN
NOW

MEMBERSHIP BENEFITS

General Membership Information

We are the premier association for pile-driving contractors

The PDCA was founded in 1995 to promote the use of driven-pile solutions in all cases where they are effective. We strive to build and maintain working relationships among end users, manufacturers, government agencies, educational institutions, engineers and others involved in the design, installation and quality control of the driven pile.

We are dedicated to advancing the driven pile

As the only organization solely dedicated to pile-driving contractors, we know that you understand the superiority of the driven pile in most applications. We are the only association addressing the intrusion of non-driven solutions that take away business from the driven-pile contractor. The PDCA understands that to survive in today's competitive marketplace, a pile-driving contractor must strive to stay abreast of the latest trends and technologies in the industry. That is why we maintain close ties with the world's leading suppliers to the industry. It's why we provide a broad range of educational programs for university professors, practicing engineers and contractors. And, it's why more and more contractors, engineers and suppliers are realizing that the PDCA significantly increases their value in the marketplace.

We are a direct link to decision makers

Major manufacturers take an active role supporting the PDCA. At our conferences, we bring together the world's

leading design manufacturers and technical application experts to assist you in advancing the driven pile as a superior product.

The PDCA works closely with the technical community to format design codes and installation practices. We offer seminars throughout the country for engineers and educators on the capabilities and advantages of the driven pile. We also work with agencies, such as the Federal Highway Administration and state DOTs, which develop specifications for highway building and other infrastructure projects that use driven piles.

We offer timely, valuable services

The PDCA improves your company's bottom line, as well as your stature in the construction industry, through a variety of programs and services:

Job referrals

We are the only organization that provides contractor referrals to end users of driven piles. You tell us where you will drive piles and we will refer you to end users. We also provide referrals to our supplier and technical members.

Peer-to-peer opportunities

With more than 120 contractor members, the PDCA offers many networking opportunities. Whether at our Annual Conference, DICEP conference, our regional seminars, or by just picking up the phone, you'll develop long-lasting professional relationships and friendships in the industry.

Annual membership directory

As a member, you'll receive PDCA's annual membership directory of our contractor, supplier and technical members. Your company is listed along with the piling solutions you employ and states in which you work. This directory is provided throughout the year to construction users on a complimentary basis.

Educational conferences and meetings

The PDCA offers cutting-edge education for contractors, engineers, geotechs and anyone else interested in the driven pile and its applications at two major conferences annually. Members receive discounts on exhibit and registration fees.

- The Annual Conference, held in early Spring since 1997, is a nationally recognized conference that brings together leading contractors, technical experts and suppliers to the piling industry.
- The Design and Installation of Cost-Efficient Driven Piles Conference (DICEP), held each September since 2000, is a nationally recognized conference that brings together geotechnical and design engineers, college professors and contractors to discuss the latest trends in understanding, analyzing and controlling piling costs.

Industry development

The PDCA continually strives to expand market share for the driven pile. The PDCA sponsors the Professors' Driven Pile Institute, held at Utah State University in Logan, Utah. Up to 25 professors from major engineering schools are invited to participate in an intensive, weeklong program that presents them with the latest concepts in driven-pile design, installation and quality control. Some of the leading faculty in the deep foundation field have attended the institute to date. The program supplies the educators with the tools and knowledge to be able to teach their students about the advantages of the driven pile. It promises to have a long-term impact on market share for the driven pile.

Publications and reference materials

As a PDCA member, you will receive our quarterly publication, *Piledriver*, which presents articles on issues and trends of interest to our industry. As a member, you'll receive discounts on advertising in the magazine.

PDCA also offers the *Installation Specifications for Driven Pile-PDCA Specification 103-07* as a CD to all new members at no charge.



“Through its programs and services, PDCA has presented our company with numerous opportunities to continue our business success. It is certainly a cornerstone for growth in a very competitive business.”

D.R. JORDAN, PRESIDENT AND CEO,
JORDAN PILE DRIVING, INC.



The PDCA also sells *Driven Pile Foundations, Volume I&II*, an FHWA manual on the design and construction of driven piles.

Connect worldwide at www.piledrivers.org

The PDCA's newly redesigned website at www.piledrivers.org lets you research the latest trends in the industry and find direct links to manufacturers, suppliers, engineers and others. PDCA members receive a free listing in our member search area, which is being used by an increasing number of end users to find pile driving contractors and services. Our forums area makes it easy for you to connect with others to discuss issues and problems.

Leadership opportunities

Membership in the PDCA provides opportunities for recognition and leadership. Positions are available on the PDCA board of directors and various committees that impact the industry. The PDCA recognizes noteworthy contributions to the industry with our Driven Pile Project of the Year Award, giving opportunities for high profile recognition.

Membership is available to you

There is strength in numbers and we at the PDCA need to count your company when telling government agencies, engineers and suppliers that we are interested in keeping your business viable and in growing market share for the driven pile. We need your ideas and efforts in working together toward a common goal: the use of driven-pile solutions. You can contribute your expertise and assist the Association in developing:

- A greater focus on safety.
- The quality of driven pile products.
- The formatting of codes and specifications for the driven pile.
- Support for a program to help educate students in the use of driven piles.

Join today. Be part of a growing and vibrant organization that will play a key role in the future of deep foundations. Support your industry by completing the membership application in this issue. You will immediately begin to enjoy benefits of membership. ▼



Step 1: Company Information

Company Name: _____

Contact Name: _____

Address: _____

Phone: _____ Fax: _____

City / State / Zip: _____

Company Home Page: _____ E-mail: _____

Step 2: Select Membership Type

Important! Read carefully! The PDCA Bylaws define member classifications and qualifications. Dues are established by the PDCA Board of Directors and shown in () for each type.

- Contractor Member** – General or Specialty contractor who commonly installs driven piles for foundations and earth retention systems.
 - Contractor I Member Company – Annual volume > \$ 2 million (\$850.00)
 - 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 the pile driving industry.
 - Associate I Member Company – Annual volume > \$ 2 million (\$850.00)
 - Associate II Member Company – Annual volume < \$ 2 million (\$425.00)
 - Local Associate Member Company (\$100.00)
Small Associate Company desiring membership in a single local chapter, who only serves that local market, and whose interest is to support the local chapter. Membership must be approved by PDCA Executive Committee.
- Engineering Affiliate** – Any Engineering company, firm, corporation, or individual (Structural, Geotechnical, Civil, etc) involved in the design, consulting, testing or other engineering aspect associated with driven piles, deep foundations or earth retention systems.
 - Engineering Affiliate – 1-5 offices (\$100 per office)
Listing up to 5 Individuals per office at no additional charge
 - Engineering Affiliate – 6-11 offices (\$90.00 per office)
Listing up to 5 Individuals per office at no additional charge
 - Engineering Affiliate – 12+ offices (\$80.00 per office)
Listing up to 5 Individuals per office at no additional charge
- Technical Affiliate** – Any individual employed full-time by a university or college and teaching Undergraduate or Graduate courses in engineering; or an individual employed full-time by the US Government.
 - Individual teaching Undergraduate or Graduate Courses (\$100.00)
 - Government Employee (\$100.00)
- Individual Member** – (\$50.00)
An individual employed full-time by a university or college and teaching Undergraduate or Graduate courses in engineering; or an individual employed full-time by the government. This is a non-voting membership category.
- Retired Industry Member** – (\$50.00)
Individual who has reached retirement age, left active employment, and wishes to remain a member. This is a non-voting membership category.
- Student Member** – (\$20.00)
Full time students studying towards a bachelor, master or doctorate degree in a regular university program. This is a non-voting membership category.
- 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: Member Information

(complete only the category for which you are applying)

A. 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"/> Other |
| <input type="checkbox"/> Deep Excavation | <input type="checkbox"/> Highway and Heavy Civil | <input type="text"/> |

B. Associate and Engineering Affiliates Members – check all products and/or services that your company provides:

Accessories

- | | | |
|--|--|--|
| <input type="checkbox"/> Cutter Heads and Drill Bits | <input type="checkbox"/> Hoses and Fittings | <input type="checkbox"/> Pile Points and Splicer's |
| <input type="checkbox"/> Dock and Marine Supplies | <input type="checkbox"/> Lubricants and Grease | <input type="checkbox"/> Rigging Supplies |
| <input type="checkbox"/> Hammer Cushions | <input type="checkbox"/> Pile Cushions | <input type="checkbox"/> Other |
| <input type="checkbox"/> Safety Equipment | | <input type="text"/> |

Materials

- | | | |
|---|--|--|
| <input type="checkbox"/> Aluminum Sheet Piles | <input type="checkbox"/> Composite Piles | <input type="checkbox"/> Steel Sheet Piles |
| <input type="checkbox"/> Coatings and Chemicals | <input type="checkbox"/> H-Piles | <input type="checkbox"/> Structural Steel |
| <input type="checkbox"/> Concrete Piles | <input type="checkbox"/> Steel Pipe Piles | <input type="checkbox"/> Other |
| <input type="checkbox"/> Synthetic Material Piles | <input type="checkbox"/> Timber Piles/Treated Lumber | <input type="text"/> |

Equipment

- | | | |
|--|---|---|
| <input type="checkbox"/> Air Compressors and Pumps | <input type="checkbox"/> Drive Caps and Inserts | <input type="checkbox"/> Leads and Spotters |
| <input type="checkbox"/> Cranes | <input type="checkbox"/> Hammers | <input type="checkbox"/> Marine Equipment |
| <input type="checkbox"/> Drill Equipment | <input type="checkbox"/> Hydraulic Power Packs | <input type="checkbox"/> Specialized Rigs and Equipment |

Services

- | | | |
|--|--|---|
| <input type="checkbox"/> Consulting | <input type="checkbox"/> Geotechnical | <input type="checkbox"/> Testing |
| <input type="checkbox"/> Design | <input type="checkbox"/> Marine Drayage | <input type="checkbox"/> Trucking |
| <input type="checkbox"/> Freight Brokerage | <input type="checkbox"/> Surveying | <input type="checkbox"/> Vibration Monitoring |
| <input type="checkbox"/> Analysis | <input type="checkbox"/> Civil and Design | <input type="checkbox"/> Other |
| <input type="checkbox"/> Materials Testing | <input type="checkbox"/> Pile Driving Monitoring | <input type="text"/> |

General

- | | |
|---------------------------------|--------------------------------|
| <input type="checkbox"/> Rental | <input type="checkbox"/> Sales |
|---------------------------------|--------------------------------|

Step 4: Geographic Areas Where Services and Products Are Available

(All applicants 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"/> Europe | <input type="checkbox"/> Germany | <input type="checkbox"/> Other | <input type="text"/> | | | | | |

Step 5: Method of Payment

I am providing payment in the amount of: _____

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

Card Number: _____ Expiration Date: _____

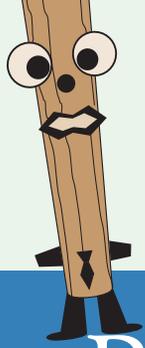
Name on Card: _____ CVV Code: _____

Statement Billing Address: _____

Signature: _____

Please complete this application and mail to:

PDCA – 1857 Wells Road - Suite 215 Orange Park, Florida 32073 or Fax to: 904-215-2977



Did You Know?



Recently, the PDCA had a member submit a question using the “Ask PDCA” tab on the association’s website. The question was:

“Has anyone heard of or have knowledge or reference to a Federal or State Occupational Safety and Health Administration (OSHA) standard requiring the use of a face shield by all personnel within a 20’ radius of the pile driving operation when using concrete piles.”

First of all, the response to this broadcast email question by the PDCA members was overwhelming. The PDCA would like to thank all of those who responded and provided the PDCA and the contractor with your experience and expertise. Interestingly enough, others (after hearing the question) were also interested in learning the answers, which seemed to help them as well. In light of the interest, the PDCA is providing the answer to this question (as best we can) in this quarter of *PileDriver* magazine’s “Did You Know”.

In the ANSI/ASSE A10.19-2008 “Safety Requirements for Pile Installation and Extraction Operations” Section 11.1, it says: “All employees involved in pile installation, extraction, and related operations shall wear head, eye, hearing, hand and foot protection.” Note: The standard does say “eye” protection, but does not specifically say face shields.

Section 11.8 says: “No person shall stand under the kicker or directly under, in front of, or within at least 12 feet of the pile hammer or pile when a pile is being driven.”

There are no specific OSHA requirements in CFR1926.603 (Pile Driving Equipment) relating to this question other than 1926.28(a), which states, “The employer is responsible for requiring the wearing of appropriate personal protective equipment (PPE) in all operations where there is an exposure to hazardous conditions or where this part indicates the need for using such equipment to reduce the hazards to the employees.”

The PDCA is not providing this information as an expert in the area of safety, but only as general information. Specific information regarding safety as it relates to pile driving and pile driving operations should be sought by professional safety experts. I believe the PDCA can say that safety is extremely important to all of us. A safe work environment provides for the well-being of all employees, enhances moral and creates an esprit de corps, all beneficial to productivity. Knowledge is the key ingredient in providing a safe work environment – if everyone knows the correct procedures, then accidents and injuries can be kept to a minimum. ▼

Project Tested & Proven



Pipe & Piling Division

- ASTM A252/A500  CSA G40.21 
- Made Melted in USA and/or Canada
- Size range 1.900” - 20”NPS
- Wall thickness .125” - .625”
- Lengths 20’ - 105’
- Metallurgist on staff
- Harrow in-house value added services
- ISO 9001:2008

Pipe & Piling Production Facilities and Sales Offices

Harrow, Ontario Canada
Phone: 800.265.6912

Chicago, Illinois USA
Phone: 800.733.5683

Chris Ragan
Pipe & Piling Product Mgr.
Phone: 816.734.1282
Fax: 816.734.1297

piling@atlastube.com



Pipe, Piling, Tubing and Casing

www.atlastube.com

Division of the John Manely Company
SEMINOLE Tubular Products Co.

 Wheatland Tube Company



PDCA 2011 “PROJECT OF THE YEAR” AWARD CALL FOR ENTRIES

The PDCA is proud to announce the 2011 “Project of the Year” award competition.

The PDCA is dedicated to acknowledging the hard work, ingenuity and commitment that goes into each project where driven piles are used in a deep foundation or earth retention system, or utilized to solve foundation problems. The Project of the Year Award is a PDCA tradition, honoring excellence in driven pile projects completed by PDCA members in good standing.

Through the “Project of the Year” award, the PDCA has the distinguished opportunity to continue its long-standing and consistent commitment to recognize those PDCA members who demonstrate excellence in the practice of providing solutions, services and products to the needs of the deep foundation and earth retention environment.

Project entries must feature projects completed in 2010. Project entries will be awarded in two entry categories and three dollar-volume categories. The two entry categories are distinguished by either “Land-based” or “Marine-based” projects. The dollar volume categories are “Less than \$500,000.00, \$500,000.00 - \$2 Million, and Greater than \$2 Million. Price ranges are based solely on the dollar volume of the piling contract associated with the project.

Entry forms are available for downloading on the PDCA website, www.piledrivers.org.

The PDCA is asking each member to consider submitting a project worthy of this prestigious PDCA award. The **2011 Project of the Year Award** entry deadline is:

Friday, February 11, 2011

Winning entries will be announced during the 2011 PDCA Annual Conference and Expo, held at The Westin, Savannah, GA, during the PDCA Business and Awards Luncheon on Wednesday, April 27, 2011. PDCA will NOT reveal the winning entries prior to the luncheon.

Winning entries will be featured in the 2011 *PileDriver* magazines and on the PDCA website.

PDCA looks forward to receiving your entries – GOOD LUCK!

PDCA ANNUAL INTERNATIONAL CONFERENCE AND EXPO 2011

Savannah, Georgia

By Stevan A. Hall, Executive Director PDCA, Orange Park, FL

The Pile Driving Contractors Association has selected Savannah, Georgia as the site of the PDCA Annual International Conference and Expo 2011. The conference will be held on Tuesday, Wednesday, and Thursday, April 26, 27, and 28, 2011.

The conference will split its time between The Westin Savannah Harbor Golf Resort and Spa and the Savannah International Trade and Convention Center (SITCC). The two properties are adjacent, providing easy access to all conference programs.

The Westin Savannah Harbor Golf Resort and Spa (www.westinsavannah.com), a premier Savannah hotel in the heart of the River District, just completed a \$10 million renovation with upgrades to their guest rooms, meeting rooms, and public spaces. Renovations feature state-of-the-art amenities with an elegant old South charm and down home southern hospitality.

The Savannah International Trade and Convention Center is a superbly functional and architecturally stunning 330,000 sq.ft. waterfront complex on the Savannah River, overlooking Savannah's world-renowned Riverfront and landmark Historic District. The SITCC, like the elegant city it represents, blends the best of the old South with the new to offer a unique and memorable venue for our conference and Exhibitor show.

In 2011, the PDCA conference schedule will feature an expanded General Session program with eight and a half hours of industry presentations, plus a panel discussion. The panel discussion topic is "Converting Projects to Driven Pile from Drilled Deep Foundations – Lessons Learned". In early October 2011, the PDCA began a campaign for presentations by distributing a "Call for Presentations" for General Session topics. The campaign requested topics covering presentations on Converting Projects to Driven Pile from Drilled Deep Foundations – Economical, Load Bearing, and Design Advantages, Case Histories (Lessons Learned), Product Sustainability in Material or Design, New Technology, Environmental and Economical Applications, LRFD or other code or specification issues, Professional or Business Issues, Marketing of Driven Pile Foundations, and Driven Pile Foundation Case Histories. The PDCA is expecting a positive response, which will translate into some very exciting, educational and beneficial presentations.

Conference participants, including P.E.'s registered in Florida, will receive one Professional Development Hour (PDH) certificate for each General Session program attended.

The PDCA Market Development Committee is responsible for all conference activities except the educational programs. In 2011, the committee is planning another exciting venue of social/networking and Companion's Program events. Conference participants will find ample time to visit with exhibitors, catch up with old friends, strengthen existing relationships

and discover new business opportunities. Spouses and guests participating in the Companion's Program will be very well taken care of with programs that are sure to keep them busy and entertained.

The PDCA 4th Annual Golf Tournament featured course will be The Club at Savannah Harbor, a Troon-managed course designed by Robert Cupp and Sam Snead. The course is the home of the PGA Tour's Champions Tour Liberty Mutual Legends of Golf tournament.

Exhibitors will be a focal point throughout the conference. The PDCA will provide 51 – 8'x10' pipe and draped booths in more than 15,000 sq.ft. of space for PDCA exhibitors. The Exhibit Hall will be adjacent to the General Session to provide easy and constant flow back and forth, maximizing interaction between exhibitors and conference participants. All receptions, continental breakfasts, and AM & PM Breaks will be held in the Exhibit Area. On Wednesday, April 28, the Exhibit Hall will be the site of a conference buffet luncheon, designed to support exhibitor participation. The PDCA will also conduct a contest designed to encourage visits to all exhibitor booths. The contest winners will receive Visa Gift Cards in the amount of \$500, \$300, and \$100 denominations. As a reminder to all exhibitors who supported the PDCA 2010 Annual Conference as an exhibitor – you receive a 25% discount on your 2011 exhibitor fee. For your convenience the discounted fee will be identified on the Conference Brochure once distributed.

In 2011, the PDCA will include an Opening Ceremony during the first morning of the conference. The Opening Ceremony will feature short updates by the PDCA President and Executive Director, as well as a presentation by a Keynote Speaker. Tentatively, the PDCA will feature David Limbaugh, political commentator and author as our guest speaker. You can find out more about Mr. Limbaugh through his website, www.davidlimbaugh.com.

Mark April 26, 27, and 28 on your calendar and make plans now to be a part of the exceptional PDCA annual event. ▼



The Westin Savannah Harbor Golf Resort and Spa



Savannah International Trade and Convention Center (SITCC)



The Club at Savannah Harbor

1,264 YEARS

We thought it was pretty impressive that Boh Bros. has been in business for 100 years, and piledriving since the 1930's.

Then we added the combined years of experience among our current field supervisors and office management staff...the result knocked our socks off. 1,264 years of combined experience in piledriving and marine work, all with Boh Bros. If you are an engineer or an owner who needs some expertise in this area, we have over a millenium's worth of knowledge.

That's the difference experience can make. Call Boh.



Contact VP Dale C. Biggers 504.827.7636 | www.BohBros.com

2010 New PDCA Members

The following is a list of all members who have joined the PDCA in 2010. The association would like to welcome everyone on the list!

Contractor Members

Coastal Bridge Company

Devon Overall
4825 Jamestown Avenue
Baton Rouge, LA 70808
Tel: 225-766-0244
Fax: 225-766-0423
www.coastalbridge.com
overall@coastalbridge.com

F. Miller Construction, LLC

Mark Korkowski
825 Ryan Street
Lake Charles, LA 70616
Tel: 337-721-7517
Fax: 337-433-2678
www.fmillercorstruction.com
mkorkowski@fmillerconstruction.com

Falco Construction Corp.

K.K. Ramamurthy
2300 East 69 Street
Brooklyn, NY 11234
Tel: 718-241-2100
Fax: 718-968-1919
Kay@falcoconstruction.com

Healy Tibbitts Builders

Emilo Placencia
99-944 Iwaena Street
Suite A
Aiea, HI 96701
Tel: 808-487-3664
Fax: 808-487-3660

L&A Contracting Company

Lee Sims
PO Box 16749
Hattiesburg, MS 39404-6749
Tel: 601-264-2100
Fax: 601-264-3007
www.landacontracting.com
lsims@landacontracting.com

Macro Enterprises, LTD.

Scott Morris
25 East Chestnut Street
P.O. Box 398
Massapequa, NY 11758
Tel: 516-799-3434
Fax: 516-799-3845
www.macroenterprisesltd.com
smorris@optonline.net

Mason Construction

David Hudson
PO Box 20057
6285 Walden Road
Beaumont, TX 77720-0057
Tel: 409-842-4455
Fax: 409-842-4586
www.masonconstruction.net
dhudson@masonconstruction.com

North American Cassion, Ltd.

