



**Allowability of
Contingency
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**Not All Insurance
Policies Are
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**GRL Engineers,
Inc. Celebrates
Milestone**

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PILED RIVER

THE OFFICIAL PUBLICATION OF THE PILE DRIVING CONTRACTORS ASSOCIATION | Q3 2006 VOL. 3, NO. 2

Project Spotlight: NWSHHD Fish and Wildlife Habitat Rehabilitation, Green River Watershed, Washington



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PILEDRIVER

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Project Spotlight: NWSHHD
Fish and Wildlife Habitat
Rehabilitation, Green River
Watershed, Washington





PDCA Local Chapters— A Progress Report

By Harry Robbins, PDCA President

First, a quick review of driven piles: Soil borings, geotechnical engineers' review and recommendations, structural engineers' design, piles made in a quality-controlled manufacturing environment and tested for quality assurance before being delivered to the jobsite, driven by experienced professionals, tested during driving, and easily proof-tested upon completion. The Engineer of Record can sleep well at night knowing that he has put his reputation on the line with a proven reliable deep foundation system that will not let him down. No voodoo engineering required!

Such is the simple message of PDCA—driven piles are tested piles. PDCA of South Carolina has been taking this message to South Carolina engineers since May of 2003. Quarterly meetings offer Professional Development Hours (PDH) for engineers. In March of 2006, PDCA of SC held its second Driven Pile Technical Seminar at The Citadel with over 100 registrants. Nationally-known experts presented an outstanding program that was well-received. Lunch and conference proceedings were included, with 6 PDHs, all for the cost of only \$75 per registrant. The real costs of putting on a program of this caliber were paid by PDCA of South Carolina sponsors who underwrote the expenses in order to keep the registration cost so low. Companies joined together at the local level to make a positive influence on the driven pile industry. This is how a local chapter can make a difference. PDCA of South

Carolina President John King, of Pile Drivers, Inc., is motivated and passionate about his chosen profession. Rarely does a day go by without John calling me to share one of his ideas to promote the ideals of PDCA. We are lucky to have a leader with his enthusiasm.

Now I am pleased to share some exciting news. The Gulf Coast Chapter and the Mid-Atlantic Chapter will soon be the newest PDCA chapters. Motivated and passionate leaders have emerged in these areas, in the form of Steve Whitty with Specialty Piling Systems in Louisiana and Mike Jahnigen with Sun Marine in Delaware.

PDCA Executive Director Steve Hall and I recently attended the organizational meeting of the Mid-Atlantic

Kelly of Skyline Steel who arranged the meeting, Don Posey of GA and FC Wagman, Inc. and Rick Kumrow of Corman Construction.

Meanwhile, Steve Whitty and his associates in the New Orleans area have also been busy setting up the Gulf Coast chapter. With apologies to those I may be leaving out, working with Steve is Paul Tassin, Dmitri Drezins, Robert W. Baker, Keith Tassin, Harold Baur, and Butch Casey. The first organizational meeting will take place early this summer. With all they have going on with hurricane recovery, I am overwhelmed that they are able to move forward. But moving forward they are!

Congratulations to Gulf Coast and Mid-Atlantic chapters. Who is next?

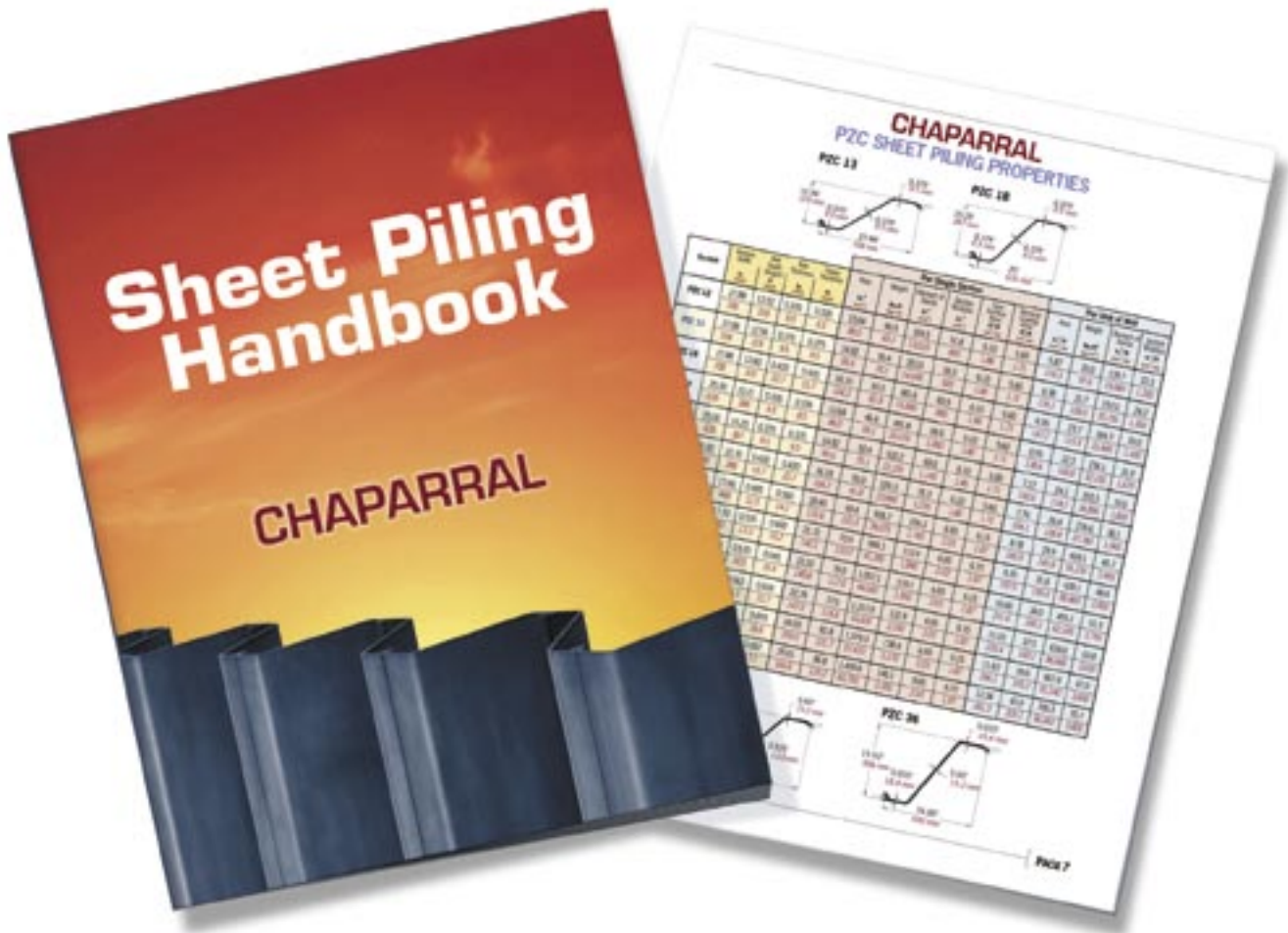
Now I am pleased to share some exciting news. The Gulf Coast Chapter and the Mid-Atlantic Chapter will soon be the newest PDCA chapters. Motivated and passionate leaders have emerged in these areas, in the form of Steve Whitty with Specialty Piling Systems in Louisiana and Mike Jahnigen with Sun Marine in Delaware.

Chapter in College Park, MD. A steering committee was formed to make the chapter a reality. Besides Mike Jahnigan, this committee consists of Irv Ragsdale of Clark Foundation, Rob Braden of Skyline Steel, and Bill Lytle of Midlantic Piling. Others in attendance were Rory

Volunteers promoting our industry in local markets are effective. We need to remind the Engineer of Record that the best assurance of a good night's sleep is to specify driven piles!

Until next time, remember, driven piles are tested piles. ▼

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PDCA Advancing the Industry

By Stevan Hall, PDCA Executive Director

The PDCA continues to advance the driven pile industry in many ways and on a number of different fronts.

Recently, PDCA members and staff attended the 2006 American Association of State Highway and Transportation Officials (AASHTO) Annual Conference in Snowbird, UT. The PDCA attended the conference to appear before the AASHTO Subcommittee on Bridges and Structures, T-15 Technical Committee, Substructures and Retaining Walls to present a complete revision of the AASHTO LRFD Bridge Installation Specifications, Section 4: Driven Foundation Piles specifications.