Jeff Grieder
11405 - 163 Street
Edmonton, Alberta T5M 3Y3
Canada
Tel: 780-969-5519
Fax: 780-969-5519
www.gacg.ca
jgrieder@nacg.ca

Pacific Pile and Marine

Carrie Hansel
582 S. Riverside Drive
Seattle, WA 98108
Tel: 206-331-3873
Fax: 206-774-5958
www.pacificpile.com
carrieh@pacificpile.com

Walter Toebe Construction Company

Jeff Stover
29001 Wall Street
P.O. Box 930129
Wixom, MI 48393
Tel: 248-349-7500
Fax: 248-349-4870
www.toebe-construction.com
jstover@toebe-construction.com

RHTC, Inc.

Jeff Hairston
309 Smith Street
West Monroe, LA 71292
Tel: 318-330-9000
Fax: 318-330-9014
www.rhtcinc.com
jeffh@rhtcinc.com

Superior Construction Company

Maggie Laneri
7072 Business Park Blvd.
Jacksonville, FL 32256
Tel: 904-292-4240
Fax: 904-292-2682
www.superiorfla.com
estimating@superiorfla.com

Walter Toebe Construction Company

Jeff Stover
29001 Wall Street
PO Box 930129
Wixom, MI 48393
Tel: 248-349-7500
Fax: 248-349-4870
www.toebe-construction.com
jstover@toebe-construction.com

Blue Iron, LLC

Michael Carter
467 Lake Howell Road #104
Maitland, FL 32751
Tel: 407-427-7051
Fax: 407-436-4423
www.blueironllc.com
mcarter@blueironllc.com

HC MATCON, Inc.

Martin Halliwell
4-122 Earl Thompson Road
AYR, Ontario N0B 1E0
Canada
Tel: 519-623-6454
Fax: 519-623-6061
www.hcgroup.ca
martinh@hcgroup.ca

Marine Contracting

Trey Ford
PO Box 5525, Bayside Station
Virginia Beach, VA 23471-5525
Tel: 757-460-4666
Fax: 757-363-9647
fordpile@earthlink.com

Associate Members

Bear Steel Products

Joshua Spoelstra
2972 W. Swain Road
Suite 208
Stockton, CA 95219
Tel: 831-600-5446
Fax: 831-621-1152
Josh@bear-steel.com

Desoto Treated Materials, Inc.

Steve Owen
PO Box 460
Wiggins, LA 39577
Tel: 601-928-3921
Fax: 601-928-5091
desototreatedmaterials@datasync.com

Ferguson Enterprises, Inc. Specialty Pipe and Tube

Bill Austin
12500 Jefferson Avenue
Newport News, VA 23602
Tel: 757-874-7795
Fax: 757-989-2501
www.ferguson.com
sales@specialtypipe.com

Foundation Technologies, Inc.

KC Queen
PO Box 491718
Lawrenceville, GA 30049
Tel: 678-407-4640
Fax: 678-407-4645
www.foundationtechnologies.com
info@foundationtechnologies.com

GeoEngineers, Inc.

David P. Sauls, P.E.
11955 Lakeland Park Blvd., Suite 100
Baton Rouge, LA 70809
Tel: 225-293-2460
Fax: 225-293-2463
www.geoengineers.com
dsauls@geoengineers.com

Helical Anchors, Inc.

Tom Ronnkvist
5101 Boone Avenue North
Minneapolis, MN 55428
Tel: 763-536-9132
763-536-9102
www.helicalanchorsinc.com
tom@helicalanchorsinc.com

iCON Foundation Equipment, BV, A Subsidiary of ICE USA, Inc.

Sander Jorissen
Lissenveld 69, 4941 VL
Raamsdonksveer, The Netherlands
Netherlands
Tel: 31-162-58-23-24
www.iceicon.nl
sales@iceicon.nl

Kie-Con

Allen Kung
3551 Wilbur Avenue
Anticoh, CA 94509
kTel: 925-754-9494
Fax: 925-754-0624
www.kiecon.com
akung@kiecon.com

NEW MEMEBERS

Mill Man Steel

R. D. Schieman
11307 E. Montgomery Drive
Spokane, WA 99206
Tel: 509-535-5700
Fax: 509-535-6843
www.millmansteel.com
rdschieman@millmansteel.com

Pile Instalation Consultants

Henry Whitty
19-1 Chamale Cove East
Slidell, LA 70460
Tel: 504-214-8199
Fax: 985-649-7955
pichenrywhitty@yahoo.com

REV Drill

Jack Mitchell
5811 Grove Lane
Fredrick, MD 21704
Tel: 301-662-6552
Fax: 301-662-6553
www.revdrill.com
jack.mitchell@revdrill.com

Steel Piling Network

Mark Lenzi
PO Box 29502, #41258
Las Vegas, NV 89126-9502
Tel: 888-600-6098
Fax: 888-6006098
www.steelpilingnetwork.com
mark.lenzi@steelpilingnetwork.com

Engineering Affiliate Members

Aquaterra Engineering

Tom Vrenick
2822 O'Neal Lane
Baton Rouge, LA 70816
Tel: 225-344-6052
Fax: 225-344-6346
www.aquaterraeng.com
tvrenick@aquaterraeng.com

Aver Technologies, Inc.

Swamy Avasarala, M.E., P.E.
13104 Queensdale Drive
Woodbridge, VA 22193
Tel: 703-580-8907
Fax: 480-247-4839
www.avertechnologies.com
swamy@avertechnologies.com

Badeaux Engineers, Incorporated

Michael Badeaux
115 E. 6th Street
Thibodaux, LA 70301
Tel: 985-447-2317
Fax: 985-447-2319
michael@badeauxengineers.com

ECS Mid-Atlantic

Karl Higgins
14026 Thunderbolt Place
Suite 100
Chantilly, VA 20151
Tel: 703-471-8400
Fax: 703-471-5292
www.ecslimited.com
mcurtis@ecslimited.com

Foundation and Geotechnical Engineering, LLC

Lawrence Spears
608 Hitchcock Street
Plant City, FL 33563
Tel: 813-759-2426

Fugro Consultants

Eric Marx
4233 Rhoda Drive
Baton Rouge, LA 70816
Tel: 225-292-5084
Fax: 225-292-8084
www.fugroconsultants.com
emarx@fugro.com

Geo-Technology Associates

Chris Reith
18 Boulden Circle
Suite 36
New Castle, DE 19720
Tel: 302-326-2100
Fax: 302-326-2399
creith@mrakta.com

JL Arnold Engineering

Jeff Arnold
PO Box 179
St. Petersburg, FL 33731-0179
Tel: 727-823-4200
Fax: 727-823-4224
jeff.arnold@jarnoldengr.com

Lloyd Acoustics, LTD.

Nigel Dillon
Laurelvale House
36 Lurganville Road
Moir, County Armagh, BT67 OPL
Northern Ireland
Tel: +44 (0) 28-9261-0525
Fax: +44 (0) 28-9261-0524
www.lloydacoustics.com
nigel.dillon@lloydacoustics.co.uk

Sany America, Inc.

Larry Washington
100 World Drive, Suite 218
Peachtree City, GA 30269
Tel: 678-251-2824
Fax: 770-631-7731
www.sanyamerica.com
lwashington@sanyamerica.com

Universal Engineering Sciences

Joshua Adams
5561 Florida Mining Blvd.
Jacksonville, FL 32257
Tel: 904-296-0757
Fax: 904-296-0748
www.universalengineering.com
jcadams@universalengineering.com

Individual Members

Auburn University

J. Brian Anderson, Ph.D., P.E.
238 Harbert Center
Auburn University, AL 36849
Tel: 334-844-7373
Fax: 334-844-6290
www.eng.auburn.edu/civil
jbanders@auburn.edu

CALPIA Marine Technology Training Center

Fred Johnson
14901 Central Avenue
Chino, CA 91710
Tel: 909-597-1821
Fax: 909-606-7165
www.calpia.gov
fredjohnson@pia.ca.gov

Missouri University of Science and Technology

Shamsher Prakash
227 Civil Engineering
Rolla, MO 65409
Tel: 573-341-4881
Fax: 573-341-4729
www.mst.edu
prakash@mst.edu

University of South Carolina

Sarah Gassman, Ph.D., P.E.
300 Main Street
Dept. of Civil and Environmental
Engineering
Columbia, SC 29208
Tel: 803-777-8160
Fax: 803-777-0670
www.sc.edu
gassman@engr.sc.edu

Retired Members

Foundation Constructors

Russ Taylor
1430 Texas Ridge Road
Deary, ID 83823
Tel: 208-877-1610
rvtaylor@pcpinternet.com

MIDWEST VIBRO, INC.

Pile Driving & Extracting Equipment

Distributors of
**H&M VIBRATORY
Driver/Excavator**

Call Us For Your
**RENTAL
NEEDS**

616-532-7670

1-800-648-3403

3715 28th St. SW
Box 224
Grandville MI 49418



THE SHAPE OF THE FUTURE...



Port of Wilmington Job – Reconstruction of Berth #4 – Kuhn Construction

Tapertube™... Strength = Success!

Project-proven Tapertubes are a dramatic leap forward in on-the-job pile performance. Superior design and robust construction means this remarkable product delivers big advantages over conventional piles or other tapered piles.

For starters Tapertubes are tougher, actually made from 50 ksi steel where another producer claims to cold work to 50 ksi from a lower grade steel. And Tapertubes can be

produced with walls that are significantly thicker: .500" for example, compared with the 3 gauge maximum (.239") of a competitive product.

This extra thickness eliminates additional steel reinforcements and coatings, and allows piles to be driven harder and faster. The result: more piles driven, higher production, lower costs.

Tapertube piles are available in an array of shapes and sizes to meet your soil and capacity requirements.

TAPERTUBE ADVANTAGES

- Made from 50 ksi steel, higher grades available upon request
- High capacities for shorter driven lengths
- Conventional equipment and installation methods
- Reduces concrete volume requirements
- Factory attached cast steel points
- Tapertube diameters are made to match standard pipe sizes or even non-standard pipe sizes
- Directly driven... no mandrel or butt reinforcement required
- Full-butt welded splices for direct bearing of pipe extension on Tapertube
- Drive-fit DFP S-1800 sleeves may be used instead of welding to extend piles
- Heavier thickness provides greater drivability, eliminates need for coating and reinforcement

— JD — FIELDS

& Company, Inc.

A North American Leader in

TUBULAR PRODUCTS

STEEL LINE PIPE - CASING - OFFSHORE DRIVE PIPE

LINE PIPE API / ASTM / CSA SPECS

1/4" through 60", Grade B through X-80

Various external corrosion coatings

Casing 4 1/2" through 60" – API and Premium threads

Well versed in Canadian specifications and rules of export.

Canadian Contact 24/7: Todd Fagan • 972-869-3794 • tfagan@jdfields.com

Experience real service – real fast.

P.O. Box 134401 • Houston, TX 77219-4401

55 Waugh Drive, Suite 1250

Houston, Texas 77007 • Phone: 281-558-7199

JD FIELDS

& Company, Inc.

the supply of Steel Products

CONSTRUCTION PRODUCTS

H-PILE - SHEET PILE - PIPE PILE - WIDE FLANGE - RAIL

NEW and USED
SALES and RENTALS
PURCHASERS OF USED PILING

JD Fields & Company, Inc.
Headquarters - Houston, Texas Since 1985
www.jdfields.com

- Houston • Dallas • New Orleans • Tulsa • East Coast
- Los Angeles • Denver • Midland • St. Louis • Chicago

Houston, Texas
Phone: 281-558-7199
Fax: 281-870-9918

East Coast
Phone: 803-462-9738
Fax: 803-462-9739

Brea, California
Phone: 714-257-2005
Fax: 714-257-2015

Denver, Colorado
Phone: 303-331-6190
Fax: 303-331-6191

New Orleans, Louisiana
Phone: 985-234-4567
Fax: 985-234-4572

Tulsa, Oklahoma
Phone: 918-459-4638
Fax: 918-459-4636

Dallas, Texas
Phone: 972-869-3794
Fax: 972-869-3861

St. Louis, Missouri
Phone: 314-854-1380
Fax: 314-854-1382

Chicago, Illinois
Phone: 815-553-1180
Fax: 815-553-1181

Long life, long lengths, long list of features

Get Chemonite® wood piling directly from Conrad Forest Products



It's been serving West Coast utilities for years, and now Chemonite® ACZA pressure-treated wood is impressing contractors in heavy construction nationwide. Marine piling, foundation piling, shoring, lagging, structural timbers. Plus poles, posts, and even crossies. The Chemonite® process penetrates hard-to-treat species like Douglas fir, providing long-lasting piles in uncommonly long sizes.

Chemonite® wood piles are economical, and also have environmental benefits over alternative materials. They are available directly from Conrad Forest Products, a major western wood preserver with decades of experience in ACZA and Douglas fir.

Conrad Forest Products

North Bend, OR

Additional operations in Ceres, CA;
Arbuckle, CA; and Rainier, OR

800.499.2662
California office

800.356.7146
Pacific Northwest office



www.ConradFP.com



Railroad bridge for Port Terminal Railroad Association,
Pasadena, Texas.

MB WESTERN INDUSTRIAL CONTRACTING COMPANY

PDCA Member for 10 Years

By MB Western Industrial Contracting Company, Steve Bosley, Pasadena, TX

In November of 1989, Western Industrial Contracting Company consisted of two owner/employees, two pickup trucks, one wheelbarrow and some small hand tools. The two owners, James S. (Steve) Bosley and Billy McMayon, had worked together for another contractor for some nine years, Steve as an estimator/project manager and Billy as pile driver foreman/superintendent. Steve's boss/mentor for these years was the company's Chief Engineer, Jim Bennett, who, when he hired Steve away from the Corps of Engineers in 1980, told him he would teach him everything he needed to know about the business except how to finance it. Billy had learned everything he knew about driving piling from his father, Billy Jack McMayon, who had spent his entire life in the business.

The first job was a concrete and steel erection project at one of the local industrial facilities. Then a small crane rail repair project for the Port of Houston Authority. For two people with extensive pile driving experience, it was odd that the first piece of equipment

“ Our Quality Management System follows a project from start to finish ”

purchased was a cherry picker. Then, a new fender system project for one of the Port's wharves finally brought the company back into the line of work the company was founded to perform. The company was incorporated in 1991 and the name had to be changed to fit the Secretary of State. With Bosley

and McMayon as the shareholders, the initials BM didn't sound right, so the company became MB Western Industrial Contracting Company.

One of the factors that helped MB Western Industrial to survive through the early years was that while Billy was actually doing the work, Steve was busy getting more jobs. Although through the early years, they performed much of the work themselves, they were soon able to add employees, some of whom are still with the company. Keeping the crews together as much as possible has been one of the key factors in reducing the accident rate to a level that allows the company to work in the chemical and industrial facilities.

In the days when there were only one or two projects active at a time, it was easy to give personal attention to each project. Solid relationships had been built with suppliers and clients before MB Western Industrial was formed and these relationships followed the owners to the new company. As the company grew, these relationships, along with constant attention to production and safety, earned the company the reputation as a lean, mean, low overhead competitor. If there was a problem on a project, the top people in the company came out to solve it. Word of mouth and quality work led many projects to the company's doorstep, resulting in the company's growth to a volume of over \$12 million.

Down from a peak of 80 in 2008, the company presently has 42 employees, consisting of pile drivers, operators, welders, concrete carpenters and the like, most of which have been with the company for more than five years. The first employee, hired back in 1989, is still with the company, running pile driving and concrete projects. The company presently has eight crawler cranes, ranging in size from 45 to 110 tons. The 110-ton 999C American is working from a barge, giving the company access to marine projects. A variety of diesel and

International Construction Equipment



ICE is the creator of the EM-27 Drill Mast, LA-4, Augers & offers Comacchio Drill Rigs, while still being the home of the Mean Green Machines™, World Class Vibratory Hammers / Extractors & Impact Hammers



Your One-stop Foundation Shop



**Tele: (888) ICE-USA1
SALES@ICEUSA.COM**

Use ICE for your next deep foundation project and experience the difference that our high performance equipment has on your bottom-line.



**301 Warehouse Dr
Matthews, NC 28104
WWW.ICEUSA.COM**



Raw Water Intake Structure for Northeast Purification Plant, Lake Houston.



vibratory hammers round out the pile driving fleet.

MB Western Industrial has found a niche in the competitive market by targeting projects in the mid-range of \$50,000 to \$5,000,000. Bread and butter work over the years has been designing and installing sheet pile cofferdams, but, as we grew, we began driving larger and longer piles, much like we had been doing prior to forming MB Western Industrial. Now, we routinely install monopiles up to 72" in diameter and in lengths up to 150'. Fender systems, barge docks, railroad bridges, and all types of driven pile foundations comprise the majority of our work. The maintenance and repair of marine structures is also a major service offered. There has been enough marine work over the years that the barge rig has only had to venture over the Texas coast, but the land crews have regularly ventured from Mississippi to New Mexico. One crew was sent to do a project in Utah at the request of a client.

Some 10 years ago, the state of Texas began converting municipalities from well water to surface water and a new opportunity opened for the company. Each new water treatment plant

required a raw water intake structure at the source of the water, generally a lake, but sometimes in a river. MB Western used its in-house design capabilities to double its volume from 2003 to 2006. The largest project completed to date was the RWPS in Lake Houston. A circular sheet pile cofferdam was installed in 25' of water 500' from shore and the RW pump station. The original plan was to cut an opening in the cell 20' below the lake bottom and bore the 500' to the pump station on shore. A second cofferdam, a rectangle, was constructed inside the circular cell to serve as the tunnel access pit. The plan went awry when the stiff clays depicted in the soil borings turned out to be soft clays and loose sand. Several blowouts in the cofferdams forced us to lengthen the sheet piling and revise the bracing in both cofferdams. There was concern showing in some of the faces of the crews when they headed back to the cofferdams with the pumps and the revised designs, but they trusted the engineering, most having been in many cofferdams before. Employee safety was then and always remains the primary concern.

Then the tunnel boring machine



Railroad bridge for Port Terminal Railroad Association, Pasadena, Texas.



Underwater installation of intake manifold on concrete beams by controlled descent.

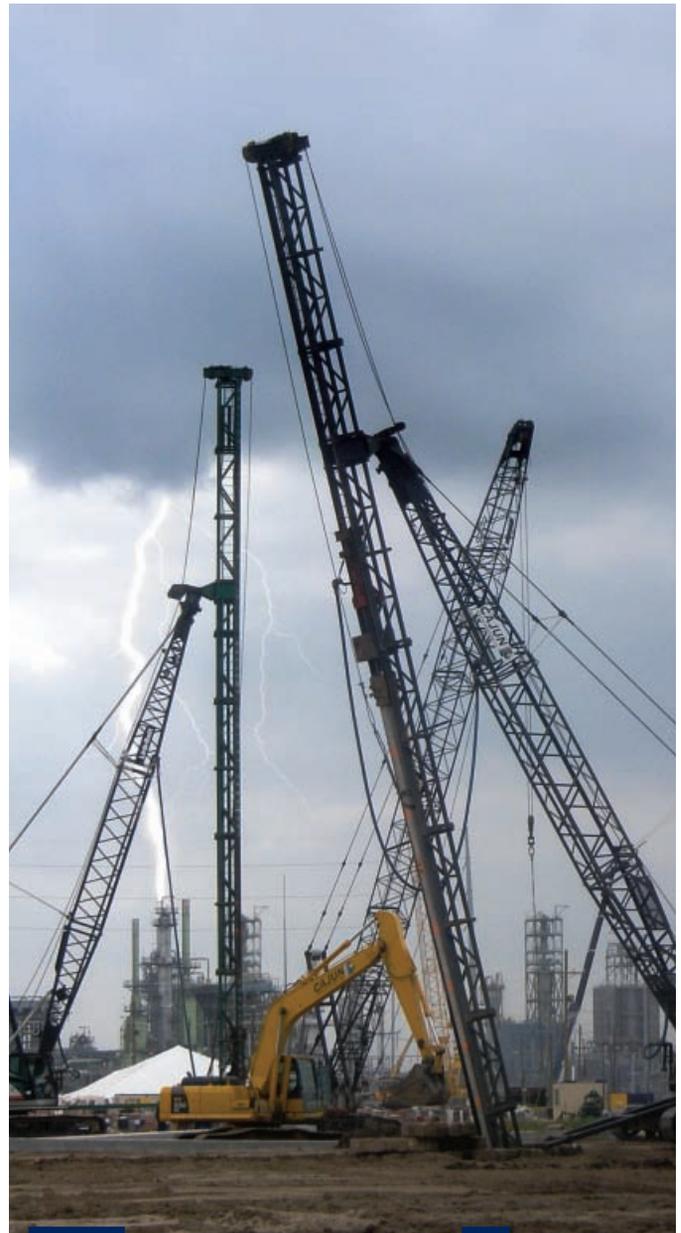


made it only 80' from the cofferdam and dropped down in the soft sand and the cofferdams filled up once again. We changed from tunneling our way to the pump station to having to open cut the 84" intake conduit in the wet to shore and in the dry to the station, with an interface structure at the shoreline. The conduit was welded together in two pieces, floated into place, sunk and connected mechanically with divers. The TBM was salvaged and returned to its owner. In the end, the product matched the original plan.

At MB Western Industrial, Safety, Quality and Production go hand-in-hand. We know as a company that all three of these elements are important to the success of our business. Through our safety process, we analyze each project for its specific requirements and strive to go beyond the norm to ensure that our employees have a safe workplace through training, procedures and use of the latest technology. We have a full time safety professional and all of our project leaders are trained to be our safety representatives on site.

Our Quality Management System follows a project from start to finish with all aspects of the project documented by specific procedures and inspections. All discrepancies are corrected to meet specifications to ensure customer satisfaction at the completion of the project. ▼

Photos courtesy of MB Western Industrial Contracting Company



Focused. Driven.

CAJUN
DEEP FOUNDATIONS, LLC

A SUBSIDIARY OF CAJUN INDUSTRIES, LLC

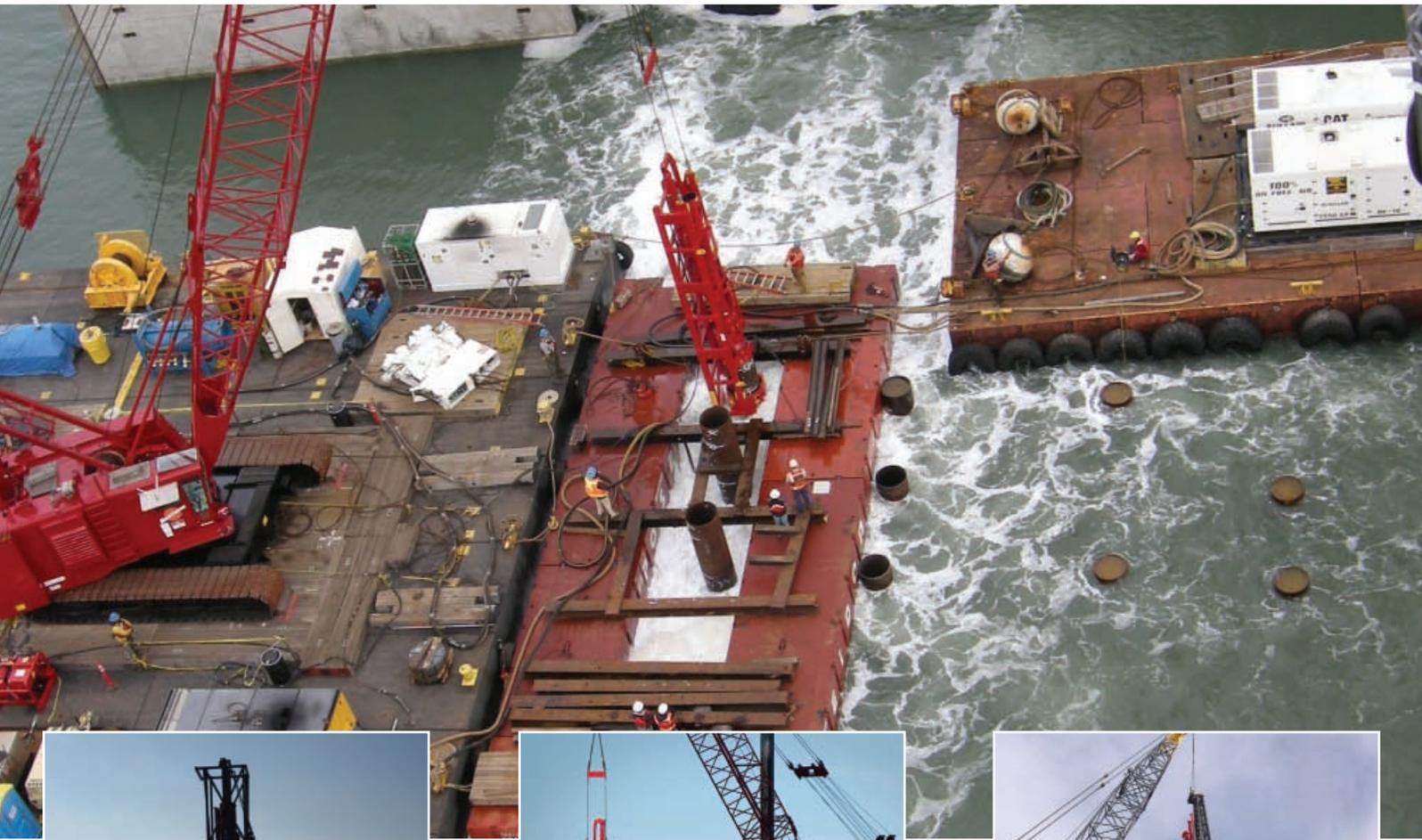
VISION BORN OF EXPERIENCE

P.O. Box 104 Baton Rouge, LA 70821-0104

(800) 944-5857 • (225) 753-5857 • www.cajunusa.com

DRIVEN PILES | ACIP PILING | DRILL SHAFTS | EARTH RETENTION | MARINE CONSTRUCTION

Everything starts with a foundation. Great foundations start with BAUER-Pileco.



BAUER-Pileco is a leading global provider of foundation equipment and service to the foundation construction industry. BAUER-Pileco has offices throughout the United States and Panama. Recognized for its technological advances and innovation, BAUER-Pileco represents the BAUER Group across North and South America. Founded in 1790, BAUER employs nearly 8,900 people. BAUER Maschinen GmbH, the world market leader in foundation equipment, offers an extensive range of machinery, equipment, and tools for specialist foundation engineering.

800.474.5326
bauerpileco.com
info@bauerpileco.com
facebook.com/bauerpileco



On Port Mann Bridge, Vancouver

MENCK:

Pile Driving Specialists since 1868

By Doug Scaggs, Menck GmbH, Houston, TX and Kaltenkirchen, Germany

A company that can pile drive offshore at depths of more than 6,500 ft is fit to tackle any challenge on land or underwater. MENCK, the world leader in offshore pile driving, specializes in hydraulic pile driving solutions for the offshore oil and gas, offshore wind parks, bridges, and harbor industries. The wide range of MENCK hammers (100 to 3,000 kJ) is complemented by a comprehensive after-sales service program and a team of highly experienced and competent service technicians.

MENCK hammers have been driving piles since 1868 when the company was founded as Menck & Hambrock in the Port of Hamburg, Germany. The company started out as a manufacturer of steam boilers, winches and freefall hammers for the construction market. In 1883, MENCK developed their first steam hammer and set the stage for the future. In 1967, MENCK constructed the first hammer for offshore applications which has become their core competence. The experience and engineering expertise gained in offshore pile-driving led to the development of the first hydraulic hammer in 1977. The MENCK Hydraulic Underwater Hammer (MHU) is now the mainstay of its current portfolio. Since 2003, MENCK has been a part of the Acteon group. The company is headquartered in Kaltenkirchen, Germany, runs a sales office in Houston, Texas, and has mobilization yards in Louisiana and Singapore.

Recent Milestones

MENCK has been pushing the technological limits throughout its history. Before switching to hydraulics, the company built the largest successful commercial steam hammer available. And shortly after the first hydraulic hammer was introduced, MENCK manufactured the world's largest hydraulic hammer: the MHU 3000.

The company is known for deep water pile driving, pushing to great depths. Starting in 1996, MENCK set the bar with a world record depth of 1,200 meters (4,000 ft). Year after year MENCK has broken this record, the most recent in 2008 at 1,929 m (6,319 ft) which is set to be broken in 2010 on a project at 2020 m (6,666 ft).

Technological innovation and being trend leader has been a key to MENCK'S success, such as jumping into new markets such as offshore wind parks as early as 2000 and developing solutions for new problems like driving extra large monopiles. MENCK has also tackled the subject of pile driving noise by developing its above water Noise Reduction Skirt (MNRS) and is leading the research in underwater noise mitigation.

MENCK has also made a name for itself in the bridge sector. High profile or complex jobs such as the Oakland Bay Bridge in San Francisco, Port Mann in Vancouver and the Woodrow Wilson Bridge in Washington D.C. have used MENCK hammers.

Strong customer relationships

MENCK has grown exponentially over the past few years from 35 employees in 2003 to over 100 permanent staff now. Sales have doubled in the same period. Such success is contingent on a company's employees, and MENCK is no exception. The company sees itself as a solution provider that cultivates strong and direct relationships with its customers. Since almost every project is unique, MENCK works with the customer to find the best possible solution. MENCK takes on the role as consultant, working closely with the customer during project pre-planning, discussing various aspects such as drivability and pile design. Through MENCK's large engineering department with specific areas of specialty: hydraulics, electronics, mechanical construction and experienced project manage-



Fitted with MENCK patented noise reduction system (MNRS)

ment and sales teams, MENCK ensures each hammer design is reliable, robust and exceeds customer requirements.

Competence in Ports and Bridges

For many years, MENCK's pile-driving expertise has been in great demand at the interface of land and sea in the construction of bridges and ports. Some of the world's longest and most stable bridges as well as harbor expansion projects have been founded on MENCK-driven piles. The patented above water MENCK Noise Reduction Skirt (MNRS) helps in urban settings where construction noise is an issue. The comprehensive monitoring and control system registers important parameters during the driving process, making expensive follow-up load tests obsolete.

One well-known U.S. landmark, the Oakland Bay Bridge, is a good example of the company's all-round competence. The collapse of a 50-ft section of the Bridge during the 1989

earthquake prompted local authorities to replace the entire 2-mile eastern span. The MENCK MHU 1700i, and its little brother, the MHU 500T, were hired by KFM-JV to handle the heavy pile driving of the 1.2-mile Skyway section. One hundred and sixty inclined CISS piles were driven more than 300 ft into the sea floor. MENCK hammers were also enlisted for the self-anchored suspension (SAS) section of the Bridge with around 100 temporary 72" piles driven to support the construction. Last but not least, 16 piles were driven to form the foundation for the pier connecting the Skyway and SAS sections.

Offshore Expertise

Traditionally, offshore pile driving has been all about keeping oil and gas installations securely grounded. To this end, MENCK has driven piles at numerous sites in the Gulf of Mexico, off the coasts of South America and West Africa, and as far afield at the Asia-Pacific Region. In recent years, there has been an increasing focus on offshore wind parks where monopile, tripod or jacket anchoring systems are deployed. From its home base in Germany, the country that pioneered wind power, MENCK has been ideally positioned to transfer its deepwater expertise and experience to the task of driving piles for wind turbines. MENCK installed the piles for the tripod and jacket anchoring systems of Germany's first offshore wind park, Alpha Ventus, in the stormy North Sea. At the date of publication MENCK is driving 240 piles for the 80 foundations of BARD 1 Wind Park, another German North Sea project.

As sites for onshore wind parks become scarce in several European countries, the wind energy industry has been increasing the search for offshore sites. Although the U.S. is hardly short of suitable land, offshore wind parks offer many advantages, not the least of which is their proximity to large cities and a large supply of wind. However, there are disadvantages, too, and it is here that MENCK's expertise in the field of noise reduction technology is particularly beneficial.

Noise Reduction Technology

Pile driving is a noisy business. If the neighbors are noise-sensitive, the consequences can be time-consuming, and costly to deal with. The MNRS, which was developed to mitigate the noise of pile driving H-beams for a new container terminal in Bremerhaven, Germany, can reduce noise by more than 60 dB at a distance of 1,500 meters (nearly 5,000 ft). Underwater noise, however, is a much more complex problem. While no standards have been established, individual governments are



ED WATERS & SONS CONTRACTING CO., INC.
GENERAL CONTRACTORS

*Specializing in Pile Driving, Steel Sheet Piling
and Marine Structures*

3375 Agricultural Center Dr.
St. Augustine, FL 32092

Office (904) 823-8817
Fax (904) 823-9687

Servicing the Transportation Industry for 20 Years

M, G & B Services, Inc

13433 Seymour Myers Blvd., Suite 14, Covington, LA 70433
P.O. Box 664, Mandeville, LA 70470-0664
Phone: 985-893-7878 • Toll Free: 800-256-2185 • Fax: 985-893-5222



www.mgbservices.com

trying to set noise levels which construction companies have to adhere to.

As of yet, no state-of-the-art noise mitigation solution exists for serial pile installation. Underwater noise bubble curtains have been tested in offshore applications and can reduce noise by 10-15 dB. A MENCK little bubble curtain achieved a 12 dB reduction when pile driving for the Alpha Ventus project. But MENCK is also testing alternative solutions such as jacket installation (driving through noise-insulated legs), telescopic noise mitigation tubes, double-wall protection pipes, large bubble curtains and hydro sound dampers. As the company that has forced the pace in underwater noise-mitigation technology, MENCK will continue to devote significant resources to developing effective

solutions to this problem in the future.

All-Round Service

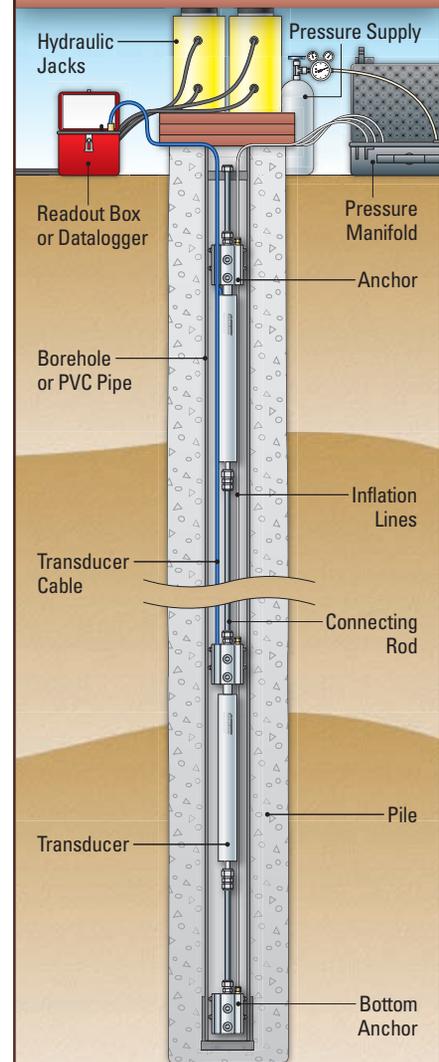
The company's service program goes well beyond spare parts and maintenance to include a complete package from pre-project consultation to fleet management. Besides maintenance and repair, this package includes upgrades, spare parts, on-site service technicians, engineering services, customer training and fleet management. The latter ensures a hammer system is ready to use when a customer needs it. As Christoph Daum, MENCK's CEO, points out: "We see ourselves as a maritime service provider and problem solver. In the future, we will be serving business segments we haven't even thought of yet." ▼

Photos courtesy of MENCK



Fitted with a 5.2m pile sleeve for driving offshore windmill mono pile

Retrievable extensometer



Geokon's Model A-9 is a **reusable** extensometer designed to measure incremental deformations of a concrete pile during load testing. It consists of a string of inflatable anchors and displacement transducers coupled with connecting rods.



Model A-9 Anchor

For more info, visit: www.geokon.com

GEOKON The World Leader in
Vibrating Wire Technology™

☎ 1-603-448-1562
✉ info@geokon.com
🌐 www.geokon.com

Geokon, Inc. is an
ISO 9001:2008
registered company



Floating Construction Equipment since 1995
Poseidon Barges are used for
Heavy Highway, Bridge & Marine Construction.



Barges Sizes:

40' x 10' x 5'

20' x 10' x 5'

10' x 10' x 5' Rakes

10' x 20' x 5'

40' x 10' x 7'

20' x 10' x 7'

Deck Cleats

Spud Wells

Spuds

Ramps

Winch Units

Barge Pushers

Wood Mats

Stock Locations

Fort Wayne, IN

Blytheville, AR

New Bedford, MA

Lk Panasoffkee, FL

Vallejo, CA

Hawaii

Dealer-Seattle, WA

POSEIDON BARGE CORPORATION

3101 New Haven Ave, Fort Wayne, IN 46803

PH: 260-422-8767 or 866-992-2743

WEB: www.poseidonbarge.com

Floating Construction Equipment since 1995

Email: info@poseidonbarge.com

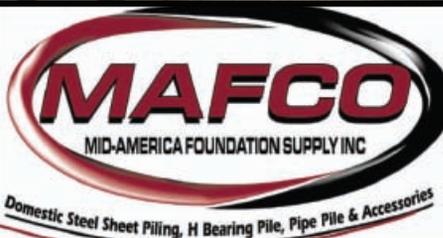


“MAFCO” - One Call for Piling Products, Accessories & Piling Equipment

- MAFCO is a distributor for Hot Rolled Sheet Pile, H-Pile, Pipe Piling, & Cold Rolled Sheet Pile Products
- Ship Direct from the mill or from inventory
- Stock Locations in Fort Wayne, IN & Blytheville, AR
- Coated material & fabrication are available upon request at time of order
- Engineering assistance available



- Hot Rolled Sheet Piling including: PZ-27, PZ-22, PZ-35 & PZ-40
- Hot Rolled Flat Sheet Piling including PS27.5 & PS31
- H-Pile & Wide Flange
- Spiral Weld & ERW Pipe Piling
- Accessories including: Pile Points, Splicers, Conical Points & End Plates



**One of the Largest Suppliers of
Piling and Piling Accessories
In the United States**

MID-AMERICA FOUNDATION SUPPLY INC

3101 New Haven Ave, Fort Wayne, IN 46803

PH: 260-422-8767 or 888-893-7453

WEB: www.mafcopiling.com

Serving the Piling Contractors since 1986

CARPENTER'S POLE & PILING INC.

3 Generations in the Forest Products Business
Manufacturer of Treated and Untreated Forest Products

Treated and Untreated

- Poles
- Piling
- Lumber
- Timbers

Delivered by:

Truck, Trip Trailers, Flatbeds and Self Unloaders

Treatments Available:

CCA, Creosote and ET & ET Brown

**Protecting the worlds natural resources
one truckload at a time!**

Quality in conformance to all national standards
– ANSI 05.1, AWPA, ASTM, AASHTO, S.P.I.B., APA, and
Corps of Engineers, US Coastguard, and D.O.D.

Shipping overseas to the worlds markets @

- Houston, TX
- New Orleans, LA
- Mobile, AL
- Gulfport, MS



Carpenter's Pole & Piling Inc.

1513 North Magnolia Dr.

P.O. Box 748 | Wiggins, MS 39577

601-928-7026 | 601-928-7416

www.carpenterspole.com

A Promise Come True: In the 1970s, High Strain Dynamic Pile Testing method promised to reliably replace static load tests, at a fraction of the cost and at a fraction of the time. In 2009, the dynamic pile testing GRL performed on the bridge over Bahia de Caraquez in Ecuador allowed a design change using Load and Resistance Factor Design and saved more than 20 million dollars.

GRL Engineers

Providing Dynamic Pile Testing For Almost 40 Years

By Gina Beim, P.E.

Disco music was all around, the US was celebrating its bicentennial, and Apple Computers had not even been incorporated yet. But the company now known as GRL Engineers was already born - it was the year 1976.

Four years before, the Journal of Soil Mechanics and Foundations Division of the American Society of Civil Engineers had published "Soil Predictions from Pile Dynamics" (by Rausche et. al). That paper was fundamental in disseminating to the geotechnical community the new method of pile testing being developed at the Case Institute of Technology in Cleveland, Ohio that resulted in the Pile Driving Analyzer® (PDA). The High Strain Dynamic Pile Testing method promised to reliably replace static load tests, at a fraction of the cost and at a fraction of the time.

Soon after, the rotary phones began to ring with inquiries about high strain dynamic pile testing. Frank Rausche and Garland Likins did practically all the testing in the early years as they covered the whole country. Too bad frequent flyer miles hadn't been invented yet! Not much later they hired part time secretary Marcia Giterman to join them in a small office atop a grocery store in Cleveland Heights, Ohio. Marcia, who later became a full time office manager, is now semi-retired but still consults for the company. She reminisced: "At first, we only had two pile testing jobs at a time, so we would refer to them as 'the Ohio job' and 'the Alaska job', and all the job reports fit into a single filing cabinet".

Fast forward to 2010. There are still jobs in Ohio and Alaska, large and small. In fact, the Ohio office of GRL will be part of the design-build team for Cleveland's new "Innerbelt Bridge", the largest single transportation investment in Ohio's history. And the installation of the piles of a small boat harbor in Alaska was recently analyzed with GRLWEAP (the time tested program of wave equation analysis of pile driving).

The difference from then to now is that there are a lot more than two pile testing jobs at a time. GRL now employs 27 engineers, and it is not uncommon for 20 of them to be either on the way to, at the job, or on the way back. When they are not busy testing, they are in one of GRL's offices, thoroughly analyzing the field data and finishing their reports to clients.

That's offices, plural: instead of the one small office of the 1970s, GRL now has offices in Pennsylvania, North Carolina, Florida, Louisiana, Colorado, Ohio, Illinois and California, and recently moved its Central Office to a 41,000 square foot facility it shares with sister company Pile Dynamics, Inc. in Cleveland, Ohio.

Around the time that this article was being written, Murali Ravi (GRL PA) was calibrating SPT rigs at the JFK airport, Darrell Fortune (GRL NC) was performing cross-hole sonic logging on the foundations of a bridge in North Carolina, Anna Klesney (GRL CO) had a pile integrity testing job in San Antonio, and Camilo Alvarez (GRL CA) had flown to Venezuela to conduct a dynamic load test on a bridge over the Orinoco River (he used the PDA and a 60 ton drop weight, the largest in Latin America, to test up to 6000 tons pile bearing capacity). All this was happening while Al Ziai (GRL Central Office) was testing piles in a part of Northwestern Canada so remote that he had to sleep at a camp site where bears were frequent visitors. (read the compliment Al got after his return), and Pat Hannigan (GRL IL) was safe from bears, sitting in his office in a Chicago suburb, monitoring pile driving in Galveston, Texas, and Milwaukee, Wisconsin, with SiteLink™.

These are just a few of the many engineers who make up the new generation of GRL. Leading the various regional offices are Mohamad Hussein (Past Chair of the Deep Foundations Committee of the American Society of Civil Engineer's Geo-Institute and the Director of ASCE's nation-



CHRISTIANSON
PIPE INC.