Representing the PDCA before the AASHTO T-15 Committee were PDCA Technical Committee Chair, Dale Biggers, (Boh Brothers), George Goble (George G. Goble Consulting Engineer, LLC), Scott Whitaker (Chapparral Steel), and Steve Hall (PDCA).

During the T-15 Committee meeting, the PDCA not only presented a complete overview of the revisions, but also emphasized the collaborative efforts by contractors, engineers, and suppliers, providing for broad-based and comprehensive input into this important document revision. Equally as significant were the hours the PDCA Technical Committee members and individuals put into researching and drafting language for the specifications, which were calculated to be approximately 400 hours.

At the conclusion of the PDCA's presentation, the T-15 committee members recognized the PDCA for

accomplishing such a significant task. Once the revisions are incorporated into the specifications and implemented, the PDCA's efforts will have a significant impact on driven foundation pile specifications in public projects far into the future.

Currently, the PDCA Technical Committee is converting the AASHTO specifications to be applicable to private work. This new PDCA document will be posted on the association's web site, www.piledrivers.org once completed.

The PDCA would like to thank the Technical Committee for their persistence, hard work and achievements associated with this project. The PDCA would also like to acknowledge Dale Biggers (Boh Brothers), Technical Committee Chair, for his leadership and Garland Likins (PDI/GRL), for his contributions and the many hours he spent incorporating the revisions into the specifications.

The PDCA, under the direction of its Education Committee, is well into the organizational aspects of the Seventh Annual Design and Installation of Cost Efficient Piles (DICEP). This year's DICEP will be held in Minneapolis, MN., September 14 and 15, 2006.

The PDCA will present the Deep Foundation Dynamic Testing and Analysis program as a pre-conference program. This program will be held on Tuesday and Wednesday, September 12 and 13, 2006. The Deep Foundation Dynamic Testing and Analysis program will be conducted by Frank Rausche and Garland Likins, GRL Engineers, Inc., and will include the Foundations QA Certification exam.

The DICEP conference will be a full day and a half of presentations associated with driven pile design, engineering, installation, cost advantages, and technological innovations. The 2006 DICEP will be a conference both engineers, contractors, suppliers and manufacturers will want to attend. The conference will also include a table top exhibitor's show and a companion or guest program.

Brochures were mailed on July 5, or you can download the brochures from the PDCA web site, www.piledrivers.org.

PDCA President Harry Robbins is a strong advocate of local PDCA chapters and was, in fact, a co-founder and first President of the PDCA of South Carolina Chapter, the first local PDCA chapter in the U.S. PDCA Chapters make a significant difference in the driven pile and deep foundations industry at the local levels, but also have positive national consequences. The PDCA of South Carolina continues to prove this point on a regular basis by improving local market share through education and marketing of driven piles. Today, more businesses associated with this industry are recognizing the benefits of a local PDCA chapter and moving towards that objective. Today, the PDCA has contractors forming the PDCA Gulf Coast and Mid-Atlantic Chapters. Recently, the PDCA received a request from Texas contractors to allow them to investigate the potential of a new chapter in the South; and PDCA is still hopeful of having an existing PDCA chapter in California associate with the national PDCA. What's stopping pile driving contractors in your area from coming together and forming a



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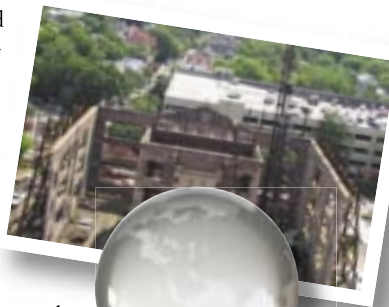
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CONGRATULATIONS to WPC Engineering and Ed Hajduk, winner of an *InstanTel Innovation Award*. The 1920's Charleston High School building was renovated into the new home of the Medical University of South Carolina's College of Health Professions Complex. In addition, an adjacent building for the complex and a parking garage were also constructed. The project was unique, as it required the existing historic brick façade of the high school to be preserved and incorporated into the new development.

"Given the concerns that pile driving vibrations might damage the brick walls or disrupt nearby sensitive medical equipment, extensive monitoring was required," said WPC President Reg Christopher, "WPC's monitoring plan included pre-condition surveys of the adjacent buildings and the existing brick façade, monitoring of existing cracks noted during the survey, vibration



measurements, pile installation monitoring, and a test pile program. At the end of the project, 547 piles were driven in and around the existing brick walls and our monitoring showed no damage to the existing brick or surrounding buildings."

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—Edward Hajduk, PE, Senior Geotechnical Engineer, WPC Engineering

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As you can see, the PDCA is accomplishing its goals of creating a stronger driven pile industry on a national and international level through its objectives of creating greater market shares, increased visibility, educational programs, effective communications and increasing cooperating organizational liaisons with supportive groups.

local PDCA chapter? If your answer is, "Nothing," give the PDCA office a call and we will help you get started and provide all the support necessary to help you chapter be successful.

The PDCA is working with the Federal Highway Administration (FHWA) and their Resource Center on a "webinar" educational program. The webinar program will be a highly visual, interactive Internet presentation entitled, "Advances in Pile Driving Equipment." The program will be designed to present an educational overview that will introduce or re-introduce the advances in pile driving equipment to Federal and State employees, engineers, PDCA members and others over the Internet and at no cost. The two live broadcasts are scheduled for October 11 and 18, 2006, but the FHWA will archive the presentation so it can be accessed and viewed by anyone at anytime.

As you can see, the PDCA is accomplishing its goals of creating a stronger driven pile industry on a national and international level through its objectives of creating greater market shares, increased visibility, educational programs, effective communications and increasing cooperating organizational liaisons with supportive groups.

The PDCA would like to acknowledge the retirement of Rory Kelly (Skyline Steel). Rory was a PDCA Board member and Chair of the PDCA Membership Development and Member Retention Committee. Rory is pursuing his life-long ambition of owning a limousine service in the Washington, DC, metropolitan area. The PDCA would like to thank Rory for his years of service to the PDCA and we wish him much success in his new endeavor. President Robbins, consistent with the PDCA Bylaws and with the full support of the Board has appointed Richard Gilbert (Skyline Steel) to replace Rory as a Director on the Board for Rory's remaining term; and President Robbins has also appointed John King (Pile Drivers, Inc.) as the new Chair of the PDCA Membership Development and Member Retention Committee. The PDCA would like to acknowledge these two individuals and express our sincere appreciation for accepting their appointments in support of the PDCA.

Finally, don't forget that the PDCA is your association. Your participation at all levels will only make us a stronger organization. You can do so much to help us reach our full potential. For instance, ask a contractor, engineer, supplier or manufacturer to join the PDCA, volunteer to serve on a committee, and be a participant in PDCA events, like the upcoming DICEP. ▼



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Van Komurka, Garland Likins, John Linscott,
James H. Long, Dean Mathews, Joe Phillips,
Scott Whitaker.

New PDCA Installation Specification Available

The PDCA is proud to announce the publication of PDCA Specification 101-06, Installation Specification for Driven Piles. This specification was prepared by the PDCA Technical Committee for use specifically on private projects. Technical Committee members include contractors, equipment manufacturers, pile manufacturers and engineers. This comprehensive specification includes sections on pile materials and

protective coatings, pile installation, hammers, testing and measurement and payment.

The application of this specification will be a useful tool in keeping driven piles competitive on private work. To obtain your free copy for use or distribution, contact the PDCA office or simply visit the PDCA website, www.piledrivers.org.

New PDCA New Orleans Chapter Organized

A new PDCA Chapter has been formed, making this the second local Chapter in our organization. PDCA of the Gulf Coast recently installed their first officers, with Paul Tassin of Foundation Materials, Inc. taking on the role of President, Michael Kelly of Gulf South Piling and Construction, Inc. the new Vice President, and Harold Baur of Boh Bros. Construction Co., LLC serving as Secretary/Treasurer.

The Gulf Coast Chapter is located in the Greater New Orleans area, with the intention of recruiting members from the surrounding Gulf Coast area as well. The chapter was formed to address the concerns of local pile drivers, especially in the rebuilding of the area after Hurricane Katrina.