We Get

**Thousands of Tons
of New Piling Pipe**

Every Month into our
80 Acre Storage Yard
Check our Inventory at
www.christiansonpipe.com



**We can arrange delivery
to Anywhere**

Box 5451,
High River, AB
Canada T1V 1M6
1-888-652-4336
Fax: 403-652-4913

1-888-652-4336



Venezuela 60 ton PDA test



Bridge over Escambia Bay

ally offered Continuing Education Course on Deep Foundations Design, Construction, and Quality Control), Pat Hannigan (prime author of the Federal Highway Administration's publication "Design and Construction of Driven Pile Foundations"), Scott Webster (GRL's offshore manager as well as its most experienced unknown foundation tester), Michael Morgano and Camilo Alvarez. Frank and Garland paved the way to a pile testing industry that helped optimize design, refine driven pile installation methods and speed construction. GRL's outstanding senior engineers are following in their footsteps, expanding the application of dynamic testing and spreading their knowledge – be it by presenting at conferences, collaborating with universities, writing journal papers or manuals, supporting colleagues all over the world with advice and analysis reviews and/or by introducing dynamic foundation testing to other engineers in training sessions and workshops.

Even though a considerable percentage of GRL projects still involves dynamic monitoring of driven piles with the PDA and CAPWAP® (see CAPWAP sidebar), GRL now provides many other services, such as integrity testing, cross-hole sonic logging, wave equation analysis, evaluation of unknown foundations, evaluation of SPT equipment and dynamic testing of drilled shafts and augered cast-in-place piles with its APPLE system. The various GRL offices are all equipped to perform the whole range of services that GRL offers, while remaining attuned to the realities of the region each serves.

"The bulk of what the GRL Illinois office tests are H piles" – says Pat Hannigan – "and we test the majority of them using wireless. (Pat is referring to using Smart Sensors, which, instead of transmitting

data to the PDA by cables, do so with wireless radio transmitters). The contractors like it because they don't need to climb the leads to install the accelerometers and strain transducers, it's easy to put them on with the pile on the ground, and protect them with stiff foam padding while the piles are being hoisted." The Illinois office only uses the traditional (cabled) sensors when they are conducting an APPLE test, such as a test on belled shaft where excavation associated issues raised capacity concerns.

The Ohio and Pennsylvania offices, both under the helm of Michael Morgano, are unique in the highly variable soil conditions of their territory. Michael and his team test from short (10 to 20 ft) H piles driven into hard rock in the Buffalo area, where concerns with driving stresses often govern the installation requirements, to 300 ft long steel piles in Syracuse, where stresses aren't an issue, but where it is sometimes challenging to mobilize the required capacity. They deal with serious relaxation potential in the weathered shales around Pittsburgh, and with fairly straightforward jobs on the East Coast, where there is a prevalence of pipe piles driven into sands. In West Virginia, most of the Ohio office workload involves investigating the quality of drilled shafts using cross-hole sonic logging.

Florida is the longest continuously operating office of GRL, serving the South Eastern US and the Caribbean. Keeping with the design-build trend, that office provided dynamic testing services for the first (1992), the largest (I-595 corridor improvements) and the largest single bridge (Bridge over Escambia Bay, see photo) Florida DOTs Design-Build projects. In fact, says GRL Florida's Mohamad Hussein, "We are currently involved in most, if not all, such projects, either as

part of the design-build team or as part of the DOT's oversight team". Mohamad and his team work on many private sector jobs as well: from piers and cruise terminals in the Caribbean to high rise condominiums in Miami, and on essentially all Orlando area amusement parks.

Departments of Transportation are often interested in determining the depth of bridge foundations for which construction records are no longer available. The North Carolina office of GRL is currently helping the DOT of that state gain information on 150 bridges. This effort follows a previous stint in 2006 when approximately 100 bridges were investigated. GRL has an entire "toolbox" for this type of work, choosing from induction testing (for steel piles), parallel seismic tests, or low strain dynamic tests (pulse echo, or PIT) on concrete piles. Testing unknown foundations requires engineers to be resourceful, as the existing superstructure often makes data acquisition and interpretation challenging. It is, however, a promising field: while the DOTs resort to these tests while evaluating bridges for scour, the reuse of existing foundations is of growing interest to sustainability minded engineers, particularly in the congested urban areas of Europe.

In addition to providing foundation testing services across the United States, GRL has a significant testing presence on offshore pile testing projects. Pile driving is an important and challenging part of the construction of offshore oil platforms as well as of the installation of offshore wind farms. In both situations, long, large and extremely expensive piles are driven to

deep penetrations in a difficult environment, often with severe physical and time constraints. Scott Webster has managed GRL's Offshore Services for the past 15 years, during which the pile foundations of more than 100 offshore oil platforms – some up to 20 ft in diameter and up to 1400 ft in length - have been tested with the PDA, often requiring the use of special underwater sensors. Scott counts on the entire team of GRL Engineers to rotate the staffing of Offshore Services, since assignments often require several weeks on a construction barge. Going offshore for the first time is a rite of passage for virtually every GRL Engineer, be it in the Persian Gulf, Indian Ocean, North Sea, Arctic Ocean, Brazil, Gulf of Mexico...wherever oil and gas is about to be prospected or produced. In 2010 alone, Scott has coordinated work on 13 platforms in the Karan field and three platforms in the ZULF Field, both offshore Saudi Arabia, and one platform in the Black Sea, offshore Turkey.

Maybe the secret of GRL's success is the way its engineers feel about the work of its founders: "It's been 25 years and I'm still amazed at how much information I can obtain from looking at a graph," said Michael Morgano, a partner in GRL and manager of the Ohio office who's been with GRL since 1985, while momentarily interrupting his CAPWAP analysis to contribute to this article. "So much information about a pile that I can see instantly – just by looking – stresses, capacity, hammer performance, any damage ...it's such a far cry from a static test." And it all started as a research project at Case – pretty amazing. ▼

Photos courtesy of GRL Engineers, Inc.

BLAKESLEE • ARPAIA • CHAPMAN, INC.
Engineered Construction Since 1844



*Bridges and Dams
Utilities and Substation
Foundations*

*Waterfront Structures
Rigging and Millwrighting
Underpinning & Shoring*

Blakeslee • Arpaia • Chapman, Inc.
200 North Branford Road, Branford CT. 06443
Phone: (203) 488-2500 Fax: (203) 488-4538
Email: dchapman@bac-inc.com Web: www.bac-inc.com

**the STRENGTH
and RELIABILITY
of STEEL...**

**...for all your Heavy Civil
Construction, Highways, Bridges
Airports, Harbor Berths, Seawalls,
River Frontages, Foundations,
Offshore and Platform Building
projects.**

**CORPAC
STEEL
PRODUCTS.CORP.**



**CORPAC STEEL
Products, Corp.**

www.corpacsteel.com

Ph. 305-918-0540 - Fx. 305-931-2251 sales@corpacsteel.com

SiteLink™ is technology through which GRL conducts Dynamic Foundation Testing from any of its offices. It eliminates scheduling conflicts and the travel of the engineer to the field to conduct the test, minimizing the time until report submittal. The GRL engineer monitors the job remotely, using software that tracks and controls the pile test.



Dynamic pile testing offshore – PDA in the foreground

CAPWAP® - Case Pile Wave Analysis Program - is the signal matching software program, originally developed by Frank Rausche as part of his PhD dissertation. It uses PDA data to calculate total bearing capacity as well as resistance distribution along the pile shaft and at the toe. Its results correlate very well with static load tests results. GRL Engineers perform at least one CAPWAP analysis per dynamic load testing job. On driven pile jobs GRL has recently begun to also perform iCAPTM – a simplified signal matching program that calculates bearing capacity during driving.

ABI® Gruppe

ABI • BANUT • DELMAG • GEODRILL • INTEROC



- ABI MOBILRAM-System**
Telescopic and fixed leader masts with different attachments like
- Vibrators with fix or variable static moment for pile driving and extracting
 - Auger drives for drilling, soil mixing or installing cast-in-situ piles
 - Hydro-Press-Systems for static pressing

Mast guided auger drive

Triplemix TMBA

Soil mixing procedure with high production rates for installing:

- retaining walls
- cut-off walls
- slurry walls
- ground stabilisation
- ground improvement



ABI GmbH · Am Knüchel 4 · D-63843 Niedernberg
Phone: +49 (0) 6028 123-0 · E-mail: info@abi-gmbh.de

www.abi-group.com

Spreading the knowledge: "I would (...) like to extend our sincere appreciation to Ryan Allin," said John R. Morris, Jr., P.E., from Morris-Flood Associates, LLC., adding, "Ryan worked shoulder to shoulder with us clearly demonstrating the features and functions of the equipment, the steps necessary to properly set up the equipment in the field, and assisting in executing the dynamic testing program for the project that we are working on. Ryan was a superb and knowledgeable teacher and was truly supportive, professional and hard working."

GRL Engineers, Inc. in brief

Specialty: Dynamic testing and analysis of deep foundations

In business since: 1976

Representative clients: Most US Departments of Transportation; Port Authorities; US Army Corps of Engineers; US Navy; construction corporations; foundation contractors; engineering consultants

President: Frank Rausche

Vice Presidents: Garland Likins, Mohamad Hussein, Pat Hannigan, Michael Morgano, Scott Webster Camilo Alvarez.

Number of engineers: 27

Offices:

Central	216.831.6131
California	323.441.0965
Colorado	303.666.6127
Florida.....	407.826.9539
Illinois.....	847.221.2750
Louisiana	985.640.7961
North Carolina	704.593.0992
Ohio	216.831.6131
Pennsylvania	610.459.0278

info@pile.com

www.pile.com/grl

GRL ENGINEERS



MASON CONSTRUCTION, LTD.

BUILDING ON A FOUNDATION OF INTEGRITY

- SINCE 1939 -

DRIVEN PILES

ACIP PILING

HELICAL PILES

RESTRICTED ACCESS

HIGH/LOW HEAD ROOM

CONCRETE

TIMBER

PIPE

SHEET

H PILE



CIVIL & INDUSTRIAL CONTRACTORS PROVIDING FOR ALL YOUR PROJECT FOUNDATION REQUIREMENTS

WWW.MASONCONSTRUCTION.NET
6285 WALDEN ROAD - BEAUMONT, TEXAS 77707 (409) 842-4455

Taking the Lead

in over 40 countries
around the world

LEADER SYSTEMS

IMPACT HAMMERS

STATNOMIC LOAD TESTING TECHNOLOGY

REVERSE CIRCULATION DRILLS

CUSTOM FOUNDATION EQUIPMENT

SITE SUPPORT

PROJECT PLANNING

BERMINGHAM

**FOUNDATION SOLUTIONS
SINCE 1897**

Berminghammer
FOUNDATION EQUIPMENT



Wellington Street Marine Terminal

Hamilton, Ontario, Canada L8L 4Z9

Tel: 1.905.528.7924 Fax: 1.905.528.6187

Toll Free: 1.800.668.9432 (in Canada and USA)

www.berminghammer.com

www.berminghamfoundationsolutions.com





Lake Austin Lakeside Estate

By Rusty and Clayton Signor, Signor Enterprises, Austin, TX

In the heart of drilled pier country, a private residence on Lake Austin in Austin, Texas recently was completed by being supported on driven piles. Large residences on Lake Austin are not uncommon, but this project stands out because a world class architect was inspired by the driven pile material and created an internationally renowned pedestrian bridge.

Central Texas Pile Driving

Driving piles in Central Texas has been an uphill battle in the last 25 years. Signor Enterprises, LP makes headway every time a rogue engineer, builder, or architect realizes the benefits of driven piles over drilled piers. The first utilization of piles for a house foundation in the area came when removing the spoils of cased piers caused a mess at the subdivision's entrance, and the Home Owners Association shut down the job. A structural engineer who had seen piles driven on the coast saw Signor Enterprises working on a nearby dock structure. He asked if the crane operating the drop hammer could come on shore to install piles for the house, and the rest is history. The next major landmark in pile driving in Central Texas was 15 years later after Rusty Signor, founder and owner of Signor Enterprises, heard a presentation on pile testing by Dr. George Goble at a Pile Driving Contractors Association Annual Conference. Dr. Goble described a pile demonstra-

tion he performed in Denver, Colorado where local engineers predicted the capacity of a pile by 85% on average. Rusty saw an opportunity to demonstrate the capacity of his driven piles by means of a hydraulic jack test in front of a group of BBQ-loving engineers. For a 6-5/8" schedule 40 closed-end pipe pile driven with a 2000 pound drop hammer, the static loading maxed out when the 60 ton jack met capacity with minimal deflection. The required allowable loading was doubled to 60 kips, so going through the trouble to get a 250 ton loading jack was deemed unnecessary. The battle was won for this project. Engineers learned a lesson of the capabilities of driven piles and the client saved half of his foundation cost.

Scope of Project

Over five years, this lakeside estate was phased into installing driven piles for the deep foundation of the primary residence and guest house, constructing a 2-slip boat dock supported on piles, erecting an 88 foot pedestrian bridge with vertical and battered pile supports, installing approximately 1650 linear feet of light gauge sheet piles, and driving piles and sheet piles for a top-down construction of a swimming pool. Three aspects of this phased project are of interest for discussion: using a dynamic pile test for value engineering the foundation pilings and as a teaching tool, using battered piles



and pile material to construct the pedestrian bridge, and using sheet piles for a top-down construction approach for the swimming pool.

Building Foundation Piles

Pile driving in Central Texas is relatively new for many geotechnical and structural engineers. This project helped to remove one of the biggest excuses

to not use piles on Lake Austin besides the under designed bearing capacity for piles. At the time, there was a preconceived notion that as long as a foundation is not on the edge of the lake, the soil is strong enough to float a slab. By demonstrating pile driving and a dynamic pile test, Signor Enterprises removed this misconception from a number of engineers.

The main residence was located about 400 feet from the main body of the lake underlain by 50 feet of alluvial silt before a limestone base. Consistent with many lakeside sites, the ground had around a six foot thick top ground cap above the water table. During a demonstration, Signor Enterprises placed around 20 pilings in predrilled holes. While the guest engineers were eating lunch, the piles were pushed into the ground over 20 feet with just the weight of a 2000 pound drop hammer. (On other sites the piles have dropped this way without even the hammer weight on them). Some of the guests had a hard time swallowing their lunch as they had designed floating slabs on nearby homes. Yet the pilings for the swimming pool immediately adjacent to the main body of the lake on this project (discussed later) had dramatically higher blow counts for their entire penetration. This proved that Lake Austin, a dammed portion of the Lower Colorado River, exhibits typical river deposits of larger-grained soils closer to the channel and finer-grained soils including organics further out.

The dynamic test demonstration performed by GRL Engineers, allowed the structural engineer to redesign the main foundation by a 23.5% reduction of the original 187 piles with double piles at beam intersections and as close to 4 foot on center spacing. The results of this test were used for further design of the guest house and the pool.



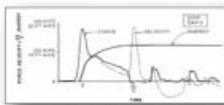
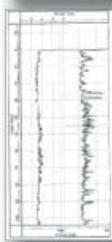
GZA GeoEnvironmental, Inc.
Building Foundations for a Solid Future

Contractor Support Services

- High-Strain Dynamic Pile Testing (PDA)
- Static Pile Testing
- Wave Equation Analysis (WEAP)
- Cross-hole Sonic Logging (CSL) & Pile Integrity Testing (PIT)
- Vibration Monitoring
- Deep Foundation & Geotechnical Instrumentation
- Pre- & Post-Construction Surveys
- Foundation and SOE Design
- Subsurface Exploration
- Foundation QA PDA Certified Operators
- Waterfront and Marine Structures
- Temporary Work Trestle Design



Unit photo courtesy of PDI

GZA One Edgewater Drive
Norwood, MA 02062
781-278-3700
www.gza.com

**Service.
Solutions.
Satisfaction.**





Top-Down Pool Construction

The swimming pool for this estate was designed to be constructed 5 feet below ground level and on the edge of the lagoon. The water table was 3 feet below the surface in highly saturated alluvial silts. Inspired by a Skyline Steel PDCA presentation, a top-down construction approach with sheet piles was chosen rather than conventional over-excavation due to the high water table, the weak soils, and the proximity to the lagoon. Sheet piling was driven around the perimeter of the pool and several well points were installed for dewatering. As the silt was so loose, the excavation was limited to small areas and then backfilled with gravel in order to keep the sheet pile toe deflecting inwards.

Pedestrian Bridge

The pedestrian bridge for this estate was built to connect the primary residence to the guest house across a lagoon. Signor Enterprises participated in the structural design which incorporated the pipe pile material as the primary support system. Battered piles were used to withstand the lateral thrust and the axial loads that were welded directly to the support structure of the bridge. The superstructure was the same pipe size as the piles, which were bent in four different arch radiuses pushing against these battered piles. The arched pipes were then tied together by half inch rods welded 2 inches apart, bent, and cut to various lengths to resemble the cat tails in the surrounding lagoon. This simple design brought about international recognition by articles in AIA publications and the following awards:

- 2008 Grand Award – Custom Home Design Awards
- 2008 Finalist – London International Creative Competition
- 2006 Architectural Review Awards for Emerging Architecture
- 2006 Design Award – Texas Society of Architects
- 2006 Small Projects Award – AIA National
- 2006 Merit Award – AIA Austin

Conclusion

The success of this project was directly tied to Signor Enterprises' involvement with the PDCA over the last decade. Without the informative technical seminars and the network of pile driving experts used for guidance, many of the progressive methods of construction would not have happened for a residence.

Project Description

- Project Title: Lake Austin Lakeside Estate
- Project Owner: Withheld on Request
- Architect: Miró Rivera Architects
- General Contractor: Don Crowell Builder Inc.
- Total Subcontract Amount: \$922,144
- Start Date: Fall 2004
- Completion Date: Fall 2009 ▼

Photos courtesy of Rusty and Clayton Signor, Signor Enterprises





Your True Project Partner

A premier steel foundation supplier serving the US, Canada, Mexico, Central America, Caribbean and South American markets, Skyline Steel is a wholly-owned subsidiary of ArcelorMittal, the world's largest and most respected steel company. Skyline Steel has over twenty sales offices across two continents and a robust infrastructure comprised of manufacturing, coating, and fabrication facilities; dozens of stocking locations; an efficiently-coordinated supply chain; and exclusive engineering support. Collectively, these functions support a dynamic sales team that supplies hundreds of thousands of tons of steel foundation products to the industry every year.



Pipe: Spiralweld and Rolled & Welded

- Wide Range of Lengths, Diameters and Thicknesses
- Custom Lengths
- Accepted by DOTs in Seismically Active Areas
- Spiralweld Pipe is Structurally Equal to API Pipe*

*According to full-scale university study conducted in 2009



Threaded Bar

- Grade 75 and Grade 150 Threaded Bars ideal for: Tie Rods; Rock Bolts, Roof Bolts, Anchor Bolts; Soil Nails; Micropile Reinforcement; Threaded Bar Cages; Tie Backs; Soil and Rock Anchors
- Threaded Bar Accessories
- Multiple Corrosion Protection Options



Steel Sheet Pile

- Widest Range of Hot Rolled and Cold Formed Steel Sheet Pile Available in the Industry
- Z-piles, Flat Sheets, Combination Walls
- Domestic & Foreign



Skyline Steel's flagship products include H-piles, pipe piles, hot rolled and cold formed steel sheet piles, threaded bar, micropiles, accessories, structural shapes and connectors. Of the products we manufacture and supply, 80% are made from recycled steel and are 100% recyclable.

www.skylinesteel.com/pd | 973.428.6100 | technical hotline: 1.866.875.9546

Unmatched Product Range | Material Availability | Manufacturing Capabilities | Innovative Applications and Engineering Expertise

Construction of the new pier continues as the old pier is demolished.

Navarre Beach Pier: A Symbol of Resilience

This new Florida fishing pier is both the longest in the state and in the Gulf of Mexico

By Wayne Waters, President, Ed Waters & Sons Contracting Company, Inc.

Not only is the new Navarre Beach Pier the longest in Florida, but it also boasts the distinction of now being the longest pier on the Gulf of Mexico.

Stretching 1,545 feet—and surpassing a new pier (by a mere five feet) that opened in July in Gulf State Park—the new Navarre Beach Pier, located in Santa Rosa County in northwest Florida, is truly a symbol of resilience.

Damaged by Hurricanes Ivan and Dennis in 2005, the pier was left standing without a significant portion of its middle for about four years until St. Augustine-based Ed Waters & Sons Contracting Company began construction in April 2009. EW&S specializes in pile foundations, steel sheet pile structures and marine construction in Florida, Georgia and South Carolina.

With an aggressive construction schedule that was completed in 13 months—necessary because the pier is a very important economic engine, recreation and tourist spot for the community—the \$8.43 million project was completed on June 4, 2010 and officially open to the public the next day.

Of this amount, \$7.4 million was contracted to EW&S for the demolition of the old pier and construction of the new one. Ninety percent of the project was funded utilizing FEMA federal aid for disaster recovery funds for improved projects with a state share of 7.5 percent. The county funded approximately 2.5 percent, or roughly \$211,000, of the initial project cost and also picked up the \$125,000 change order to extend the pier by 45 feet to 1,545 feet.

EW&S donated the labor to extend the pier out 45 feet longer than planned so both the county and company could share the limelight of being involved in the construction of the Gulf of Mexico's longest fishing pier.

Other key features of the new 22-foot wide pier—which provides 32,000 square feet of accessible surface—include more than 3,000 feet of handrail with no overhead obstructions to interfere with fishing; an octagonal end design with a surface area of 3,800 square feet that can accommodate more fishermen; 16 handicap-accessible railing locations; a deck height of 30 feet above the water; seven potable water spigots; an attendant building with stair and ramp access to the pier; approximately

90 low-water lights and concrete bollards to protect sea turtle nesting; and more than 800 breakaway wood panels that detach during heavy wave action to help preserve the integrity of the structure and reduce possible storm repair costs. There are also 146 two-foot square concrete piles totaling more than 9,500 feet in length. And Grade 100 reinforcing steel was used instead of Grade 60.

“The project was designed with 100 ksi steel due to its increased strength and longevity,” says EW&S President Wayne Waters. “The designers of the project indicated that it would better protect the structure in the event of a storm and likely increase the life of the pier by approximately 20 percent. Unfortunately, this steel is currently manufactured only by one company and has a very long lead time. Therefore, it created some challenges with respect to schedule. However, in the end we were able to overcome those challenges and still finish the project ahead of schedule.”

Pile Driving Challenges

Though there were many obstacles, the main one from a pile driving perspective was Mother Nature.

“The construction of the pier out in the open seas of the Gulf of Mexico, where you are subject to the unpredictable elements such as wind and waves, was by far the largest challenge,” says Eric Prendergast, EW&S project manager.

To overcome this, a unique construction technique called “top down construction” was employed, which eliminates the need for floating barges by placing the equipment on top of the pier as it is being built.

As the pier is constructed, the equipment is placed at the end of a completed span. From that location, it can drive the piles, set the pile caps and beams for the next span. When that span is complete, the equipment moves out to the end of that span to begin construction of the next span.

“This allows construction to continue in all but extreme tidal or wave conditions below,” explains Prendergast. “No floating equipment is required. This has a major impact on the construction schedule and it also means that equipment can be mounted on the pier should future repairs be needed.”

Deconstructing the Old Pier

While St. Augustine, Florida-based Ed Waters and Sons Contracting Company focused its main workforce on the construction of the new Navarre Beach fishing pier, a major part of this \$8.43 million project was the demolition of the existing pier. The previous 1,450-foot-long pier was built in 1974 and was privately owned until April 2000 when it was turned over to Santa Rosa County. In 1995, Hurricane Opal destroyed the T-shaped pier head, which was subsequently replaced. In 2005, Hurricane Ivan once again destroyed the T-shaped pier head, but it was not replaced. Also in 2005, Hurricane Dennis took out a significant portion of the pier's midsection, leaving it in the condition it was prior to the start of demolition in April of this year.

Due to its capabilities and proximity to the area, EW&S selected Panama City-based marine contractor

H.G. Harders & Sons, Inc. for this portion of the project. The deconstruction of the old pier was a multiple-stage process. First, the concrete deck sections were cut apart, and then the concrete caps were cut off the existing concrete piles. Lastly, the concrete piles were pulled using a specially fitted vibratory hammer. Due to the limitations of the floating operation related to periodic adverse weather conditions, the deconstruction operation was interrupted multiple times. Overall, this effort lasted approximately nine weeks, but included about two weeks of weather delays. All concrete materials were stored on barges and pushed out to and placed on artificial reef sites managed by Escambia County, permitted under the Florida Department of Environmental Protection Agency and Army Corps of Engineers. While this project is not the first to benefit Florida's Artificial Reef Program, it is one of a handful per year that would qualify and is unique for that reason.

MB WESTERN INDUSTRIAL CONTRACTING CO.

CIVIL, PILING & MARINE CONSTRUCTION CONTRACTOR



SAFETY, QUALITY, EXPERIENCE & VALUE

PHONE: 281-487-5757
 WWW.MBWESTERN.COM



Installing the deck panels



Ed Waters and Sons crew members place concrete for a diaphragm wall.

Additionally, another challenge associated with top down construction was how to consistently and efficiently shuttle materials and other equipment to the worksite as it progressed further out into the Gulf.

“It has been decades since anyone has been that far out into the gulf from Navarre Beach,” commented Santa Rosa County Commissioner Gordon Goodin recently to a local newspaper.

In order to meet this challenge, EW&S designed and developed a trolley system consisting of a fabricated steel beam cart riding on steel tracks pushed by a skid steer.

“The trolley proved to be flexible, effective and efficient to facilitate the construction of the pier,” says Waters.

Hurricane Proof?

While there is no such thing as a hurricane-proof pier, this is probably as close as you can get. “It would be more correct to say that through certain elements of design such as heavier reinforcement, heavier/longer piles, blow-out deck panels, and raised elevation, that this pier is one of the most hurricane-resistant piers in the state of Florida and in the Gulf of Mexico,” says Prendergast.

In order to maintain the pier’s structural stability during storms, battered, or inclined, piles were used.

Prendergast says battered piles are used on structures such as bridges and piers where periodic lateral forces may be increased during events related to loading and/or increased wave action caused by a storm.

“In general, the greater the angle of the piles, the more stable the structure will be. However, increased angles of the piles

on a pier can also interfere with those trying to fish from above. Therefore, a combination of stability and functionality had to be taken into consideration with regards to the design of this pier.”

While some projects utilize a wide variety of driven piles, this was not the case in this project. All piles used were 24-inch x 24-inch square concrete piles that varied in length from 54 feet to 87 feet, depending on water depth. However, a unique design of the piles was used for those piles from about the halfway point out. To the standard FDOT-designed 24-inch concrete piles, 12 #10 reinforcing bars were added to the full length of the piles.

“This was to overcome the very high moment loads created at the mud line and at the bottom of the cap during periods of storm surge and high waves,” says Waters. “Timber piles were utilized for the stairs, ramps and decks. These piles were located on-shore and contributed to an effective and attractive structure that complemented the existing gift shop that remained from the previous pier.”

Much damage to ocean piers during storms often results from wave action “hammering” the underside of the pier deck and driving it back out of the ground. This pier was built with a deck elevation of 30 feet above the water to minimize the chances for waves to impact the pier except during major storms. However, in the event of a major storm, the Navarre Beach pier incorporates drop-in, timber deck panels. These panels are not fastened to the structure, which allows these panels to “blow-out” in times of exceptionally rough surf, eliminating this source of damage and minimizing the pier’s surface area to any storm. The timber deck panels can be retrieved and reinstalled or replaced after a storm.



US 95 Sandpoint North and South
(Sand Creek Byway)
Sandpoint, Idaho

Pacific Pile & Marine, LP, general contractor, specializes in marine and heavy civil construction services.

From pile driving to dredging to pier construction, PPM has the necessary equipment and knowledge set to deliver quality marine-based infrastructure throughout North America.



582 South Riverside Drive
Seattle, WA 98108

Telephone: (206) 331-3873 | Fax: (206) 774-5958
www.pacificpile.com



Fisherman line the rail on Opening Day, June 5, 2010.



James Davis (left) and Wayne Waters on the new Navarre Pier at the opening on June 5, 2010.

“This is a major concern to any project located on or near the coast in Florida during hurricane season,” adds Prendergast.

This project was, in fact, threatened by tropical storms twice during the 2009 season. Tropical Storm Claudette scored almost a direct hit on Navarre Beach with recorded sustained winds of 60 mph and significant surf and storm surge.

“Later in the same season, Hurricane Ida was bearing down on Navarre Beach, which at one point was the projected landfall location,” says Prendergast. “In the last 24 hours before making landfall, Ida downgraded drastically to a tropical storm and made a sharp turn to the west landing in Alabama. Tropical storm winds and waves were still prevalent at the pier during this storm event. Through both events the pier, which was under construction, was undamaged.”

Environmental Concerns

In a strong effort to care for wildlife, especially the endan-

gered sea turtles that lay their eggs on Florida’s beaches, the Navarre Beach pier utilizes environmentally-friendly, low-pressure sodium lights.

Sea turtles, including hatchlings, use natural light as a reference as they move from the shore to the sea. “These low-wattage lights emit a relatively dim, but effective, area of light that illuminates the pier deck and avoids confusing the sea turtles,” says Waters.

Signs have been posted with safe fishing guidelines for the protection of sea turtles, birds and dolphins. So, for instance, if a sea turtle, bird or dolphin gets hooked or entangled in line, phone numbers to call are posted on signs in clear view. The pier is also located in a federally designated critical habitat for the gulf sturgeon. Signage is located on the pier educating fishermen about the gulf sturgeon so that they know discarding fish wastes, bait and monofilament is prohibited. ▼

Photos courtesy of Wayne Waters, President, Ed Waters & Sons Contracting Company, Inc.



Hammer Cushions
(Conbest, Aluminum & Blue Nylon)



Pile Cushions
(Cylinder Pile Cushions a Specialty)

Contact us for the best cushions available – anywhere!

SPECIALTY PILING SYSTEMS, INC.

Toll Free: (888)-231-6478 (Phone & Fax)
Direct Phone (985) 643-0690
E-mail: SWhitty-SPS@charter.net



DOMESTIC STEEL SHEET PILING

THOMAS M. WILLEY

Phone: (800) 522-9550
Res: (248) 545-1745
Fax: (586) 749-6653
Email: tomwilley@shorelinesteel.com
<http://www.shorelinesteel.com>

(586) 749-9559
58201 Main St.
New Haven, MI 48048



Municon Consultants

Vibration Monitoring, Construction Instrumentation, Photo Surveys

Vibration Monitoring: Ground, Water & Air.
Inclinometer, Piezometer & Tiltmeter Systems.

Remote Reading for Economical Long Term Monitoring

1300 22nd Street, Suite A, San Francisco CA 94107
Phone: 415-641-2570 Fax: 415-282-4097

THE PLAYERS INVOLVED**Owner:**

Santa Rosa County, Florida

General Contractor and Pile Driving Contractor:

Ed Waters & Sons Contracting Company (PDCA Member)

Consulting Engineer:

PBS&J

Marine Contractor:

H.G. Harders & Sons, Inc.

Prestressed/Precast Concrete:

Standard Concrete Products (PDCA Member)

Timber:

Cox Wood (PDCA Member)

Pile Hammer – APE D50-42:

American Piledriving Equipment (PDCA Member)

PIER FACTS

Name of Project: Navarre Beach Pier

Location: Navarre Beach, Florida

Cost: \$8.43 million

Length: 1,545 feet in length, making it the longest pier on the Gulf of Mexico.

Deck Height: 30 feet above water in order to maintain the integrity of the structure during storms.

Access to Pier: Wooden stairs and an ADA ramp provide access and serve as the entrance and exit past the pier attendant.

Pier Railing: Rail height is three feet, six inches with a thickness of six inches and is in compliance with the Florida Building Code. No obstructions located above the railing will interfere with fishing. Additionally, two inch by two inch plastic coated wire mesh is stretched between the railing posts.

Pier Walkway Surface: Constructed of wood panels; these panels can lift out and float away to relieve pressure in the event of high waves. The wood panels are three foot by six foot pressure-treated southern yellow pine grade 1, which helps with warping. At six feet long, they have a width of between six feet and 12 feet.

Pier Lighting: Lights are placed every 35 feet and integrated into one-foot thick concrete bollards.

Recent Storm Damage History: In 1995, Hurricane Opal destroyed the “T” end design of the pier, which was repaired. The “T” end design was then destroyed by Hurricane Ivan in 2005 and not replaced. Also in 2005, Hurricane Dennis destroyed the midsection of the pier, which was not replaced.

Pier Visitors: Since 2003, more than 79,000 people have visited Navarre Beach pier. Pier ticket sales from 2001-2007 were approximately \$136,600 annually. The highest weekly attendance was June 13-14, 2001 with 3,044 visitors.

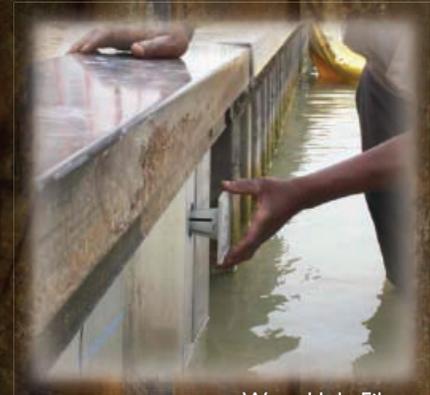
**Sheet Piling Wick Drainage System**

Retaining walls are failing daily in all parts of the world due to the lack of proper erosion control. The **JET FILTER** prevents seawall failure by relieving pressure and allowing drainage while saving time & money on extensive repairs. The **JET FILTER** relieves the hydrostatic pressures created by rain water as well as tidal surges trapped behind erosion control structures.



239.825.4508

www.jetfiltersystem.com



Weep Hole Filter
US Patent #7,615,148



BRITTEX

INTERNATIONAL
PIPE SUPPLY

SERVICES

- Weld to length
- Fabrication
- Cutting, beveling
- Coating
- Reconditioning
- Roll and Weld
- Sandblasting
- Custom Orders

PRODUCTS

- New Prime
- New Surplus
- New Mill Reject
- New Limited Service
- Used and Secondary
- Mill Overruns
- Rolled and Welded
- Spiral Welded

We are a major supplier of steel pipe, specializing in custom orders.

We supply pipe from 4" -108" diameter and also purchase new, used and structural pipe for inventory.

**...Any length,
any size,
call us!**

Brittex International Pipe Supply

5505 Almeda Genoa Road • Houston, Texas 77048

Tel: 713-991-6107 • Fax: 713-991-3128 • Web: www.brittexpipe.com



CORMAN
MARINE CONSTRUCTION

MARINE AND HEAVY CONSTRUCTION

711 EAST ORDNANCE ROAD
BALTIMORE, MARYLAND 21226

410-424-1870

www.cormanmarine.com

BUILT ON SOLID FOUNDATIONS

*Safety
is our attitude
for life*



General and Specialty Geotechnical Contractors

Foundations • General Construction • Demolition • Steel Erection

1000 John Roebling Way

Saxonburg, PA 16056

Office: 724-443-1533

Fax: 724-443-8733

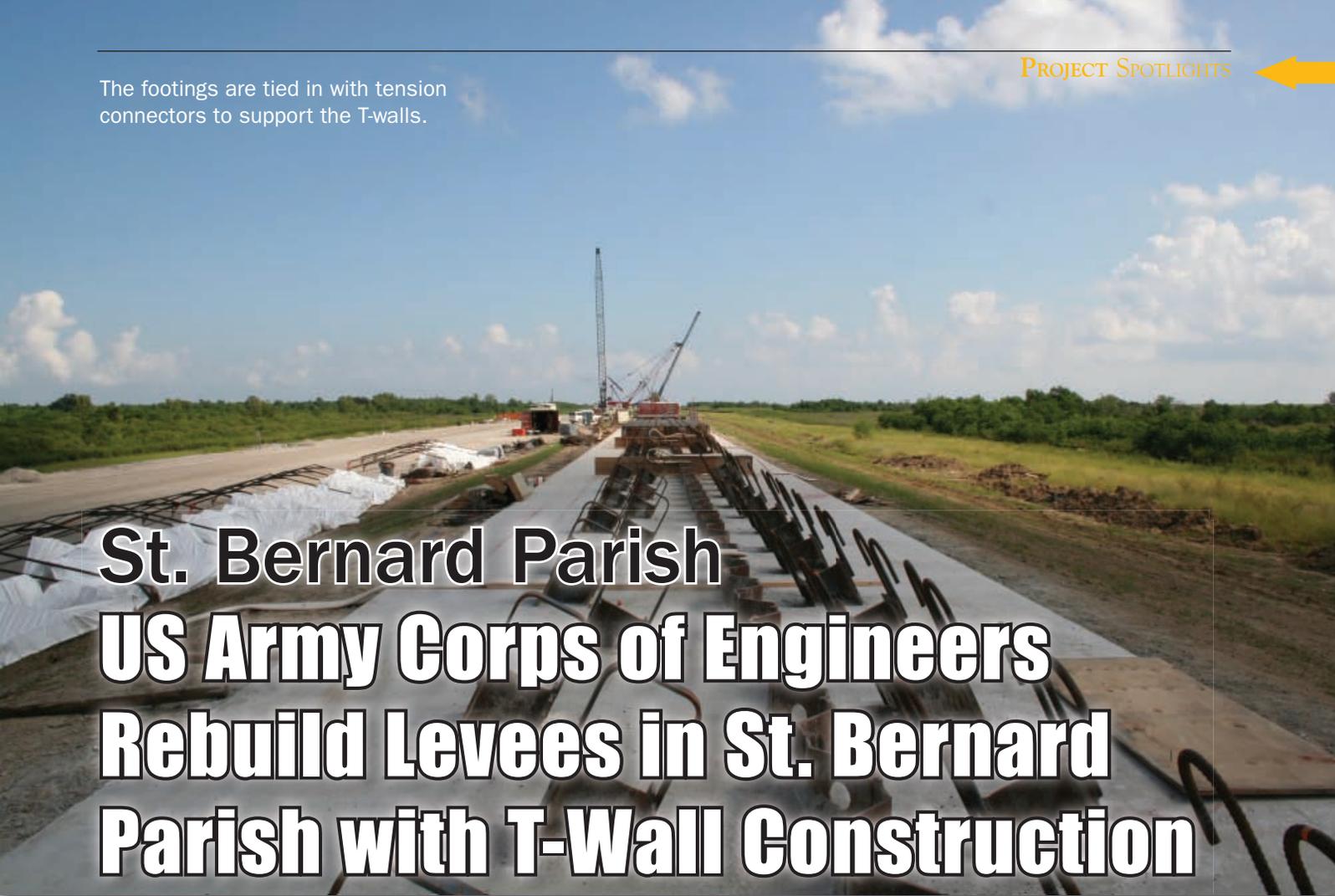
www.braymanconstruction.com

BRAYMAN construction corporation

Innovative Solutions

Since 1947

The footings are tied in with tension connectors to support the T-walls.



St. Bernard Parish US Army Corps of Engineers Rebuild Levees in St. Bernard Parish with T-Wall Construction

By Ty Weaver, Marketing Communications Coordinator, Bauer Pileco, Houston, TX

St. Bernard Parish, Louisiana - The US Army Corps of Engineers is in the process of orchestrating the construction of the Hurricane and Storm Damage Risk Reduction System in St. Bernard Parish. With the help of the St. Bernard Levee Partners, a limited liability corporation comprising URS Corporation, James Construction Group and the Obayashi Corporation, work is being performed to create a newly-designed risk-reduction system. This new system will provide a 100-year risk reduction through the construction of 22.8 miles of flood-wall and a raised protection level of 26 to 32 feet. The St. Bernard Levee Partners are responsible for 7.5 miles of the project.

In August 2005, Hurricane Katrina devastated St. Bernard Parish, New Orleans, southeast Louisiana and other coastal states. As a result of the storm, the residents of St. Bernard Parish suffered 163 deaths; 81 percent of the housing in the parish was damaged; 3,000 businesses were damaged; and 22 schools flooded as a result of the storm. Hurricane Katrina breached and scoured eight miles of the earthen levee system.

The US Army Corps of Engineers started working on the levee system in 1965 and have continually worked on it because of the subsidence in southeast Louisiana. Chris Gilmore, US Army Corps of Engineers Senior Project Manager for St. Bernard Parish, said, "Before Katrina it was a traditional earthen levee. In southeast Louisiana we have significant subsidence, so we are continually raising these levels. After Katrina we raised the LPV 146 to elevation 20 and in a matter of three years it had

settled two feet [...] So from 1965 until 2005, it was just a continual cycle of adding additional lifts to maintain the elevation that was authorized on this project."

"The Boot" portion of Louisiana consists of a subsurface with poor soils that contribute to the subsidence in the region. Prior to the US Army Corps of Engineers, the Mississippi River would change paths every 150 to 200 years; in doing so, the river would nourish the southeastern portions of Louisiana preventing the subsidence. In 1926, the US Army Corps of Engineers started lining the river and locked it into place, which stopped the continual feeding of the delta. "This led to a number of issues," said Gilmore, "the subsiding of the levees, the loss of the wetlands and it changed the geological process."

On the morning of August 29, 2005, Hurricane Katrina made landfall as a Category 3 hurricane, bringing with it a storm surge. Twelve hours prior to landfall, Hurricane Katrina had strengthened to a Category 5 with gale force winds of 212 miles per hour. "As it got closer to land it lost some intensity [...], however, it didn't drop any of the storm surge and it was pushing this giant wall of water. Just because your wind speed drops doesn't mean your storm surge level drops. So what you have is a massive wall of water impacting this entire levee section here. Basically from Bayou Bienvenue down here to the curve where you see the levee turns," said Gilmore.

(continued on page 58)



EDGEN MURRAY

With nearly 200 acres of stock and high volume purchasing power with domestic and international vendors, Edgen Murray is your comprehensive procurement source for competitively priced, fully certified, mill-tested steel from large diameter heavy wall pipe to sheet and structural steel for:

MARINE PILING & CONSTRUCTION ▶ **LEEVE SYSTEMS** ▶ **MAJOR CIVIL BUILDING STRUCTURES** ▶ **DEEP FOUNDATIONS** ▶ **WATER WORKS**



FIND YOUR SPEC.COM

866-520-2468

▶ **PIPE** ▶ **STRUCTURAL** ▶ **PLATE** ▶ **VALVES** ▶ **FITTINGS** ◀



URS utilized three Bauer RTG Universal Piling Rigs to drive 39,000 feet of sheet pile on the Hurricane and Storm Damage Risk Reduction System.



There are 39,000 feet of sheet pile used in LPV 146 and approximately 23 miles of sheet pile for the entire levee.

The levee section of St. Bernard Parish had a maximum height 14 to 15 feet. The storm surge associated with Hurricane Katrina was approximately 22 to 23 feet, which caused a significant amount of water to flow over the levees and flooded the parish. The surge washed away 13.5 miles or about 50 percent of the levees. As the water towered over the federal system, it continued on a path flooding the central wetlands and eventually flooding the entire parish.

Today the US Army Corps of Engineers is constructing a T-wall levee system to provide homes and businesses a 100-year risk reduction. "When you say a 100-year storm, people think it only happens once in 100 years, which doesn't mean it's going to take place every 100 years, but rather you have a one percent chance of it happening every year. Even though the one chance of it happening again is rather low, there's still a one percent chance of it happening every year," said Gilmore.

St. Bernard Parish is the only parish to have a wall constructed around it. T-walls will be constructed along six miles of LPV 145, 7.5 miles of LPV 146, and 8.5 miles of LPV 148. The construction of the levee has been designed to withstand the subsidence of the region for the next 50 years, and once it's complete the responsibility of the levee upkeep will be turned over to the levee district to maintain it.