During the inaugural meeting, the 11 pile driving contractor representatives, five vendors, and a local geotechnical and materials testing firm all pledged to work together to improve communications with the design community, to assist in recruiting additional members, and work toward promoting driven piles as the preferred foundation system. All of the new members expressed an optimistic outlook for the future of the organization and the recovery of the area.

It was noted during the meeting that many other area companies had expressed interest in joining the local chapter and the national PDCA organization even though they were unable to attend the initial meeting.

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NWSHHD Fish and Wildlife Habitat Rehabilitation, Green River Watershed, Washington



By Jim Chliboyko

It's not often one goes to work to get away from it all. In the case of McDowell Northwest—a fifth-generation family piling firm based in the Pacific Northwest—one of their jobs not only sent them back to the wilderness, it had them rehabilitating and reclaiming a chunk of it, too.

For a firm that began business in the Pacific Northwest lumber trade in the late 19th century, it perhaps isn't surprising that McDowell Northwest would eventually encounter another typical Pacific Northwest symbol; the mighty but vulnerable salmon.

The project's official title, says Bruce McDowell, is the "NWSHHD Fish and Wildlife Habitat Rehabilitation." It involves the rebuilding of salmon habitat on Washington State's Green River, in a restricted access area above the Howard Hanson Dam. But this isn't just helping the fish along. Currently, salmon can't make it past the dam, so the project will eventually incorporate elevators. Essentially, an entire fish habitat—which the fish were banished from years ago—is being recreated from scratch.

McDowell says the marine focus of the project represented somewhat unfamiliar ground for the company, but it was a challenge they were eager to undertake.

"There are piling outfits that do marine work in Puget Sound," says McDowell, from his office in Kent, Washington, just south of Seattle. "That's something we don't even do. We generally stick to dry land."

Though the water flow in the river at that point is about 500 cfs (cubic feet per second), it can get up to 10,000 after a rain event. "The water wasn't that high, but we needed hipwaders for our guys," says McDowell.

"We'd put six or twelve non-treated wooden pilings in a cluster, and then CDM (Contractors, the other contractor involved in the project) would move in," says McDowell of the work itself. There were 122 pilings in total, arranged in a variety of different configurations, which another partner, the Army Corps of Engineers, designed.

That the wood—Douglas Fir—was non-treated was an important point, as the project had to adhere to strict environmental guidelines. "They'd use excavators with big buckets, and drop in the trees with these great root bulbs."

The theory goes that in behind the bulb a proper pool will form, and it is this type of habitat that will allow the salmon to thrive on their way upstream to spawn. It is part of similar riparian rehabilitation efforts, like the attempt to provide greater shade along salmon-bearing rivers to keep the temperature of the water down.

The trees were fastened inside the piling clusters with strands of two-inch manila rope and three-quarter-inch marine chain. The ends of the pilings themselves were sharpened and fitted with steel "boots" and driven with an American Piledriving Equipment, Inc. D-12 pile hammer powered by bio-diesel fuel.



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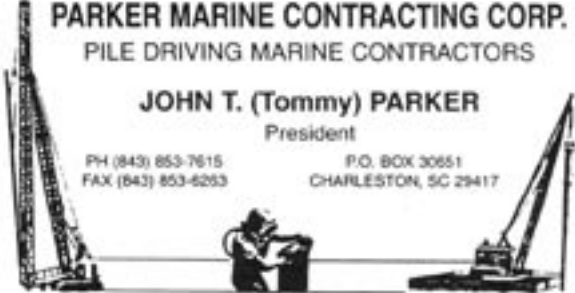
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PDCA PROJECT SPOTLIGHT



“Everywhere we went, they had to build a road.” Bruce McDowell, McDowell Northwest

Being in the mountains meant some pre-drilling was necessary because of the rough terrain.

“There were boulders underneath there, cobbles, real hard ground in certain areas,” says Peter Stringer, a senior project engineer with CDM Contractors, the project’s general contractor, who set the trees in the cradles of pilings.

This stretch of the Green River is further up from the stretch so notoriously (though not particularly accurately) linked to the Green River Killer. But it is also far away from the city. McDowell says it took a couple of hours just to get into the site, and then, for access down the bank and to the river, a path had to be created—a road wide and strong enough, while not being too steep, to accommodate a 70-ton Sumitomo crane.

“Everywhere we went, they had to build a road,” he says, adding they were dismantled afterwards.

But it wasn’t just for the fish. Stringer says that in addition to the ecological work, the construction helps sculpt the river. If placed properly, the piling clusters can help shape the river away from spots of bank erosion.

“A Type-4 engineered log jam would have eight piles, some others would only have two,” says Stringer of the variety of arrangements.

“The year before, they did a site to see how it performed over the winter,” says Stringer. “The area behind scoured out well.”

Stringer says that this type of work is becoming more common. “We do a couple of stream restoration jobs a year,” he says. “It’s kind of a big thing right now; it’s popping up everywhere.”

Because the work was being done in a sensitive area, and because the Green River supplies Tacoma, Washington, with its water supply, cleanliness was paramount.



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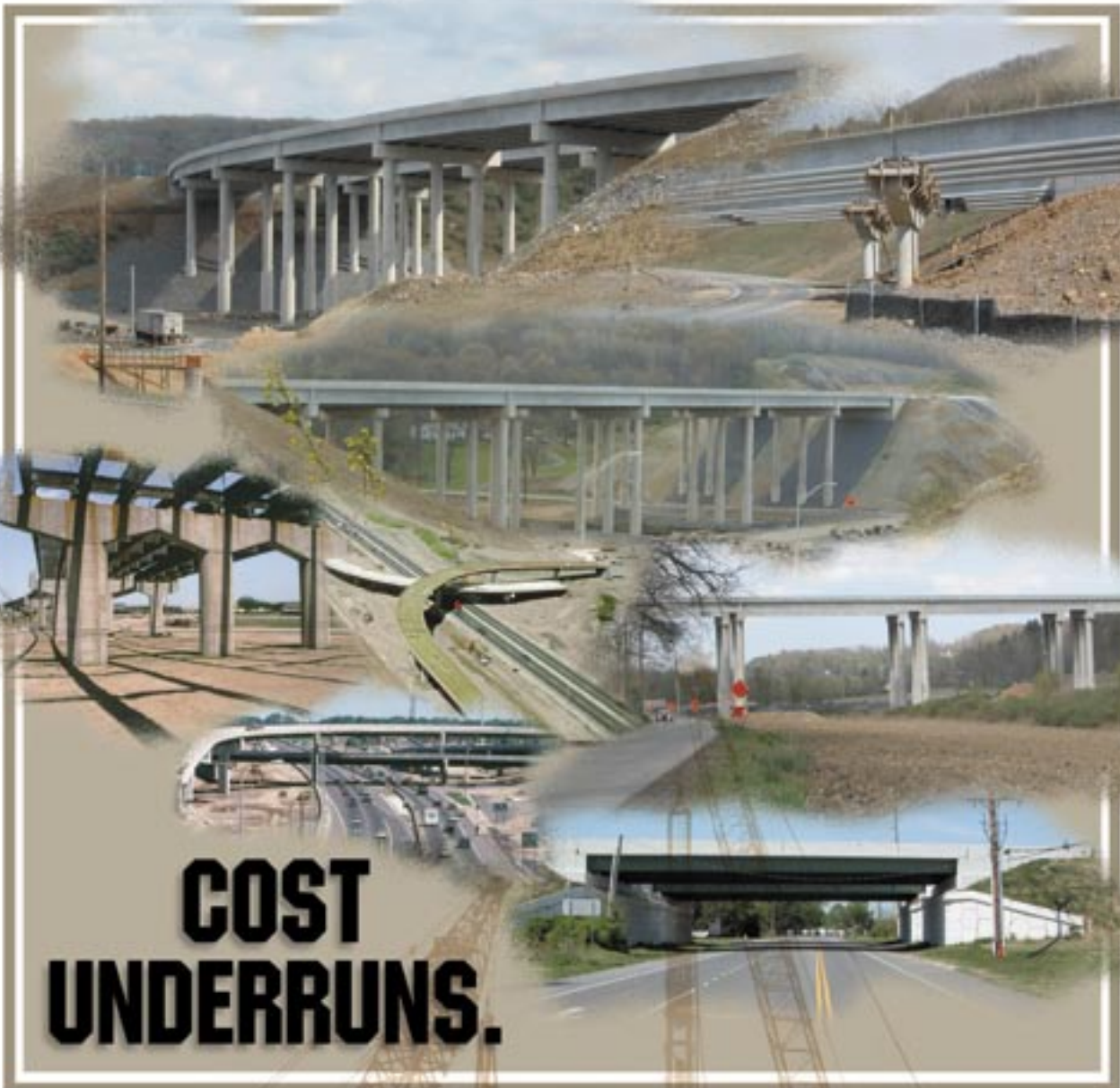
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PDCA PROJECT SPOTLIGHT

"We had to pressure-wash everything," says McDowell, referring to instructions provided by the project's other partners, the Army Corps of Engineers and the Department of Fish and Wildlife. "Everything had to be spotless, especially our machines. We had to use a special type of diesel, hydraulic [oil] had to be switched over to vegetable oil... the guys had to pressure-wash even their workboots."