"We're constructing a T-wall that is essentially concrete and steel on top of the existing levee. The existing levee is the earthen levee. We cut the top of the levee down wide enough for the base of the T-wall. Then we drive the sheet pile and drive

the H-pile. After that, we form the base slab with steel, pour the base slab, form the wall of steel and then pour the wall," said Gilmore.

The T-walls are constructed in 50 foot monolith sections. A monolith is one section of T-wall, which consists of a base, a stem, an expansion joint and a water stop. Once the St. Bernard Levee Partner's construction personnel in section LPV 146 level the top of the earthen levee, they drive sheet pile utilizing three



LPV 146 (Bayou Drive to Highway 46) – Construction is scheduled to be complete in June 2011.



The rebar is also tied in to the footings through a system of stirrups and “candy cane” rebar to provide developmental strength in the concrete.

Bauer RTG Universal Piling Rigs to drive the sheet piles 20 to 40 feet. Then the crews will drive H-piles utilizing a fixed-lead system to minus 90 to 100 feet. The H-piles will be used to support the wall. Each monolith will consist of 18 H-piles on a batter.

Robert Cooney, Deputy Project Manager of St. Bernard Levee Partners, manages all of the engineering and construction activities for LPV 146. “The way the levee is designed, everything underneath could theoretically wash out and the footings could stand up in the air with the sheet pile and no soil. If all the soil were to wash out, you would have the structural integrity of

the whole unit, the sheet pile would be in there for cutting off the water, and the footing is fully supported by the H-pile. The footing would be supported up in the air like a bridge deck,” said Cooney.

The footings are tied in with tension connectors to support the T-walls if they had the tendency to turn. The rebar also is tied in to the footings through a system of stirrups and “candy cane” rebar to provide developmental strength in the concrete.

There will be 14,600 piles driven on LPV 146, which is approximately 39,000 feet of sheet piles or 7.5 miles.

“The primary purpose of the sheet piles in the entire 23 miles is not a structural element - it’s not supporting the T-wall. Its purpose is to provide water cut off and to prevent seepage. We drive the sheet pile down so water doesn’t undermine the earthen levee or the T-wall. Water will run into the sheet pile and it will protect the upper portions of the levee,” said Gilmore.

Construction of the levees in St. Bernard Parish had significant challenges in the beginning. In the aftermath of Hurricane Katrina, the US Army Corps of Engineers had to provide a 100-year level of protection. From the beginning stages all options were on the table. The levees, at the very least, had to be raised to a level of 26 to 32 feet. “We looked at several ideas for this project like earthen levee, deep-soil mixing, and we had to consider T-walls. Initially, we thought there was no way concrete and steel would be the least costly option. After further analysis, T-wall construction was the most cost effective and the best option for the levees,” said Gilmore.

T-wall construction provided the biggest advantage in the construction process because of real estate issues. The US Army

Deep Foundation Testing Services
 High-Strain Dynamic Pile Testing (PDA)
 Wave Equation Analysis (WEAP)
 Cross-Hole Sonic Logging (CSL)
 Preconstruction Surveys
 Subsurface Exploration
 Pressuremeter Testing
 Pile Integrity Testing
 Vibration Monitoring
 Foundation Design
 SOE Peer Reviews
 Static Pile Testing

“Setting the Standard for Service”
www.ecslimited.com
 1-800-822-3489

FOR SALE

- ONE 3000 LB. DROP HAMMER** with 35 ft. leads. West Palm Beach, \$9,300.00
- ONE H&M H-135 vibro driver/extractor**, H&M power back w/cat 3208 eng. ENVIRON hydraulic oil, clamp assembly for sheet steel, 100 ft. hose bundle, 3500 lb. top counter weight, hammer stand, shackle. Excellent condition, located in West Palm Beach, \$34,500.00
- ONE H&M H-150E** hoe mount vibro/driver extractor, jaw blocks for steel sheeting, 12 volt power system, hammer stand, top yoke, new condition, West Palm Beach, \$32,500.00
- ONE MANTIS Model 2610** 13 ton hydraulic crawler crane, 60 ft. hydraulic power boom, overhaul ball, 2 sheave Johnson block, 15 ft. jib, DEUTZ engine, located in Ft. Pierce, \$17,500.00
- ONE I.C.E./LINK BELT** model 520 diesel impact hammer w/drive cap and 14” filler block, 60 ft. 3 section 26” leads, West Palm Beach, \$5,900.00
- ONE LINK BELT Model 180** diesel impact hammer, s/n 180 945, without filler block or leads. Appears to be in good condition. \$3,500.00
- ONE LINK BELT LS98, 1972** folding gantry, 60 ft. boom, D.D. 4-71 engine. \$15,500.00 consignment

TOLL FREE (800) 273-5817

Distributors of H&M Vibratory Driver/Extractors
LAND EQUIPMENT, INC.

Call us for your Pile Driving & Crane Requirements **West Palm Beach, FL**
Ph: (772) 288-7395
WWW.LANDEQUIPMENT.COM **Fx: (772) 220-3451**
 EMAIL: SALES@LANDEQUIPMENT.COM

Corps of Engineers local sponsors already had the right-of-way needed for the T-wall construction, so this allowed them to construct the project without any additional real estate required, thus saving time and money.

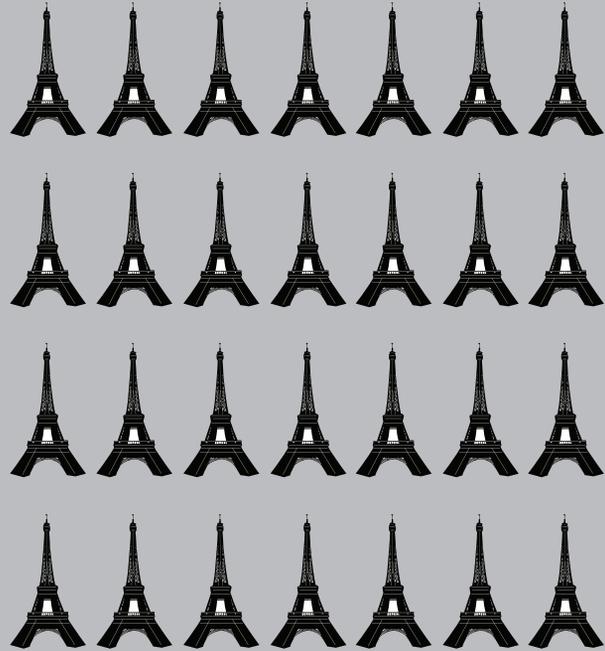
The amount of materials and labor needed to construct the levees in St. Bernard Parish present logistical challenges as well. "We have hired labor from the local economy. We have contractors from a five-state region. The Louisiana Department of Transportation keeps track of the amount of traffic on their infrastructure because the weight of the concrete trucks can cause damage to the roadways," said Clarice Sundeen, Project Manager and Community Planner for the Hurricane and Storm Damage Risk Reduction System.

The residents of St. Bernard Parish were critical of the levee construction plans at first, but public perception is shifting in favor of the T-wall construction. "We've actually been able to persuade a lot of people in St. Bernard Parish, some of our biggest critics have come out to see the work we are doing. They are saying, 'Yeah this looks good and we feel safe,'" said Gilmore.

The St. Bernard Levee Partners were given the notice to proceed in February 2010 and the expected completion date of the project is June 2011. The US Army Corps of Engineers and the St. Bernard Levee Partners are on schedule to meet the deadline. For more information on the St. Bernard Parish Levees, please visit www.usace.army.mil. For additional information on the Bauer RTG Universal Piling Rig, visit bauerpileco.com. ▼

Photos courtesy of Ty Weaver, Marketing Communications Coordinator, Bauer Pileco

How BIG is the Project?



There is enough steel used in the T-walls to create 28 Eiffel Towers.



STEEL PIPE

"Service with Integrity. Value with Quality"



Stocking distributors of

NEW and USED - STEEL PIPE

- Grades: A252 / A500 / API & more
- Coating OD/ID - CTE, FB, etc.
- Small orders, large orders, mill direct
- Can offer used & surplus items
- End plates, Points, Splicers
- Sizes from 4" pipe to 120" caisson

SPECIAL OFFER ITEMS:

- | | | | |
|-----------|-------------------------------|-------------|-----------|
| • 30,000' | 6 5/8" OD x .250" wall | 40' R/L | Rec.-Used |
| • 17,000' | 12 3/4" OD x .250"/.281" wall | 40' R/L | Rec.-Used |
| • 16,000' | 18" OD x .406" wall | 20'-40' R/L | Rec.-Used |
| • 35,000' | 24" OD x .375"/.500" wall | 40' R/L | New |
| • 4,000' | 30" OD x .470"/.600" wall | 40' R/L | New |
| • 2,000' | 36" OD x .575"/.750" wall | 40' R/L | New |

— Please call with any inquiries —

CRESTWOOD TUBULARS, INC.



Toll free: 1-800-238-7473

Fax: 314-842-9064

Email: info@crestwoodtubulars.com

- Please call for quotations -



Sun Group of Businesses

Bringing the Future of Pile Driving to You



“If it weren’t for my Junttan PM 16, I might not have stayed in business in this economy.”

John King
Past PDCA President
Pile Drivers, Inc.
Charleston, SC.

Sun Piledriving Equipment, LLC
35322 Bayard Road
Frankford, DE 19945
Tel. 302.539.7187
Fax. 302.539.4443
www.spe-usa.net

Deep Earth Technology, LLC
35322 Bayard Road
Frankford, DE 19945
Tel. 917.678.7299
Fax. 302.539.4443
www.deepearthtechnology.com

Emeca/SPE USA, LLC
35322 Bayard Road
Frankford, DE 19945
Tel. 302.875.0760
Fax. 302.875.0761
www.emeca-speusa.com

Sun Marine Maintenance, Inc
35322 Bayard Road
Frankford, DE 19945
Tel. 302.539.6756
Fax. 302.539.6076
www.sunmarineinc.com



Age of Steam Roundhouse

project by W. M. Brode Company, Robert W. Brode, President, Newcomerstown, OH

Nestled in the rolling hills of east central Ohio is a project that could be considered an “engineering” marvel. In August of 2009 testing and plans for a turntable to serve the Age of Steam Roundhouse began. GRL engineers of Cleveland, Ohio provided PDA measurements and CAPWAP data analysis services including WEAP analysis and reports. The project would consist of an 18-stall roundhouse and attached locomotive repair facility which will service and house the owner’s collection of steam locomotives and coach cars, a 115 foot turntable to accommodate the roundhouse, as well as between-the-rails pits for locomotive and car inspection just to get it started.

Subsurface explorations performed by Geotechnical Consultants of Westerville, Ohio indicated that eighty-five HP12x53 and HP10X42 piles with model 7780 points would be needed to support the turntable foundation. Treated timber friction piles could support the building foundation. Eight hundred and sixty timber piles were used in the roundhouse alone. In all, 5,525 lineal feet of A572 steel H piling w/rock points and 31,250 lineal feet of treated timber piling were used in this massive project to ensure a stable foundation. All piles were driven with varying settings using a PILECO D12-42 diesel hammer suspended from a Linkbelt LS138 crawler crane.

After all, a driven pile is a tested pile! Crews worked through one of the harshest winters in Ohio history to drive the piling. “We have a talented and dedicated crew of workers on this project. It has been a privilege to work this job,” stated Bob Brode of The Brode Company.

The company’s forming crews started concrete placement during early winter 2009 and completed all currently planned structures during autumn 2010. The roundhouse is a true brick structure, made from products locally manufactured at Belden Brick. More than 240,000 bricks will be used. This unique structure is framed with white oak timber posts, beams and trusses. Another roundhouse of this scope has not been built in the United States in sixty years. The detail work on this building - such as the lintels, sills and water tables - accentuate the appearance of this magnificent structure. Just as in practice for 100 years, steel-framed windows will provide plenty of natural illumination inside the roundhouse at two levels. All 18 bays for locomotive display and maintenance work have concrete floors for safety and convenience.

Two railroad tracks run parallel to the structure to provide for the entrance and exit of the trains. Those connect to the 115 foot turntable which was salvaged from a razed roundhouse in Hagerstown, Maryland. It was transported to Ohio and

FEATURED ARTICLES

extensively repaired by The Brode Company's railroad bridge crews prior to its installation on the 550 cubic yard ring wall foundation.

"It was remarkable, the time and energy it took to disassemble, repair and rebuild this turntable – but well worth it!" says Brode.

A brick veneered, pre-engineered steel back shop building is attached to the roundhouse. Measuring 115 x 155 feet, this building is supported by driven wooden piles as well. Locomotives and coach cars will be repaired here. The back shop building houses a pair of drop tables in a massive pit for lowering giant locomotive driving wheels, as well as work inspection pits and huge machine tools.

Also supported by driven piles, the project includes a 50,000 gallon wooden water tower for the steam locomotives that is also used for fire protection. Other structures will include an ash pit, a coaling tower and a second storage facility. All are to be supported by driven piles; because of course... a driven pile is a tested pile.

This engineering marvel is certainly one-of-a-kind in this day. Not intended as a tourist destination, it already has attracted the eye of many. The owners' love for trains as well as the desire to build a high quality, aesthetically pleasing Age of Steam Roundhouse facility has been a dynamic combination for this interesting project.

This project can be followed by checking out the website: www.ageofsteamroundhouse.com

Photos courtesy of W. M. Brode Company



Project Highlights

- Compacted Clay fill 115,000cys
- Limestone aggregates 60,000 tons
- A572 steel H Piling w/rock points 5,525 lineal feet
- Two span turntable steel repairs 114,000 lbs
- Treated bridge timbers 20,000 bf
- Treated timber piling 31,250 lineal feet
- Reinforced concrete 4,500 cys
- Pre-engineered steel building 220,000 lbs
- Miscellaneous metals and embedment's 575,000 lbs
- Modular brick 240,000 units
- White oak posts, beams and trusses 225,000 bf
- Ship-lapped, southern yellow pine decking 45,000 sft
- Standing seam roof 63,000 sft
- Steel frame & clerestory windows 8,250 sft

Legendary Service, Extraordinary Results!

Serving the foundation and construction industry since 1955



- Diesel
- Vibratory
- Hydraulic
- Air
- Augers
- Pileco
- HPSI
- Vulcan



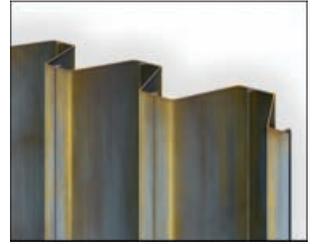
Seattle, WA | Calgary, AB
206-762-3550 | 403-264-9351
www.PacoEquip.com

Innovative L.B. Foster Piling Products

NEW PILING SOLUTIONS

▶ PZC™ STEEL SHEET PILING

The PZC series of steel sheet piling is manufactured domestically to be wider, lighter and stronger than typical PZ piling. Wider PZC maximizes setting and driving. Lighter PZC minimizes steel needed for project installation. Stronger PZC strengthens section modulus and moment of inertia.



▶ TRU 12™ PIPE PILING

TRU 12 pipe piling has an actual OD diameter of 12" and meets the performance requirements of standard 12.75" pipe piling. This small 3/4" innovation has the cost efficiencies of 6% less steel, 12% less construction fill and 6% more pipe per truckload.



▶ OPEN CELL SHEET PILE®

The OPEN CELL® system is a proven technology that provides a low cost, high performance solution for tall vertical waterfront structures in both ideal and extreme conditions.

LB Foster

Piling

PROUD MEMBER OF PDCA

800.848.6248 www.lbfosterpiling.com

PZC™ is a trademark of Gerdau Ameristeel. TRU 12™ is a trademark of L.B. Foster Company. OPEN CELL® and OPEN CELL SHEET PILE® are registered trademarks of PND Engineers, Inc.

Over 30 years of experience supporting New England.

Vynorius Piledriving, Inc.

150 Elm Street Salisbury, MA 01952
PH: 978-462-7765 FX: 978-462-5331



Installers of
Steel H-Pile, Pipe,
Sheeting & Timber Piling.
Test Beam Rentals to 3000 Tons.



PCI Certified
Manufacturers & Installers
of Precast, Prestressed
Concrete Piles.
Sizes from 12" - 28"
and 28" Octagon.

Supplying all of your Deep Foundation and Earth Support Needs
Massachusetts, New Hampshire, Rhode Island, Maine & Vermont

DEEP FOUNDATION CONSULTING & TESTING SERVICES

Dynamic Testing (PDA)
Pile Integrity Testing
Sonic Integrity Testing (CHA)
Axial and Lateral Load Testing
Installation Monitoring
Vibration Monitoring
WEAP Analysis
Engineering and Design

www.tweinc.com

Corpus Christi, TX
361-884-5050

Houston, TX
713-722-7064

Baton Rouge, LA
225-644-4966

Beaumont, TX
409-840-4214

McKinney, TX
972-542-9020

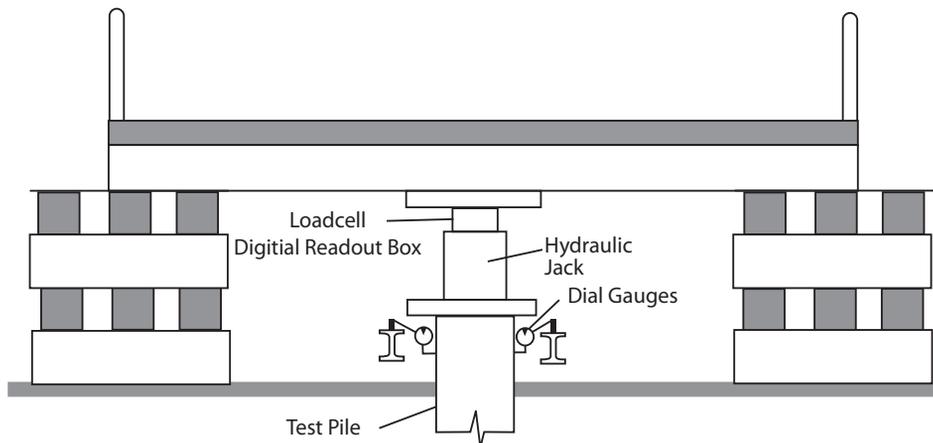
Gainesville, FL
352-372-4899

TW TOLUNAY-WONG
ENGINEERS, INC.

PILE TESTING EQUIPMENT

RENTALS • SALES • SERVICE

- Hydraulic Jacks 0-2000 Tons
- Loadcells with Digital Readout Boxes - 0-2000 Tons
- Centerhole Jacks 0-1500 Tons
- Dial Indicators 0-14 inches
- Power Units - Electric, Gas or Manual
- Calibration Services up to 2000 Tons



W.B. Equipment Service Company, Inc.

Supplier of Hydraulic and Pneumatic Jacking Systems for Jacking and Pile Testing.

Toll free: 866-522-5467 • Fax: 201-438-7830 • Email: stephen.cireco@verizon.net • Web: www.wbequipment.com

Fixed Lead Systems Provide Stability, Guidance and Accuracy while at the Jobsite

By Ty Weaver, Marketing Communications Coordinator, Bauer Pileco, Houston, TX

Honolulu – Nan, Inc. is currently constructing barracks for single enlistees on the Kaneohe Marine Corps Base in Hawaii. Naval Facilities Engineering Command (NAVFAC) Pacific awarded the \$40 million project to Nan, Inc. in August 2009 and construction on the barracks began May 2010.

NAVFAC Hawaii's Resident Officer in Charge of Construction, Kaneohe is executing the contract with Nan, Inc. personnel, which will increase and upgrade enlisted housing facilities significantly on the base.

“ The site of construction on the base presents its own challenges. ”

The buildings will also feature community and service core areas consisting of laundry facilities, lounges, duty officer and bunk room, housekeeping, vending area and public restrooms.

The site of construction on the base presents its own challenges. The soil on which the building's foundation will be

Utilizing a Pileco D30-32 diesel hammer and fixed lead system, crews can drive piles quickly and easily to reach a depth of resistance.

Nan, Inc. will build two reinforced concrete buildings, one with 88 semi-private rooms and the other with 62 semi-private rooms. The buildings will be interconnected through walkways and will not exceed five stories in height.

built is comprised of mostly fill-material and is extremely loose. Construction crews will have to construct a foundation utilizing concrete piles that are driven to a depth of resistance in order to prevent the building from sinking in the loose soil. Due to the seismic activity on the island, the piles will also need to support the building structure in the event of such activity.

Nan, Inc. will use Bauer-Pileco's pile driving equipment and a Kobelco 200-ton crane to effectively build the necessary foundation for the Marine barracks. The jobsite will require 258 16-inch octagonal concrete piles driven to a depth of 50 to 55 feet to reach a harden resistance layer. The concrete piles will be driven by a Pileco D30-32 dieselhammer supported by a 120-foot U 32 fixed lead system that's connected to the crane using a custom boom point connector. The fixed lead system provides stability and accuracy and allows quicker mobility from pile to pile while on the jobsite. The pile hammer and lead system are guided by an affixed hydraulic and manual spotter that's anchored to the base of the crane. For this project, the batter is set to drive the piles plum or directly vertical into the ground. A three line with fair lead head block guides the cables for the diesel hammer and piles.

The fixed lead system setup provides an accurate, stable driving system, allowing the Kobelco 200-ton crane to move easily about the jobsite. The construction crew can make adjustments while driving piles by easily changing the batter.

Once the 258 piles are driven to the required resistance depth, the building's foundation will be durable enough to support the five story structure. To date, Nan, Inc. has driven 11 test piles at the construction site to a depth of 65 feet.

Design plans for the Kaneohe Marine Corps barrack project



FEATURED ARTICLES



The hydraulic manual spotter is anchored to the base of the crane and used to adjust the batter for the diesel hammer and lead system.

began in August 2009, shortly after it was awarded to Nan, Inc. The barracks are scheduled for completion in February 2012.