For the McDowell crew, it wasn't a typical job. "Our guys were seeing bear and deer," says McDowell, who describes himself as an occasional fisher and hiker, when he gets the time. When asked about whether anybody brought a fishing rod for lunchtime, McDowell says, "We joked about that, but the Department of Fish and Wildlife didn't find that humorous at all."

As for the Army Corps of Engineers, "They were very buttoned up, so to speak. They did a real good job planning and knew what they needed to get done," says McDowell. The organizations may work together again; more work was vaguely mentioned for another stage of the project in the near future.

"If you are using timber piling, they are the group," says Stringer of McDowell.

And while the Green River project was a modestly paying job, McDowell says it was both a different and rewarding experience.

"As a company, to work with the Army Corps and Department and to restore the habitat for salmon, it was very rewarding," he says. "Those salmon have had a pretty rough go of it over the last 100 years." ▼



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Allowability Of Contingency Costs in Federal Contracts

By David T. Ralston, Jr. and John G. DeGooyer, Partners, *Foley & Lardner LLP*, Washington, D.C.

Most federal government contracting personnel apparently believe that a contractor's costs to protect against foreseeable contingencies are not allowable. See, e.g., Nagle, *Contingency Costs: Why All the Confusion*, Nash & Cibinic Report Vol. 20 No. 3 at 36 (Mar. 2006). Yet, precisely the opposite is true. Under the Federal Acquisition Regulation ("FAR"), contingency costs are allowable—subject to some limitations. Hurricane Katrina provides a dramatic example of how a foreseeable contingency can impact contract performance and costs. This article provides an overview of how contingency costs are handled so that PDCA members will be better

prepared when faced with contingency issues in your federal contracts.

The FAR addresses contingency costs in the context of (i) acquisition planning, (ii) negotiated proposals, and (iii) the FAR cost principles. Among the FAR provisions addressing contingency costs in the acquisition planning context is FAR 16.203-2(ii), providing that a fixed-price contract with an economic price adjustment clause may be used when contingencies that would otherwise be included in the contract price can be identified and covered separately in the contract. Also, FAR 36.207, concerning pricing fixed-price construction contracts, cautions against using fixed-price/lump-sum

construction contracts (versus fixed-price/unit-price basis contracts) when quantities of work, such as excavation, cannot be estimated with sufficient confidence without a substantial contingency. See FAR 36.207 (b)(2).

FAR Part 15, which covers negotiated proposals, requires that federal agencies evaluate the necessity for, and cost reasonableness of, contingencies in proposals, FAR 15.404-1(c)(2)(i)(A). When an offeror is required to submit cost and pricing data, it must also submit supporting data explain the "nature and amount of any contingencies included in the proposed price." FAR 15.408, Table 15-2, Note 2, I.C.(2). If "the contract provides for a price adjustment based on

Keep in mind that because contingencies are, by definition, future events, costs incurred for past contingencies (sometimes called “retroactive contingencies”) are not allowable for historical costing purposes under most circumstances.

the occurrence” of a contingency, the cost must not be included in the proposed price. FAR 15.402(c). In other words, you cannot recover twice for the same contingency.

The FAR Part 31 cost principles apply to the pricing of contracts, subcontracts, and modifications to contracts and subcontracts whenever cost analysis is performed, and the determination, negotiation, or allowance of costs when required by a contract clause. FAR 31.000. Contingency costs have their own cost principle, FAR 31.205-7 (appropriately entitled “Contingencies”), which broadly defines the concept of contingency as “a possible future event or condition arising from presently known or unknown causes, the outcome of which is indeterminable at the present time.” FAR 31.205-7(a). Contingencies under this cost principle fall into two categories, and these

categories provide a good overall sense of how contingencies are handled under federal government contracts.

First, there are those future events that arise from presently known and existing conditions, the effects of which are foreseeable with reasonable accuracy, such as anticipated costs of re-jects and defective work. FAR 31.205-7(c)(1). You are permitted to include these contingencies in your estimates of future costs for contract proposals.

Second, there are those future events that arise from presently known or unknown conditions, the effects of which cannot be measured accurately enough to provide equitable results for the contractor and the government, such as the results of pending litigation. FAR 31.205-7(c)(2). You must exclude these contingencies from your estimates of future costs for contract proposals. However, you should separately disclose

such contingencies to facilitate the negotiation of separate contract provisions to address them. Id. You should also note that costs related to third-party insurance and self-insurance to cover such contingencies are generally allowable under FAR 31.205-19.

Keep in mind that because contingencies are, by definition, future events, costs incurred for past contingencies (sometimes called “retroactive contingencies”) are not allowable for historical costing purposes under most circumstances. FAR 31.205-7(b). However, this is different from a situation in which estimated costs for a contingency are included in a contract before the contingency occurred (or did not occur) and for which payment is sought after the occurrence or non-occurrence. That is not a retroactive contingency because the contingency was priced in the contract when it was still a future contingency.

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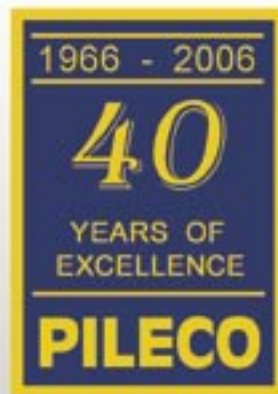


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Now let's pull these various concepts together and summarize how you might address contingencies in the following situations:

- With fixed-price contracts, FAR 6.203-2 provides a basis for you to recommend to the federal agency (prior to bid submission) that it include an economic price adjustment clause addressing the contingency. In addition, FAR 36.207 provides a basis for you to argue against a fixed-price/lump-sum construction contract and for a fixed-price/unit-price basis contract. Other alternatives include seeking a special contract clause that (i) identifies the contingency; (ii) states that you have not priced the contingency in the contract; and (iii) provides that, if the contingency occurs, the government will adjust the contract price.
- With negotiated contracts, you should price the estimated costs of FAR 31.205-7(c)(1)-type contingencies (presently known and existing conditions/effects foreseeable with reasonable accuracy) directly in the proposal. With FAR 31.205-7(c)(2)-type contingencies (effects cannot be measured sufficiently accurately for estimated costs to be equitable), you should seek an appropriate contractual provision in the contract, such as an advance agreement under FAR 31.109, an equitable adjustment clause, or an insurance clause.
- With cost-type contracts, depending on the contingency type (FAR 31.205-7(c)(1) or (c)(2)), the FAR provisions discussed above provide ample authority to justify pricing based

on estimated costs of the contingency, or to include appropriate contract provisions to address the contingency. Also, where the estimated contingency costs are included in a cost-type contract prior to the occurrence or non-occurrence of the contingency, the costs will be allowable under these FAR provisions.▼

David Ralston and John DeGooyer are partners in the Washington, D.C. office of Foley & Lardner LLP. Their practice focuses on federal government contract issues, and they gave a presentation on contracting with the federal government at the last PDCA annual meeting in San Antonio, TX. Any PDCA member that has questions about the contingency issues addressed in this article, or about other federal government contract matters, should feel free to contact David (Email: dralston@foley.com; Tel: 202.295.4097) or John (Email: jdegooyer@foley.com; Tel: 202.295.4047).

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Not All Insurance Policies are Created Equal

By Curtis Hazel, Greene-Hazel and Associates, Inc.

In today's rapidly changing insurance marketplace, it is important to keep up with new policy forms, endorsements and exclusions to prevent putting your business assets at risk. Just as the driven-pile provides a preferred solution in most applications, a properly structured insurance program provides a better foundation for your risk management program and in the long run yields a higher return for your business operations.

In the last decade, the insurance carrier industry has gone through several large mergers and acquisitions. The net result has been a growing homogenization of the types of risks that fit the appetite of company underwriters. Fewer companies are aggressively writing pile driving contractor policies, and those who are have a tendency to add limitations to the coverage. As this trend continues, it is incumbent upon insurance professionals to know the

marketplace and be prepared to advise their clients.

The following will focus on three areas of exposure that most pile driving contractors have in common with their insurance programs:

General Liability

There is common misconception that all general liability policies are written on the same policy form. This is not true; in fact, many carriers today deviate from the standard form. If every insurance company used the same form, then price would be a much larger determination in the decision making process. The reality is forms are different, coverage is different and an analysis of what you are buying is necessary.

The type of work you do will determine the type of liability policy that best fits. If you are primarily involved in marine construction, an

MGL (marine general liability) policy would likely be a better fit than a CGL (commercial general liability) policy. An MGL has the ability to provide specialized coverage for inherent risks in marine construction, including watercraft liability, protection and indemnity, and wharfinger's liability. If your marine exposure is less than 20 per cent of your overall operations you might not qualify for an MGL, in which case you will need to supplement your liability policy, possibly with stand-alone policy(s) to cover your marine risk.

Another difference you will find between policies and policy forms is the method used to develop premium. Does your carrier use gross sales or payroll for the rating basis? If payroll, how do they assign bonuses? Do you have separate payroll records for shop, site preparation, and actual pile driving operations? These items can have

a significant impact on the bottom line. It is possible to change insurance carriers and see a significant difference in how the premium is audited at year end. One carrier may handle "down time" payroll in one fashion, and one may handle it less favorably. You are better off knowing this before the policy is issued. Also, allocating your payroll splits prior to an auditor's visit and providing them with good documentation will make the audit process a lot less painful.

Many liability policies today have deductibles. Have you looked at the option of increasing the deductible and retaining a larger portion of the risk? Sometimes a willingness to share a greater percentage of the risk can open up your company to more insurance carriers.

No current discussion on liability insurance for contractors would be complete without mention of the issue surrounding contracts and indemnity agreements. While insurance agents are not attorneys, it is still very important to provide your insurance

professional with copies of all your contracts. Often there are requirements requested of contractors that are broader than what is available through their insurance policies. It is important for you to identify these situations **before** the contract is signed. The Additional Insured requirement for GCs and Owners has become an issue with many insurance companies. Make sure that any additional insured provisions provide Completed Operations protection after the job is complete.

Construction defect has permeated the construction industry. Do you know how your policy responds to construction defect claims against you, or your subcontractors? Liability insurance policies are not intended to serve as product warranty coverage for workmanship, but if your work creates third party property damage or bodily injury, do you not expect that your liability policy will protect you? The insurance industry has recently seen a growing number of policy endorsements which limit when and how

the policy will respond to completed project coverage. It is imperative that you walk through claim scenarios with your agent to determine if you are exposed.

Inland Marine

This coverage provides protection for various exposures. Those of primary interest to pile driving contractors are:

- (1) Contractors Equipment:
The policy should provide protection for all owned equipment as well as leased or rented equipment, including miscellaneous tools. The valuation for equipment can be handled on either a replacement cost basis or an actual cash value (ACV) basis. The more common forms are written on ACV. Be careful that you evaluate the actual cash value of your equip-

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ment each year at renewal. While most carriers expect you to insure the equipment up to 80 per cent or 90 per cent of ACV, many contractors and insurance agents tend to leave the original purchase price of equipment on the policy and forget to reduce it for depreciation. This can result in overpaying premium.


(2) Builders Risk: This coverage provides protection for a structure during construction and is generally written on an all risk basis excluding flood and earthquake (these coverages can usually be added if necessary; however many policies contain exclusions for piers, wharves, and docks). It is important to review coverage beforehand to make sure

that you are insuring what you contractually agreed to protect. Pricing for this coverage varies based on the location of the job, materials used in construction, length of the job and many other variables. It is very important to get a good builders risk premium estimate prior to bidding a job. The amount of builders risk work a contractor has during the year will generally determine whether they need a specific policy for each job or have a blanket, reporting form policy that covers all projects.

(3) Installation Floater: This coverage is primarily utilized by sub contractors who are not required to actually insure a structure but have materials on a job site that have not been

accepted by the owner or general contractor. These materials can be covered during transit as well as on the job site. This coverage is generally priced on total installation receipts during the year. Make sure that you can identify installation receipts separately from other income so that you do not overpay premium.

It is important to become familiar with exclusions. Many pile driving contractors will have cranes and other machinery on barges. Make sure that the "waterborne exclusion" has been removed from your Inland Marine policy covering this equipment. Another common exclusion for cranes is boom collapse and/or overload. Make sure all policy



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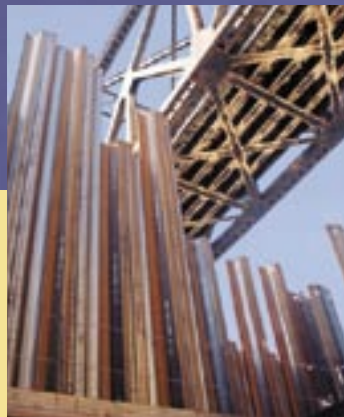
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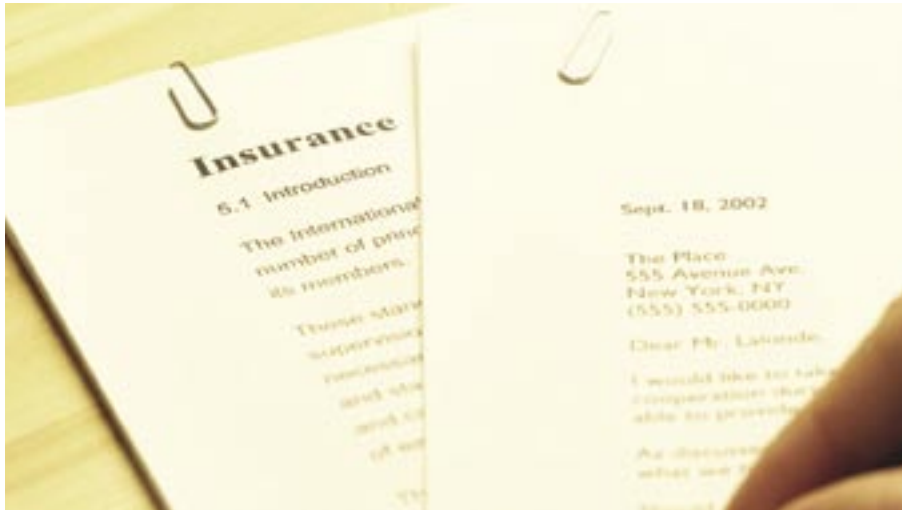
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| weight @ 80% ? | 39.8 lbs/ft2 |
| weight @ 100% ? | 43.6 lbs/ft2 |
| panel width ? | 76.05 in |
| flexibility ? | 76.2% |
| setting ratio ? | 23.8% |
| driving ratio ? | ft2/ft |
| nominal coating area ? | 35.43 in |
| section depth ? | 1684.4 in4 |
| moment of inertia ? | |

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 Sheet length ? (ft)



exclusions are reviewed with your insurance agent, especially when changing insurance carriers. Review your leased/hired equipment contract requirements thoroughly.

Workers Compensation

Having an active risk management safety program can help decrease the frequency and severity of injuries, but the reality exists that one or more of your employees may get injured on the job. Faced with this reality, are you adequately covered to transfer this risk to an insurance company, state pool, self-insurance fund, or some other resource? Are you making sure that any workers you utilize on a subcontractor or temporary basis are also protected?

Each state has different Workers Comp regulations. Are you familiar with the rules for each state you conduct business in? Do you know if your policy picks up the exposure of your employees who are working out of state? You might be surprised to find out you are not covered. This issue has escalated in states where fewer companies are writing coverage. It is important to know how your policy responds, and what information your insurance professional will require prior to beginning work out of state. Waiting until the last minute to find out your employees are not covered could cause delays in project commencement and potential fines if you start work without proper protection.