Marine Corps Base Hawaii, Kaneohe is located on the northeast side of the island Oahu, approximately 12 miles from Honolulu. The base maintains key operations, training, and support facilities and provides services that are essential for the readiness and global projection of ground combat forces and aviation units, and the well-being, morale, and safety of military personnel, their families, and the civilian workforce.

Nan, Inc. has been providing professional construction services and serving the needs of the local construction industry for over 20 years. The company currently employs a diverse range of personnel, including engineers, technical staff, estimators, quality control managers, safety officers, schedulers, field supervisors, skilled tradesmen, and accounting and administrative support members. Nan, Inc. has successfully completed close to 2,200 engineering and construction projects valued at over \$1 billion in the Pacific Region. ▼

Photos courtesy of Ty Weaver, Marketing Communications Coordinator, Bauer Pileco



Jobsite Facts:

Number of Piles: 258

Pile Depth: 50-55 feet

Pile Diameter: 16 inches

Project Budget: \$40 million

Project Completion Date: February 2012

Pile Driving Analyzer® Model PAX

Tests on Location or Remotely with

Site Link™

iCAP™: instant capacity by signal matching

Dynamic Load Testing of Deep Foundations

Smart (wireless) Sensors eliminate cables

Complies with ASTM D4945

PDI
Pile Dynamics, Inc.
Cleveland, OH USA
+1 216-831-6131

www.pile.com sales@pile.com

PHE
PILE HAMMER EQUIPMENT

Tele & Fax: (706) 398-1178
www.pilehammerequipment.com

Parts – Vulcan, Conmaco, Raymond

Service – Repairs, Cable Conversions

Leads – Boom Points, Fair Leads

Cushion Material – Micarta, Aluminum, Nylon

Sales – Air Hammers from 7,000-300,000 Ft Lbs

Rentals – Air hammers to 60,000 Ft Lbs

Driving Heads – H-Beam, Pipe, Wood, Concrete

Experience the progress.



Liebherr Nenzing Crane Co.

7075 Bennington Street
Houston, TX 77028-5812
Tel: (713) 636-4050
Fax: (713) 636-4051
info.lnc@liebherr.com
www.liebherr.com

LIEBHERR

The Group



**“Transportation for
the Steel Industry”**

**For rates and availability
1-800-626-2185**

Visit us: www.taservices.us

- Mansfield, Tx*
- Midlothian, Tx*
- Petersburg, Va

excellence
through
experience

over 20 years serving the northeast region.



- Geotechnical Engineering
- Soil and Rock Mechanics
- Shoring and Underpinning Design
- Pile Load Testing and Inspection
- Vibration Monitoring
- Construction Materials Testing
- Third Party Inspections
- Survey Layout

TECTONIC
Practical Solutions, Exceptional Service

70 Pleasant Hill Road
Mountainville, NY 10953
1-800-829-6531

www.tectonicengineering.com

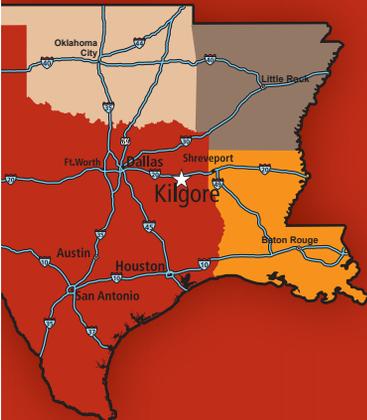


Sabine
Pipe, Inc.

Customer Focused | Quality and Service Driven

STRATEGICALLY LOCATED

to effectively service the oil and gas industry in Texas, Louisiana, Arkansas and Oklahoma.



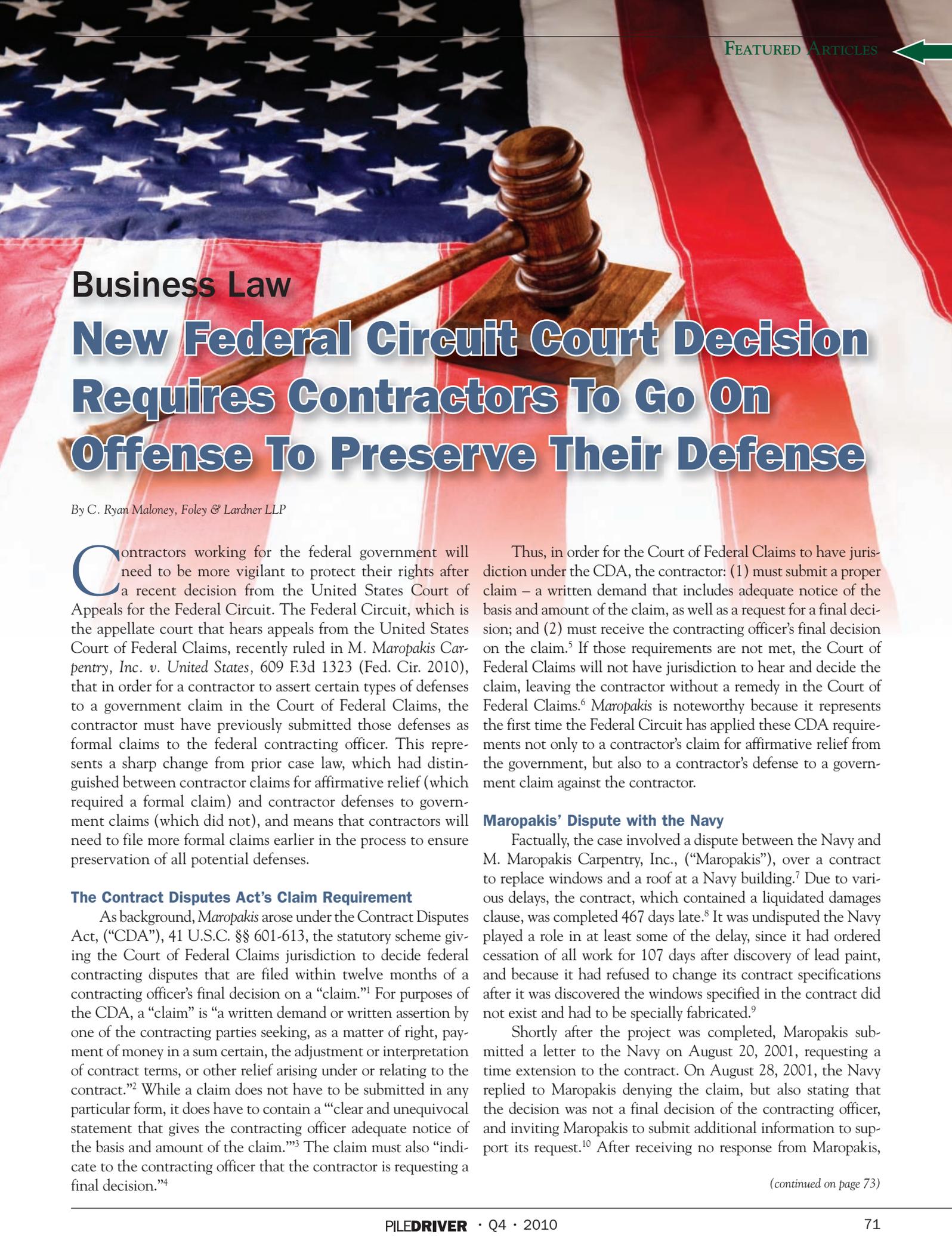
**Supplying Steel Tubular
Products and Services**

- Oil Country Tubulars
- Line Pipe
- Norris Sucker Rods
- Tubing Rental Strings
- Structural Products
- Reclamation Services
- P&A Services
- Transportation Services
- Forklift Services
- Secure Storage

Contact Us

903.984.3094 | 800.890.3094 | www.SabinePipe.com

Sales@sabinepipe.com | 1108 North Kilgore Street, Kilgore, Tx 75662



Business Law

New Federal Circuit Court Decision Requires Contractors To Go On Offense To Preserve Their Defense

By C. Ryan Maloney, Foley & Lardner LLP

Contractors working for the federal government will need to be more vigilant to protect their rights after a recent decision from the United States Court of Appeals for the Federal Circuit. The Federal Circuit, which is the appellate court that hears appeals from the United States Court of Federal Claims, recently ruled in *M. Maropakis Carpentry, Inc. v. United States*, 609 F.3d 1323 (Fed. Cir. 2010), that in order for a contractor to assert certain types of defenses to a government claim in the Court of Federal Claims, the contractor must have previously submitted those defenses as formal claims to the federal contracting officer. This represents a sharp change from prior case law, which had distinguished between contractor claims for affirmative relief (which required a formal claim) and contractor defenses to government claims (which did not), and means that contractors will need to file more formal claims earlier in the process to ensure preservation of all potential defenses.

The Contract Disputes Act's Claim Requirement

As background, *Maropakis* arose under the Contract Disputes Act, ("CDA"), 41 U.S.C. §§ 601-613, the statutory scheme giving the Court of Federal Claims jurisdiction to decide federal contracting disputes that are filed within twelve months of a contracting officer's final decision on a "claim."¹ For purposes of the CDA, a "claim" is "a written demand or written assertion by one of the contracting parties seeking, as a matter of right, payment of money in a sum certain, the adjustment or interpretation of contract terms, or other relief arising under or relating to the contract."² While a claim does not have to be submitted in any particular form, it does have to contain a "clear and unequivocal statement that gives the contracting officer adequate notice of the basis and amount of the claim."³ The claim must also "indicate to the contracting officer that the contractor is requesting a final decision."⁴

Thus, in order for the Court of Federal Claims to have jurisdiction under the CDA, the contractor: (1) must submit a proper claim – a written demand that includes adequate notice of the basis and amount of the claim, as well as a request for a final decision; and (2) must receive the contracting officer's final decision on the claim.⁵ If those requirements are not met, the Court of Federal Claims will not have jurisdiction to hear and decide the claim, leaving the contractor without a remedy in the Court of Federal Claims.⁶ *Maropakis* is noteworthy because it represents the first time the Federal Circuit has applied these CDA requirements not only to a contractor's claim for affirmative relief from the government, but also to a contractor's defense to a government claim against the contractor.

Maropakis' Dispute with the Navy

Factually, the case involved a dispute between the Navy and *M. Maropakis Carpentry, Inc.*, ("Maropakis"), over a contract to replace windows and a roof at a Navy building.⁷ Due to various delays, the contract, which contained a liquidated damages clause, was completed 467 days late.⁸ It was undisputed the Navy played a role in at least some of the delay, since it had ordered cessation of all work for 107 days after discovery of lead paint, and because it had refused to change its contract specifications after it was discovered the windows specified in the contract did not exist and had to be specially fabricated.⁹

Shortly after the project was completed, Maropakis submitted a letter to the Navy on August 20, 2001, requesting a time extension to the contract. On August 28, 2001, the Navy replied to Maropakis denying the claim, but also stating that the decision was not a final decision of the contracting officer, and inviting Maropakis to submit additional information to support its request.¹⁰ After receiving no response from Maropakis,

(continued on page 73)

FOUNDATION



Pile Solutions Since 1971

- PILE DRIVING • COFFERDAMS
- TRESTLES • SHEET PILING
- TUBEX • FUNDEX



800-841-8740
CA LICENSE #270761

The crane: 230 Ton 4100 SII Manitowoc, Pileco D138 Hammer / OS 98 Off Shore Leader
The project: Route 80 Willow Avenue Undercrossing Hercules, California
The pile type: 14" precast piles, 60" CISS pipe pile

R. Kremer & SON MARINE CONTRACTORS

- Bulkheads • Foundation Pilings
- Barge Work, Salvage & Towing
- Cantilever or Pile Docks
- Inspections

Certified Installer for
CHANCE
 Helical Pier®
 Foundation Systems

NJBIA
 New Jersey Business
 & Industry Association

Free Estimates
 Fully Insured

RESIDENTIAL • COMMERCIAL
Ph: 732-477-8012 • Fax: 732-477-9224

86 MANTOLOCKING RD. • BRICK, NJ 08723
www.kremermarine.com

PRE-DRILLING FOR DRIVEN PILES



**REV Drill – Excavator Mounted
 Pre-Drilling Attachment**

Additional Applications:

Caissons, Down the Hole Hammer, Soil and Rock Anchors, Tie-Backs, Micro-Piles, and more...



Rent or purchase a REV Drill
– We will save you money!

Call or check out our website to find out how we can help you get your job done.

REV Drill

5811 Grove Lane, Frederick MD 21704
 Phone: 877-41-DRILL (37455) | Fax 301-662-6553
info@revdrill.com | www.revdrill.com

the Navy sent another letter ten months later informing Maropakis that it was assessing liquidated damages of \$303,550 which, after deducting the remaining contract balance of \$244,036, left a total due from Maropakis to the Navy of \$59,514 for liquidated damages.¹¹ On July 22, 2002, Maropakis replied, advising that it planned to challenge the liquidated damages because the Navy was responsible for the delay. However, Maropakis never filed a separate formal claim regarding the time extension.¹² Six months later, the Navy contracting officer issued a final decision assessing liquidated damages.¹³

Approximately a year later, Maropakis filed a complaint with the Court of Federal Claims alleging (1) breach of contract due to the Navy's delay and seeking resulting time extensions, and (2) breach of contract due to the government's assessment of liquidated damages and seeking dismissal of the liquidated damages.¹⁴ The Navy responded by asserting a counterclaim against Maropakis for the \$59,514 balance the Navy contended was still owed after applying the remaining contract balance against the \$303,550 in liquidated damages.¹⁵

The Court of Federal Claims dis-

missed Maropakis' claims for lack of jurisdiction under the CDA because it found that Maropakis had failed to submit a formal "claim" for contract modification as required by the CDA.¹⁶ For the same reason, the Court of Federal Claims also granted the Navy summary judgment on its liquidated damages claim.¹⁷

The Federal Circuit Changes Course Regarding Contractor Defenses

Maropakis appealed to the Federal Circuit, which affirmed both rulings in favor of the Navy. The Federal Circuit first held that Maropakis' July 22, 2002 letter requesting time extensions was not a valid "claim" under the CDA because it did not provide the contracting officer adequate notice of the total number of days actually requested and it did not request a final decision from the contracting officer.¹⁸ Because of this, the Court held that Maropakis had never made a valid "claim" as required by the CDA to give the Court of Federal Claims jurisdiction to hear Maropakis' affirmative claim against the Navy.¹⁹

In addition, however, the *Maropakis* Court went a step further, and also held that these same CDA jurisdictional requirements applied to Maropakis' right to assert a defense to the Navy's claim for liquidated damages, and that by failing to make a formal "claim" under the CDA for a contract extension due to the delay caused by the Navy, Maropakis had also lost the right to defend against the liquidated damages

on that basis as well.²⁰ The Court based its decision on the fact that the CDA defines a "claim" to include any time a contractor seeks an "adjustment or interpretation of contract terms."²¹ The Court reasoned that since Maropakis' defense of excusable delay caused by the Navy necessarily depended on an adjustment of the contract terms, i.e., additional contract time, it was a "claim" which "must meet the jurisdictional requirements and procedural requirements of the CDA," even if asserted as a "defense to a government action."²² Because Maropakis had not complied with the CDA claim requirements on its affirmative claim for time extensions due to Navy delay, Maropakis also could not assert the Navy's delay as a defense to the Navy's liquidated damages claim, leaving Maropakis with no defense and requiring entry of judgment in favor of the Navy.²³

The Court's decision prompted a strong dissent from Judge Pauline Newman, who argued that the majority's decision was "contrary to precedent" from prior case law which had "respect[ed] the distinction between a claim and a defense," and that "[n]o rule or precedent holds that a contractor forfeits its right of defense if it does not file its own claim" on the defense.²⁴ Instead, Judge Newman argued that the "right to defend against an adverse claim is not a matter of 'jurisdiction,' nor of grace; it is a matter of right."²⁵ However, the majority in *Maropakis* rejected this reading of the prior case law, and instead focused on what it contended the CDA's

DRIVE-CON, INC.
 The Driving Force in Pile Driving Equipment
 Serving the Mid-Atlantic Region

**SALES
 RENTALS
 SERVICE**

Technicians Available
 24-hrs. For On-The-Job Service

Vibratory Hammers
 ICE® Pilemer HIH Hammers
 Diesel Impact Hammers
 Top-Drive Augers
 Drill Masts
 Limited Access Drill Rigs
 Comacchio Drill Rigs



ICE® Capital Branch
 301-776-2211
 800-255-8963
 sales@iceusa.com



H.B. Fleming
 Contracting - Engineering

H.B. Fleming specializes in pile driving, excavation support, cofferdam installation and subaqueous pipelines throughout northern New England.

89 Pleasant Avenue
 South Portland, Maine 04106
 (207) 799-8514
 (207) 799-8538 (fax)
 www.hbfleming.com



Interpipe Inc. is a steel pipe distributor of new and used structural steel pipe. We have two large stocking locations of Seamless, ERW, Spiralweld and DSAW pipe.

3" OD - 48" OD in a variety of wall thicknesses are stocked in both locations.

Piling Pipe for Micropiling and large diameter piling.

ONTARIO

3320 Miles Road. RR#3
Mount Hope, Ontario LOR 1W0

Local: (905) 679-6999
Toll Free: (877) 468-7473
Fax: (905) 679-6544

QUEBEC

805 I ère Avenue
Ville Ste. Catherine, Quebec J5C 1C5

Local: (450) 638-3320
Toll Free: (888) 514-0040
Fax: (450) 638-3340



plain statutory language required, namely that any “contractor seeking an adjustment of the contract terms,” whether asserted as “a claim against the government ... or as a defense,” must “meet the jurisdictional requirements and procedural requirements of the CDA.”²⁶

Contractors Must Be Careful to Assert Their Defenses as Formal Claims Going Forward

The *Maropakis* decision has significant implications for contractors working for the federal government. No longer can a contractor simply assert a defense informally to the contracting officer or wait until after the contracting officer issues his or her final decision to assert a defense, but instead, if the defense could even arguably be considered to implicate a modification of the contract, the contractor must assert the defense as a formal certified claim against the government and seek a final decision on the claim in accordance with the CDA. In other words, contractors must now make their own formal mirror image claim asserting any possible defenses in response to a government claim against them in order to best ensure that those defenses are preserved and available in the Court of Federal Claims. As in *Maropakis*, unwary contractors who fail to take this formalized claims-first approach risk losing the ability to defend themselves in court, even if they have an otherwise valid defense to the government’s claim. ▼



C. Ryan Maloney

C. Ryan Maloney is Senior Counsel with Foley & Lardner LLP and a member of the firm’s specialty Construction Practice, as well as its Business Litigation & Dispute Resolution Practice.

Founded in 1842, Foley & Lardner LLP today has nearly 1,000 attorneys in 21 offices in the United States, Belgium, China, and Japan. Foley attorneys practice in more than 60 areas, including litigation, construction, corporate governance, mergers and acquisitions, real estate, securities enforcement, immigration, intellectual property counseling and litigation, information technology and outsourcing, labor and employment, environmental, and tax. cmaloney@foley.com

One Independent Drive Suite 1300
Jacksonville, FL 32202-5017
(904) 633-4713

1. *M. Maropakis Carpentry, Inc. v. United States*, 609 F.3d 1323, 1327 (Fed. Cir. 2010) (citing 41 U.S.C. § 609(a)).
2. 48 C.F.R. § 33.201
3. *Maropakis*, 609 F.3d at 1327 (quoting *Contract Cleaning Maint., Inc. v. United States*, 811 F.2d 586, 592 (Fed. Cir. 1997)).
4. *Id.*
5. *Id.* at 1327-28.
6. This is because the CDA is a waiver of sovereign immunity, without which the government is immune from suit. See *Maropakis*, 609 F.3d at 1329 (citing *Winter v. FloorPro, Inc.*, 570 F.3d 1367, 1370 (Fed. Cir. 2009)).
7. *Maropakis*, 609 F.3d at 1325.
8. *Id.*
9. *Id.* at 1332 n.1.
10. *Id.* at 1325-26.
11. *Id.* at 1326.
12. *Id.*
13. *Id.*
14. *Id.*
15. *Id.*
16. *Id.*
17. *Id.* at 1327.
18. *Id.* at 1329.
19. *Id.*
20. *Id.* at 1330.
21. *Id.* at 1327 (quoting 48 C.F.R. § 33.201).
22. *Id.* at 1331.
23. *Id.* at 1331-32.
24. *Id.* at 1334, 1335.
25. *Id.* at 1334-35.
26. *Id.* at 1330, 1331.



Mid-Eastern Builders Concrete Square Piles Supporting a New Fuel Farm at Craney Island

Portsmouth, Virginia

By David Ervin, Mid-Eastern Builders, Portsmouth, VA

Craney Island in Portsmouth, Virginia is home to migratory birds, wild turkey, deer and the United States Navy's largest fuel depot. The fuel depot has been occupied by the Navy since the early 1900's. General Contractor Mid Eastern Builders, Inc. (MEB) has performed multiple contracts on Craney Island for the Navy and currently has a contract constructing a new fuel tank farm supported entirely on concrete square piles. Mid Eastern Builders is headquartered in Chesapeake, Virginia, performs work in all major construction market segments and self-performs a lot of their work, including pile driving operations. Atlantic Metrocast / Atlantic Wood Industries of Portsmouth, Virginia is fabricating and transporting the concrete piles to the project. The project was designed by Austin Brockenbrough Engineering and Consulting of Richmond, Virginia.

The Craney Island Replacement of Fuel Storage Tanks contract includes cleaning and demolition of 19 existing 50,000 barrel fuel tanks and associated piping infrastructure. Over the 27 acre site, the tanks and old tank foundations will be demolished, site re-graded and new containment berms will be constructed in accordance with the new tank farm layout. Four new pile supported 100,000 barrel fuel tanks will be constructed to hold F-76 fuel and JP-5 jet fuel. A 60,000 barrel tank and a 40,000 barrel tank, both also pile-supported are being constructed to store their reclaimed fuel oil. Two new fuel transfer pump stations with canopies and over 16,000 linear feet of new fuel pipe will be installed on concrete pile supports to serve the new tanks. A third fuel transfer pump station will be built inside an existing pump house. Ten elevated concrete road crossings sup-

ported on piles will be constructed for pipe crossings and where roads will be elevated to access the interior containment berm and tank areas. Extensive underground electrical distribution, potable water, fire water and storm drain systems are included throughout the site. The project is highly phased and requires close coordination to keep the Navy's fueling activities operational and uninterrupted.