A contractor's experience modification compares actual losses to estimated losses for a particular employee classification. Successful pile driving contractors understand how their experience modification is calculated and its impact on their overall costs. They know the importance of managing the claims handling process, return to work programs, and looking for reduction of loss reserves when warranted. Experience modification projections for future years are also valuable in long term planning and contract bidding.

Employee leasing is a trend in the construction industry that seems to be here to stay. Do you understand the differences involved in a co-employer relationship? If your company is named

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Very Important News for Contractors Working in Florida

Effective July 2006, NCCI [National Council on Compensation Insurance (www.ncci.com)] has proposed the addition of two new class codes specific to the State of Florida:

Code 6004 – Land Pile Driving will be a land-based pile driving classification, not applicable to marine construction. The second classification is Code 6006F – Marine Pile Driving, Dock & Seawall, Jetty or Breakwater, Dike or Revetment Construction – All Operations to Completion & Drivers. Code 6006F is an all inclusive code for marine construction and includes marine pile driving operations. It is also proposed that effective at 12:01am on July 1, 2006, two classification codes will be discontinued in Florida: Code 6003-Pile Driving, and Code 6005 – Jetty or Breakwater Construction- All Operations to Completion & Drivers. [Excerpt from NCCI Filing Memorandum,

Item 04-FL-2005-revisions to Basic Manual Classifications for Pile Driving and Marine Construction]

This change will have an affect on all pile driving contractors doing business in Florida. Talk to your Independent Agent to find out how this affects you. Conglomeration of carriers, differences in policies and coverage requirements will continue to provide at least one constant for insurance programs for Pile Drivers—change. Finding the right solution to your particular needs requires the expertise of an insurance professional with knowledge of the pile driving industry and the insurance marketplace that caters to it. Today, insurance brokers are providing more than just insurance policies—they are providing online services including OSHA reporting, certificate requests, claim notifications, as well as libraries of documents to support your safety program, human resource administration, and cost containment strategies. Talk to your Independent Agent today.

in workers comp litigation and you utilize an employee leasing firm, who will provide your defense? Do you have Employer's Liability coverage if you lease employees? These are important factors when determining if an employee leasing alternative is a good fit for your organization.

Are you familiar with your obligations to employees who qualify for USL&H (United States Longshoreman's and Harbor Workers Act) protection as well as your need for Maritime Employers Liability (Jones Act)? These exposures are not covered by your statutory Workers' Compensation policy and pose serious financial obligations on you, the employer. ▼

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To register for this exciting industry event, contact the PDCA office, or download a registration form at www.piledrivers.org. ▼



GRL Engineers, Inc. Celebrates Milestone

GRL Engineers, Inc., a Cleveland based engineering firm with offices in California, Colorado, Florida, Illinois, North Carolina, Ohio and Pennsylvania, is celebrating its 30th anniversary. GRL specializes in analyzing and testing the safety of building foundations using the “dynamic method”. The research on this then revolutionary method took place in the Civil Engineering Department of Case Western Reserve University (then Case Institute of Technology) in the nineteen sixties. GRL is marking this special occasion on June 16, 2006, in the Bingham Building where that research took place. The celebration will consist of an afternoon of presentations highlighting GRL’s development from the early Case research to where the firm is today. In appreciation of the opportunities provided and the basic research supported by Case Institute of Technology, GRL and sister company Pile Dynamics, Inc. will make a contribution to the Structures Laboratory of the Civil Engineering department on that occasion. Pile Dynamics, also born from the research at Case and also based in Cleveland, manufactures electronic instruments used in the dynamic testing of building foundations. These instruments are used not only by GRL but by numerous other entities throughout the world. ▼

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HYDRAULIC IMPACT HAMMERS

General

The usage of hydraulic impact hammers is receiving an impetus due to increasing concern regarding environmental matters. Because of their adjustability one hammer may take the place of several different sizes of other hammers types. The advantages of hydraulic impact hammers are:

- Their efficiency in transferring their potential energy to the pile. Depending on pile and cushion, efficiencies as high as 95 per cent, or even higher, have been achieved.
- They are controllable which allows the ram stroke to be adjusted to suit the driving conditions with lighter blows during soft driving to avoid pile “run away” or tension cracking in concrete piles, or to avoid overstressing in hard driving.
- Systems are available with most makes of hammers to

Hydraulic Impact Hammers Operational Conformance Checklist

1. Check that you have the manufacturer's current specifications for the type of hammer being used. If the hammer type offers segmental or multiple ram weights, satisfy yourself as to which ram is being used.
2. Check that the hammer cushion is in good condition (if the hammer utilizes a cushion).
3. Check the alignment of the hammer, leads, and drive cap. If the system being used has the hammer suspended from the crane without leads, ensure that the correct insert is in place for the pile type being driven.
4. Check that all hoses are tight and that no oil leaks are visible.
5. Hydraulic hammers must be kept very clean. No dirt or water must be allowed to enter the hydraulic system.
6. Check that the hydraulic operating pressures and pre-charge pressures of

the accumulators meet the manufacturer's recommendations.

7. On initial start-up, allow the hydraulic oil to warm up before beginning driving.
8. After finishing driving do not turn off the power pack immediately. Allow the unit to cool down first.
9. Check the condition of the hydraulic filter element. Most units have a warning or diagnostic system, which warns of blocked elements.
10. Never allow the hammer hoist line to hold the hammer off the pile during driving.
11. Check the manufacturer's recommendations for limitations on use of the hammer.
12. Do not bend hydraulic lines to a smaller radius than recommended by the hose manufacturers. This could affect the operation of the hammer and lead to hose failure.
13. Confirm that the hydraulic power source is operating properly and check gages for proper speed and pressure.

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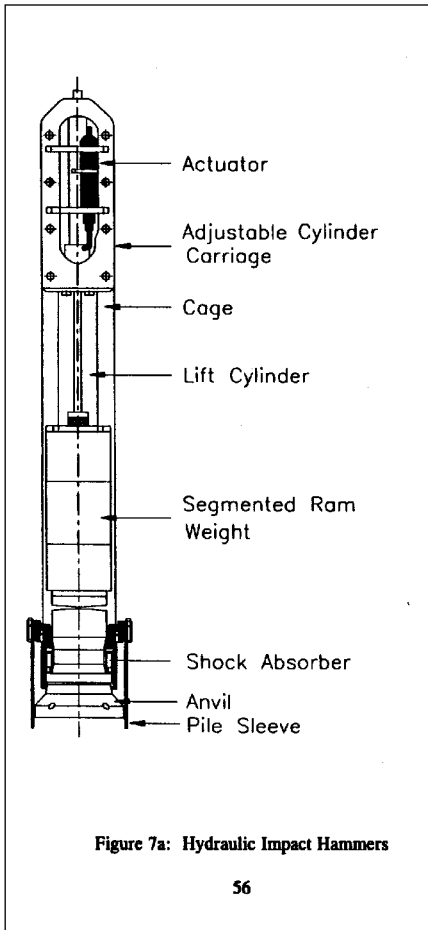
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control the stroke of the hammer from the operator's cab or from an operator on the ground. Controls vary from manual to electronic to electro-hydraulic. The automatic controls may also include adjustable blow rate controls. Stroke counters are also generally available and many machines determine and display the kinetic energy at impact.

There are several makes of hydraulic impact hammers available on the market with many manufactured in Europe and this guide will categorize them by type and describe the operation of each type.

Hydraulic Free-Fall Drop Hammers

The simplest form of hydraulic hammer makes use of one or more hydraulic cylinders to lift a ram, which is then released to fall freely within a guide cage. The ram strikes a drive cap, which transmits the blow to the pile. There may or may not be cushion material in the drive cap. The hydraulic piston again takes the

ram to the top of its stroke in preparation for the next blow.

Various ram weights are available, generally in the range of 4,400 pounds to 88,000 pounds (2,200 to 40,000 kilograms) and some hammers employ a segmental drop weight, so that the weight can be modified in increments (generally 1,000 kilograms per segment). Most rams are made of steel. A few are manufactured of steel with lead in an inner chamber. Improved efficiency is claimed.

With most makes, the stroke, or lift height, of the hammer is adjustable in a range from six inches (0.15 meters) to maximum stroke. Maximum strokes of up to 60 inches (1.5 meters) are now (1995) available. Thus, by stroke adjustment and/or ram weight adjustment, the energy can be varied to suit the needs of the job.

An example of a single-acting hydraulic hammer is shown in Figure 7a.

These hammers are powered by either an independent power pack or, in the case of small hammers, by hydraulic power taken from the carrier's engine.

Some of these hammers employ hydraulic accumulators to store a volume



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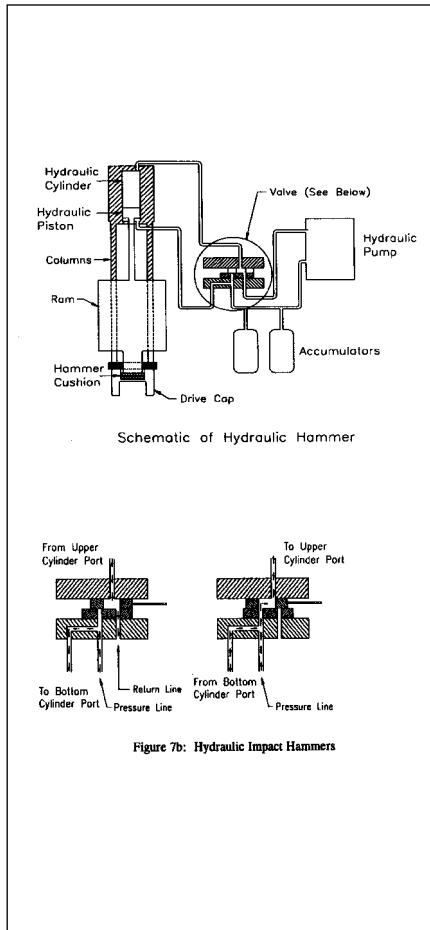
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By regulation of the effective oil flow and the actual stroke, the impact energy can be infinitely adjusted between the minimum and maximum value. This is done remotely from a control panel on the power pack, or in the case of the large offshore hammers, from a separate, mobile operator cabin.

of the hydraulic fluid, arriving from the pump under pressure during the downward fall of the ram. This will speed up the ram lifting operation once impact takes place. The downward stroke of the hammer remains free-fall, or as close to free-fall as the connection between hydraulic cylinder rod(s) and the ram permit.

Noise attenuation enclosures are available for hammers, which run within a cage. Some brands offer segmental ram weights so that one basic hammer can be converted between light, medium and high-energy operations.

The various makes and models differ in the style of guide cage and the use of single centrally located actuators

versus pairs of actuators mounted at the sides of the ram. Some machines disengage the actuator on the down stroke to allow virtual free fall. Also, the general design of the ram and/or cylinder can vary widely.

Double-Acting Hydraulic Hammers

Just as air/steam hammers are available in both single-acting and double-acting types, so are hydraulic hammers, although in the typical land application they are seen infrequently. With the double-acting hammer, the ram is both lifted up and pushed down by the hydraulic piston. Unlike air/steam double-acting hammers, the hydraulic double-acting design has been applied



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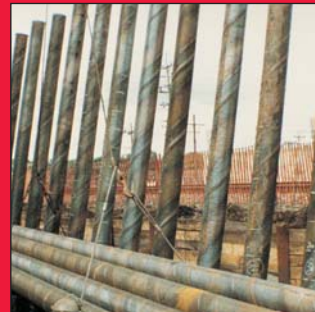
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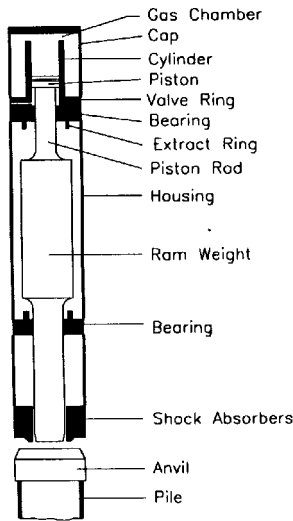


Figure 7c: Hydraulic Impact Hammers

to all sizes of hydraulic hammers including the largest off shore hammers.

Most of these hammers are enclosed and are capable of operating underwater, some in very deep water. The main components are the hammer housing, the ram, the drive unit and the anvil. The design of one principal brand is described below. Other makes differ in the details, but remain similar in principle.

A solid ram moves inside the hammer housing and is lifted up and pushed down by one centrally positioned main piston. An elastic connection and a flexible joint between ram and main piston protect the latter from excessive shock loads and transverse forces. The spaces above and below the ram are interconnected by means of an annular space in the hammer housing through which the air circulates during upward and downward ram movements. A hydro-pneumatic shock absorber ring between hammer housing and anvil protects the hammer against rebound forces, with adjustment available to suit the individual installation.

The control unit is situated above the main piston and regulates/controls

the hydraulic flow and incorporates a stroke regulation system. The main functions are hydraulically controlled. By regulation of the effective oil flow and the actual stroke, the impact energy can be infinitely adjusted between the minimum and maximum value. This is done remotely from a control panel on the power pack, or in the case of the large offshore hammers, from a separate, mobile operator cabin. A schematic of one such system is illustrated in Figure 7b.

Nitrogen-Assisted Double-Acting Hammers

This style of double-acting hydraulic hammer utilizes a nitrogen-charged accumulator system to drive the ram down, making it capable of higher blow rates than a conventional single-acting hydraulic hammer.

The hammer is completely enclosed in a housing, which facilitates its use in underwater applications. There is a long, one-piece ram of variable diameter inside the housing and the upper portion of the ram serves as a piston. Oil, introduced

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|---------------------|-------|-----|--------|-----|--------------------------|------|-----------------------|------|-----------------|-----------------|-------------|------|--------------------|-------------------|---------------------|--------------------|---------------------|--------------------|----------------------|-------------------|
| | in | mm | in | mm | FLANGE (t _f) | | WEB (t _w) | | in ² | cm ² | lb/ft | kg/m | lb/ft ² | kg/m ² | in ³ /ft | cm ³ /m | in ⁴ /ft | cm ⁴ /m | ft ² /ft | m ² /m |
| PZ22 | 22.0 | 559 | 9.0 | 229 | 0.375 | 9.5 | 0.375 | 9.5 | 11.86 | 76.51 | 40.3 | 60.0 | 22.0 | 107 | 18.1 | 973 | 84.38 | 11 500 | 4.48 | 1.37 |
| PZ27 | 18.0 | 457 | 12.0 | 305 | 0.375 | 9.5 | 0.375 | 9.5 | 11.91 | 76.84 | 40.5 | 60.3 | 27.0 | 132 | 30.2 | 1 620 | 184.20 | 25 200 | 4.48 | 1.37 |
| PZ35 | 22.64 | 575 | 14.9 | 409 | 0.600 | 15.2 | 0.500 | 12.7 | 19.41 | 125.23 | 66.0 | 98.3 | 35 | 171 | 48.5 | 2 600 | 361.2 | 49 300 | 5.37 | 1.64 |
| PZ40 | 19.69 | 500 | 16.1 | 378 | 0.600 | 15.2 | 0.500 | 12.7 | 19.30 | 124.52 | 65.6 | 97.6 | 40 | 195 | 60.7 | 3 260 | 490.8 | 67 000 | 5.37 | 1.64 |

*Note: Nominal coating area excludes socket interior and ball of interlock.

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|---------------------|-------|-----|-----------------------|------|----------------------------|-------|------------------|-----------------|-----------------|-------------|------|--------------------|-------------------|----------------------|----------------------|----------------------|----------------------|----------------------|-------------------|
| | in | mm | in | mm | k/in | kN/m | degrees | in ² | cm ² | lb/ft | kg/m | lb/ft ² | kg/m ² | in ³ /sht | cm ³ /sht | in ⁴ /sht | cm ⁴ /sht | ft ² /ft | m ² /m |
| PS27.5 | 19.69 | 500 | 0.4 | 10.2 | 24 | 4 200 | 10* | 13.27 | 85.6 | 45.1 | 67.1 | 27.5 | 134.3 | 3.3 | 54 | 5.3 | 221 | 3.65 | 1.11 |
| PS31 | 19.69 | 500 | 0.5 | 12.7 | 24 | 4 200 | 10* | 14.96 | 96.5 | 50.9 | 75.7 | 31.0 | 151.4 | 3.3 | 54 | 5.3 | 221 | 3.65 | 1.11 |

*Note: Rotation decreases by 1.5 degrees per 10 feet for piles over 70 feet in length.