Atlantic Metrocast is fabricating over 2100 pieces of 12" square concrete piles ranging from 95 to 120 feet long. The piles are made with 6000 psi concrete and 4 each ½" strands, with W3.4 spiral surrounding strands in accordance with PCI specifications. Though the piles are not produced with any additional reinforcement from a typical 12" pile, the lengths are the defining feature, which make handling and delivery to the jobsite an interesting challenge. Identifying the most cost effective way to handle and transport the piles to the jobsite for the contractor was the first hurdle in tackling a job of this size. Trucks are loaded with two piles per trip and transported cab over with extended trailers. Laying the piles on top of the truck with special bracing in the middle allows for easier transportation and less permit costs than would otherwise be incurred. The proximity of Atlantic Metrocast's casting plant to the jobsite also plays an incremental roll in the cost effectiveness of the job. With the casting plant being less than 10 miles from the project, shipping can be executed with less escorts and accommodations required for the municipalities they cross. Combing

(continued on page 77)

Put infrastructure spending on a solid foundation.



Monotube® Piles. Solid Economics

In the infrastructure space across America, it's estimated that more than 8,600 projects are shovel-ready and simply awaiting funding to get underway. Coincidentally, polls show we Americans are strongly in favor of major investment in our aging infrastructure. However, concurrent with this favorable opinion is a strong demand for accountability and measurable efficiencies in how our tax dollars are going to be spent. We as corporate citizens, whether manufacturer, designer, engineer or contractor, have a serious interest in this.

Monotube tapered steel foundation piles have consistently delivered capital-saving measurability for more than 80 years.

Using conventional equipment, a Monotube requires a shorter driven length to achieve design load capacity, fewer man-hours and less energy to install than competing products. We have numerable test site data proving Monotube pile's superior performance and it's yours free for the asking.

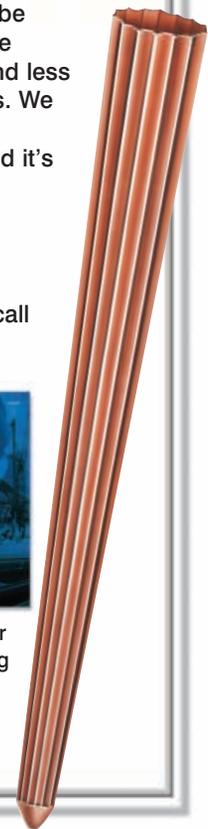
America is about to embark on a historic expenditure of taxpayer dollars. We at Monotube Pile Corporation know we can help you keep costs in check. Give us a call today because, as always, we're ready to deliver solid economics.



P.O. Box 7339 • Canton, OH 44705-0339 / Ph. 330.454.6111 • Fax 330.454.1572
Executive Office: 5002 Second Avenue • Brooklyn, NY 11232
Email: monotube@neo.rr.com / www.monotube.com.



Request our
Free Catalog





the proximity and efficient handling of piles, make it a cost effective method of delivery.

Mid Eastern Builders uses a 125 ton crane on site, running a 100 feet of boom with 9"x27" Conmaco fixed leads 140 feet long and a D19-42 Pileco diesel hammer. A 41ft hydraulic spotter is used for driving battered piles. Each tank has 128 battered piles and 245 vertical piles ranging from 100 to 120 ft in length. Pipe supports, pipe road crossings and pump pad support piles range from 95 to 105 feet in length. A 270 Komatsu excavator is fitted with an APE #8 38ft drill rig for pre-augering piles. The piles are lifted with a 3 point pick system, with an adjustable chain in the middle of the pile and two hooks lifting the pile at both ends on

the cast in place loops made out of spare pieces of the ½" strand from the pile itself. Lifting the piles with the same crane used for driving and placing into a predrilled hole really increase daily production. The project site is on an area of Craney Island largely made from the dredging spoils of the Elizabeth River shipping channel. Although some obstacles are encountered, piles over 100 ft long are driven at a rate of 10 to 15 a day, averaging 12 driven per day. On the larger 100,000 barrel fuel tanks after the piles are driven to elevation, a 128 ft diameter 18" thick concrete slab is placed, 18" thick 6 ft high walls are then constructed around the perimeter and then sand is placed inside to the top of the walls. Leak detection, cathodic protection and liner

Engineering & Design	Deep Foundations	<i>Over 50 Years Specializing in Design-Build.</i>	
			
GEOTECHNICAL ENGINEERING & CONSTRUCTION			
		<p>Safe • On Time • Within Budget</p> <hr/> <p>www.goettle.com (513) 825-8100</p> <p>12071 Hamilton Ave., Cincinnati, Ohio 45231</p>	
Earth Retention	Marine Construction	Cincinnati • Fort Worth • New Orleans • Pittsburgh	



systems are placed in the sand bed. Then the massive steel tanks are constructed resting on top of the concrete walls and sand bed. The 60,000 and 40,000 barrel tanks are constructed the same way with a slightly smaller diameter. In the end all tanks, piping and other new infrastructure are painted to the Navy's specifications. Concrete cap pipe supports for 12", 14" and 18" fuel piping are spread throughout the entire project supporting the piping system serving the new tanks. Fuel pipe supports are generally single pile, with some double and 4 pile anchor supports. As a cost savings measure some of the Navy's major fuel transfer equipment was removed and integrated into the new work. The larger and smaller tank series will have independent control systems installed for a new fully automated system.

Mid Eastern Builders started the Craney Island Fuel Tank

Replacement Project in August 2009, production pile driving began in February 2010. In September of 2010, piles were 80% complete. The 60,000 and 40,000 barrel tanks were erected simultaneously and painting started on the two tanks in the middle of September 2010. Controls work is being installed and the two tanks will be brought online the first quarter of 2011. On the 100,000 barrel series of tanks, piles will be complete on three of the four tanks in the first few weeks of October 2010, foundations are complete on two of the tanks with steel tank erection underway. Project phasing requires the two smaller 60k and 40k barrel tanks to be online before the last three 50,000 barrel existing fuel tanks can be demolished making way for the last of the four new 100,000 barrel tanks to be constructed. The project is scheduled for completion in the summer of 2012.

Atlantic Wood Industries/ Atlantic Metrocast has been in business for over 100 years by providing unparalleled customer service, while backing our products, to assure a positive customer-supplier experience. Atlantic is a family run business that values customer relationships and maintains a reputation of quality products and services. Long term relationships combined with an eye towards sustainability in the marketplace is the cornerstone of our business.

Founded in 1982, MEB is today one of the most experienced and respected providers of construction and design build services in the Hampton Roads region, the Commonwealth of Virginia and throughout the Mid-Atlantic. With nearly 300 employees and over \$190 million in annual revenue, MEB has the resources and strength to provide the highest level of service on a broad variety of project types. MEB has a diverse portfolio including all types of government, industrial, commercial, and heavy civil projects, and the ability to self-perform significant aspects of any project gives MEB a competitive advantage. In their 28 year history, MEB has evolved into a leader among the region's General Contractors and has been recognized as one of the "Top 400" Contractors in the United States" by *ENR* magazine as well as one of the "Best Places to Work" by *Inside Business* magazine. MEB is centrally located in Chesapeake, VA, but performs work all over the state, from Hampton Roads to Richmond, Roanoke to Northern Virginia, Northeast North Carolina to the Eastern Shore and onward throughout the Mid Atlantic. ▼

Photos courtesy of David Ervin, Mid-Eastern Builders, Portsmouth, VA



Service, Sales & Rentals of all pile driving equipment and accessories has been our business for over 25 years.

- Impact Hammers, Hydraulic & Diesel
- Vibratory Hammers
- Hydraulic Drills / Auger Cast
- Swinging & Fixed Leads
- Ground Release Shackles
- Sheet Pile Capping Systems



Geoquip Inc.
 1111 Cavalier Blvd,
 Chesapeake, VA 23323
 Phone: 757-485-2500
 Fax: 757-485-5631
 www.geoquip.biz

Call today and let us work for you.

757-485-2500

Build on a solid foundation with quality pilings.



RoyOMartin-Colfax Treating specializes in poles and piling. Our products are available in a variety of treatment options: creosote, pentachlorophenol, chromated copper arsenate (CCA) and creosote coal tar solutions. Different retention levels and a variety of sizes are available on demand. Producing quality and value with the three C's of piling and poles: committed, consistent, and competitive.



The best piling requires the best treatment.



Since 1923

RoyOMartin

PO Box 1110 | Alexandria, LA 71309
800-299-5174 | royomartin.com

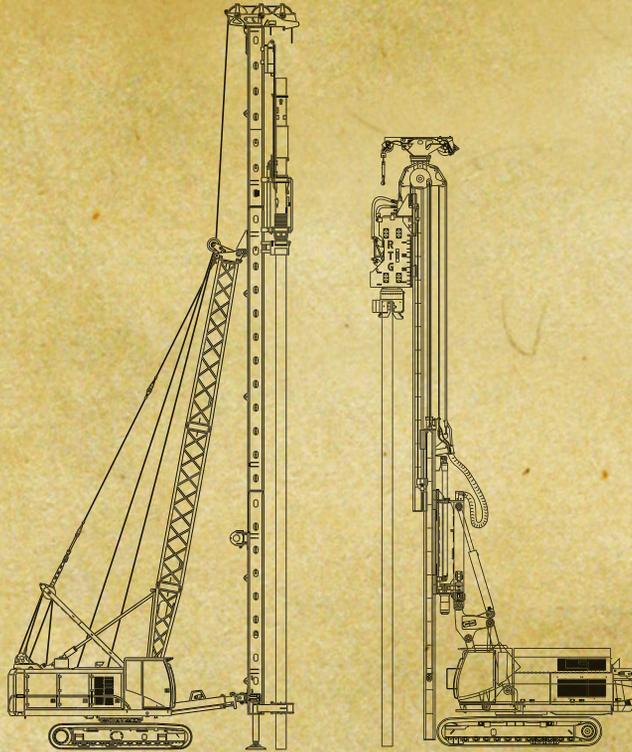
Joel Arnold 866.220.9426
Pat Abney 318.446.1906
Mackie Jones 877.769.8988

RoyOMartin offers a full line of premium-quality wood products. For a complete listing and specifications, visit our website at: royomartin.com. Made in the USA

Colfax Treating is a proud member of the following:
North American Wood Pole Council
Southern Pressure Treaters' Association
Pile Driving Contractors Association



RENTAL • SALES • SERVICE



TRUST, INNOVATION & EXPERTISE...

THE FOUNDATION OF SUCCESS.

For more than 90 years, Equipment Corporation of America has been a premier distributor of Foundation Construction Equipment. Our success and longevity is a direct result of the relationships we've built by using high quality equipment and best-in-class service.

Find out how we can build a foundation together.
1.800.PILE.USA -or- www.ecanet.com

EQUIPMENT CORPORATION OF AMERICA

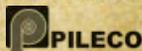


+ BUILDING FOUNDATIONS SINCE 1918

AUTHORIZED DEALER:



KLEMM
Bohrtechnik



Birmingham



IPSI



PITTSBURGH

PHILADELPHIA

WASHINGTON D.C.

TORONTO



The Sustainability of Timber Pilings

By Laura Hayden, Corporate Communications & Research Manager, Cox Industries, Inc.

With an increased push for energy efficiency and a more environmentally sustainable U.S. building industry, our members may wonder how pile driving can address these new concerns. An easy way is to consider the material of piling used in your construction projects. Consider using wood, a sustainable choice. No other material can match wood's unique combination of benefits, including strength, affordability, ease of use and environmental superiority. Contractors can incorporate this energy

Wood is both environmentally sustainable and structurally durable.

efficient material by using timber piling. For many building applications, timber piling is a viable cost effective choice over steel and concrete.

Wood is both environmentally sustainable and structurally durable.

Wood's structural and seismic characteristics are field tested and include its high damping attribute, which provides built-in shock resistance against hurricanes and earthquakes. Wood is also long lasting. Foundations constructed with timber piling in 16th century Venice are still in use today. The natural durability of timber piling can be extended through its treatment for above groundwater use. Treating extends the life of forest

resources; consequently, it saves 226,000,000 trees each year in the U.S. alone.

As the world's only renewable building material, wood can not only be recycled, but regenerated as well. Since wood products are sourced and manufactured from managed tree farms, it is a renewable resource. More wood is grown each year in the U.S. than is harvested. What's more, trees provide benefits to the environment while they grow, taking in carbon dioxide and releasing oxygen. By harvesting slow growing mature trees and then replanting with younger fast growing trees, you are capturing and storing more carbon. Growing one pound of wood in a vigorous younger forest removes 1.47 pounds of carbon dioxide from the atmosphere and replaces it with 1.07 pounds of life-sustaining oxygen. Wood products such as timber piling are 50 percent carbon by weight and keep this carbon out of the atmosphere. Thus, wood contributes far fewer greenhouse gas emissions than its non-renewable counterparts, steel and concrete.

Timber piling also requires less energy to produce than alternative building products. In scientific circles, life cycle assessment (LCA) is emerging as the accepted way to determine the true environmental impact of any product. A measurement from "cradle to grave" of the product, including raw material extraction, manufacture, distribution, use, maintenance, and destruction, LCA examines pollution, human health, and energy efficiency over the lifespan of

(continued on page 83)

NAYLOR PIPE PILING

Your Call To Naylor's Chicago Plant Will Give You Personalized Service Including:

- 100% domestic steel
- Exact lengths
- Attached or loose end plates
- Conical points, chill & splice rings as required
- In-plant inspection
- Mill Certification with the shipment
- Prompt availability and on time delivery
of test and production pile



NAYLOR PIPE COMPANY

1245 East 92nd Street • Chicago, Illinois 60619

Phone: 773.721.9400 • Fax: 773.721.9494

E-mail: sales@naylorpipe.com

Since 1925

www.naylorpipe.com • 85 Years of Service

the product. Wood scores favorably for its energy efficiency and outperforms other materials based on environmental measures such as embodied energy and greenhouse gas emissions. Although wood products make up 47 percent of all raw materials made in the United States, its share of energy consumption during production is only four percent of all manufactured materials.

Another way to increase our industry's involvement is to use timber piling on sustainable and environmental projects, such as wind farms and water treatment facilities. As the market grows in the future for these types of construction projects, pile contractors should seize the new opportunities. Water treatment facilities can require thousands of timber piling. In situations where soil instability is an issue, new wind farm construction would also require the use of piling.

The bottom line is that if you're using timber piling, you're making a sustainable choice. If the wood is treated, it will last. From an environmental perspective, you don't get much greener than wood. It is the role model for renewability as it requires less energy to produce than is needed for comparable building products. The species of trees made into treated wood are common, plentiful, rapidly replenished, and grown on managed tree farms and timberlands. The use of wood also reduces greenhouse gases: lumber products sequester carbon and young forests take more carbon dioxide from the atmosphere than they add. Finally, using timber piling on projects such as wind farms and water treatment facilities is the way to push forward on sustainable construction practices within our industry. ▼



Timber Piling Solutions For Marine Construction

**Low cost piling solution for Foundation & Marine piling.
Great product for marinas, docks, and bulkheads.
Design information available.
Technical seminars available.**

TIMBERPILINGCOUNCIL
FOUNDATION & MARINE PILING

800-410-2010 pst fax: 206-275-4755
www.timberpilingcouncil.org info@timberpilingcouncil.org

Quality Assessment of Driven Piles

by the Foundation Testing Experts

- Dynamic Load Testing (PDA and CAPWAP®)
- Pile Driving Monitoring (Now offering SiteLink™ and iCAP™)
- Vibration Monitoring
- GRLWEAP Analysis (Wave Equation)
- Pile Integrity Testing (PIT)



Central.....	216.831.6131
California.....	323.441.0965
Colorado	303.666.6127
Florida	407.826.9539
Illinois	847.221.2750
Louisiana.....	985.640.7961
North Carolina.....	704.593.0992
Ohio.....	216.831.6131
Pennsylvania.....	610.459.0278

GRL Dynamic Measurements and Analyses
engineers, inc.

www.pile.com/grl

info@pile.com

Minimate Pro6™

Two Monitoring Points - One Instrument



**Monitor vibration
with confidence for
Regulatory Compliance**

Photo courtesy of WPC, a Terracon Company.



(800) 267-9111 or (613) 592-4642
www.instantel.com
sales@instantel.com

Index to Advertisers

ABI GmbH, GERMANY	44
American Piledriving Equipment, Inc.	Outside Back Cover
Atlas Tube	21
Bauer - Pileco	34
Bayshore Concrete Products	7
Birmingham.....	46
Blakeslee Arpaia Chapman, Inc.	43
Blue Marlin Marine Solutions LLC/Jet Filter	55
Boh Bros. Construction Co. LLC	24
Brayman Construction Corporation	56
Brittix International Pipe Supply	56
Carpenter's Pole & Piling Inc.....	40
Cajun Deep Foundations, LLC.....	33
Christianson Pipe Inc.	42
Collins Company	13
Conrad Forest Products.....	30
Consolidated Pipe & Supply	8
Corman Marine Construction.....	56
Corpac Steel Products, Corp.	43
Crestwood Tubulars Inc.	61
DFP Foundation Products LLC.....	27
Drive-Con, Inc.-Full Subsidiary of ICE®	73
ECS Limited	60
Ed Waters & Sons Contracting Co., Inc.	36
Edgen Murray II, LLC	58
Equipment Corporation of America	80
Foundation Constructors, Inc.....	72
Geokon, Inc.	37
GeoQuip Inc.	78
Goettle, Inc.....	77
GRL Engineers, Inc.	83
GZA GeoEnvironmental, Inc.	48
H.B. Fleming, Inc.	73
Hammer & Steel, Inc.....	Inside Back Cover
Herbert F. Darling Inc.	16
ICE - International Construction Equipment, Inc.	32
Instantel.....	84
Interpipe Inc.	74
JD Fields & Company, Inc.	28
Jinnings Equipment.....	Inside Front Cover
L.B. Foster	65
Land Equipment, Inc.	60
Liebherr-Werk Nenzing GmbH	69
Lodge Lumber Company, Inc.....	16
M G & B Services	36
MacLean - Dixie.....	16
Mandal Pipe	4
Manhattan Road & Bridge Co.	59
Mason Construction, Ltd.	45
MB Western Industrial Contracting Co.....	52
Mid-America Foundation Supply	37
Midwest Vibro, Inc.	26
Mississippi River Equipment Co. Inc.	59
Monotube Pile Corporation.....	76
Municon Consultants	54
Naylor Pipe Company	82
Nucor Corporation	2
PACO	64
Pacific Pile & Marine	53
Pile Dynamics Inc.	68
Pile Hammer Equipment	68
Poseidon Barge Corporation	38
R. Kremer & Son M.C. LLC.....	72
R.W. Conklin Steel Supply, Inc.	14
REV Drill	72
RoyOMartin Colfax Treating	79
Sabine Pipe, Inc.....	70
Shoreline Steel, Inc.....	54
Skyline Steel	50
Specialty Piling Systems, Inc.	54
Sun Piledriving Equipment, LLC	62
TA Services, Inc.	70
Tectonic Engineering & Surveying Consultants PC.....	70
Timber Piling Council.....	83
Tolunay-Wong Engineers	66
Underpinning & Foundation Skanska	11
Valiant Steel & Equipment, Inc.	10
Vynorius Piledriving Inc.....	66
WB Equipment	66
Weeks Marine, Inc.	6



Steel Sheet Piling

Hammers & Vibrators

Multi Purpose Mobilram Rigs (as shown)

Large Diameter Drilling Rigs

Low Head Room Drilling Rigs

Micropile & Anchor Rigs

Grout Mixing & Pumping Equipment

Electronic Monitoring Systems

Sales, Rentals, Consulting & On-Site Service

7 Offices | Equipment Yards



www.hammersteel.com
Tel: 314-895-4600

DRIVING: SERVICE

DRIVING INNOVATION. DRIVING TECHNOLOGY. DRIVING PROGRESS.

APE: The Driving Force



American Piledriving Equipment, Inc.



Manson Construction rebuilding a ferry dock.
McNeil Island Corrections Center, Puget Sound, WA

WEST COAST

Stockton, California

(888) 245-4401

(209) 942-2166

Steve Cress - stevec@apevibro.com

GULF REGION

Conroe, Texas

(800) 596-2877

(936) 271-1044

Gonzales, Louisiana

225-644-7626

Joe Wright - joew@apevibro.com

Brad Sullivan - brads@apevibro.com

SOUTHEAST

Mulberry, Florida

(800) 570-3844

(863) 324-0378

Wally Brumsey - wallyb@apevibro.com

Jim Bushyeager - jimb@apevibro.com

Jim Casavant - jimc@apevibro.com

MID-ATLANTIC

Virginia Beach, Virginia

(866) 399-7500

(757) 518-9740

Jimmy Deemer - jimmyd@apevibro.com

MIDWEST

Saint Peters, Missouri

(877) 296-8044

(636) 397-8400

Ed Corbett - edc@apevibro.com

NORTHEAST

Sayreville, New Jersey

(888) 217-7524

(732) 432-6604

Paul Kuzik - paulk@apevibro.com

Bill Ziadie - billz@apevibro.com

National Reach

Local Response

CORPORATE OFFICE

7032 South 196th St.

Kent, Washington 98032

(800) 248-8498

(253) 872-0141

Kelly Goranson - kellyg@apevibro.com

Dave Yingling - davey@apevibro.com

GO APE:

DRIVING SERVICE

In a business where service makes or breaks your project - you can't accept anything less

www.apevibro.com