AVAILABLE STEEL GRADES

| Section Designation | ASTM GRADES | | YIELD STRENGTH | | INTERLOCK STRENGTH | |
|---------------------|----------------|--|----------------|--|--------------------|--|
| | | | (ksi) | | (k/in) | |
| PZ | A 328 | | 39 | | — | |
| | A 572 Grade 50 | | 50 | | — | |
| | A 572 Grade 60 | | 60 | | — | |
| | A 588 | | 50 | | — | |
| PS | A 690 | | 50 | | — | |
| | A 328 | | 39 | | 16 | |
| | A 572 Grade 50 | | 50 | | 20 | |
| | A 572 Grade 60 | | 60 | | 24 | |
| | A 588 | | 50 | | 20 | |
| | A 690 | | 50 | | 20 | |

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under the piston, lifts the ram hydraulically. The downward thrust is composed of a combination of nitrogen pressure acting on top of the piston and the action of gravity. The design is such that the resultant ram acceleration is equivalent to twice gravitational acceleration. The ram is guided by two bearings and there is no other contact between the sides of the ram and the housing, minimizing friction losses and wear. This style hammer is shown in Figure 7c.

Because the hammer is powered on the down stroke as well as the up stroke, it is effective for the driving of batter piles. In principle, it is even possible to operate this hammer horizontally. This type of hammer can also be controlled to deliver upward blows at reduced energy, acting as an extractor for withdrawal of casing for cast-in situ piling.

The energy output of these hammers is governed by the oil flow rate, which is controllable. The electronic control allows the display of energy and frequency and provides a digital readout of these values, plus impact velocity of the ram as measured by proximity switches in the hammer and casing. The impact velocity is used to calculate the kinetic energy. The flow rate of hydraulic fluid and total number of blows is also determined and a printer unit is available to record this information.

There are shock absorbers built into the hammer to protect it from rebound action. Generally, no cushioning is used between a steel pile and the ram, so the ram strikes a special steel striker plate resting directly on the steel pile. It is possible to regulate the energy to meet the needs of particular applications. When less than full energy is employed, the blow frequency may increase.

The above description applies to one manufacturer's product. There are other manufacturers of this hammer type and their products differ in some details but use the same principles. ▼

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The PDCA was founded in 1996 to promote 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 project 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 100 contractor members, networking opportunities abound at the PDCA. Whether at our Winter Roundtable, our regional seminars or by just picking up the phone, you'll develop long-lasting professional relationships and friendships in the industry.

International Council of Pile Drivers Divers, Bridge, Foundation & Dock Builders

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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 Winter Roundtable, held each February since 1997, is a nationally recognized conference that brings together leading technical experts, suppliers to the piling industry and contractors. This conference focuses on the key issues faced by pile-driving contractors and features discussions and presentations as well as an extensive exhibit area.
- The Design and Installation of Cost-Efficient Driven Piles Conference (DICEP), held each September since 2000, is a nationally recognized two-day 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 College Professors Piling Institute, held at Utah State University in Logan, Utah. Up to 25 professors, from major engineering schools, are invited to participate in an intensive, week-long 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 has 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



"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.



our industry. As a member, you'll receive discounts on advertising in the magazine.

All PDCA members receive a complimentary copy of the PDCA's codebook, "Recommended Design Specifications for Driven Bearing Piles," now in its third edition. This book covers all required guidelines for driven piles and includes a suggested bid and payment schedule.

The PDCA also sells "The Pile Design Manual," an FHWA manual on the design and construction of driven piles. Order forms are available on the PDCA Web site.

Connect Worldwide at www.piledrivers.org

The PDCA's newly redesigned Web site 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 interesting 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 the 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. ▼

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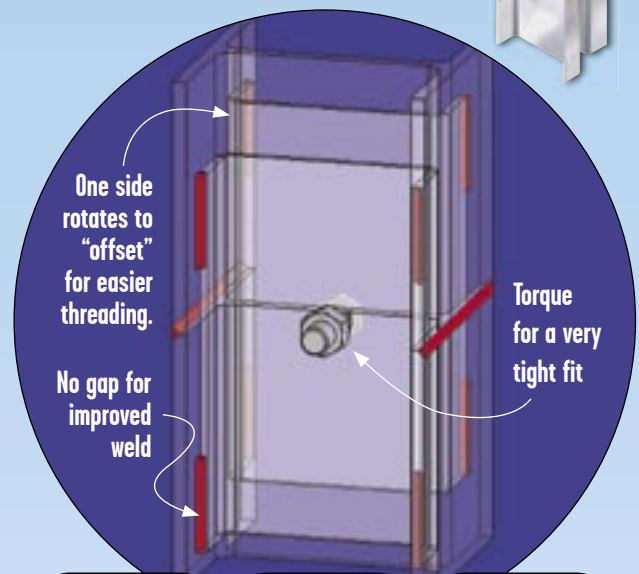
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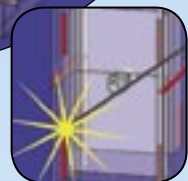
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MEMBERSHIP APPLICATION

Step 1: Select Membership Type

I wish to apply for the following membership status (check one):

- Contractor** (Annual Gross Sales >\$1 Mil./year: \$725/year).
 (Annual Gross Sales <\$1 Mil./year: \$350/year)

A Contractor Member is defined as a specialty subcontractor or general contractor who commonly installs driven piles for foundations and earth retention systems. Includes one primary membership. Secondary memberships are \$75 each.

- Associate (\$725/year)**

Associate Members of the Association shall consist of firms or corporations engaged in the manufacture and/or supply of equipment, materials, testing or other services to the pile driving industry. Secondary memberships are \$75 each.

- Technical Affiliate (\$95/year)**

Technical Affiliate Members of the Association shall consist of individuals who are involved with the design and installation of driven piles or in teaching the art and science of pile design and installation. They may be employed engineers, architects, government agencies, or universities. Employees of contractors are not eligible to become Technical Affiliate Members. Note: Technical Affiliate Membership category is for individuals only. For a company listing in the directory and on the Web site, you must join as an Associate Member.

- Retired Industry Member (\$50/year)**

A Retired Member shall be defined as any individual who has reached retirement age as defined by U.S. law, who has left active employment and who wishes to remain a member.

I am retiring as a: Contractor Associate Technical Affiliate

Step 2: Demographic Information

Company Name _____ Phone _____
 Your Name _____ Fax _____
 Address _____ Email _____
 City/State/Zip _____ Home Page _____

Step 3. Method of Payment

Attached is my payment of \$_____ for annual dues.

- I understand that dues are due annually on December 31 and, that if I joined PDCA after March 31, I may be entitled to a prorated dues amount for the subsequent year only.

I am making payment in full by

- Check # _____

- Credit Card: MasterCard Visa American Express

Card Number: _____ Expiration Date: _____

Name as it appears on card: _____ Signature: _____

Please send this completed application to: PDCA | P.O. Box 66208, Orange Park, FL 32065
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Applications Systems

- Aluminum Sheet Piles
- Coatings & Chemicals
- Structural Steel
- Synthetic Material Piles
- Other _____
- Steel Pipe Piles
- Steel Sheet Piles
- Vinyl Sheet Piles
- Other Structural Materials
- Timber Piles/Treated Lumber & Timbers
- Concrete Piles
- Composite Piles
- H-Piles

Equipment

- Air Compressors
- Cranes
- Drill Equipment
- Drive Caps & Inserts
- Hammers
- Hydraulic Power Packs
- Leads & Spotters
- Pumps
- Specialized Rigs & Equipment
- Other _____

Services

- Consulting
- Design
- Freight Brokerage
- Geotechnical
- Marine Drayage
- Surveying
- Testing
- Trucking
- Vibration Monitoring _____
- Other _____

General

- Rental
- Sales
- Other _____
- Other _____

C. Technical Affiliate Only (check all that apply)

- Analysis
- Geotechnical
- Surveying
- Civil & Design
- Materials Testing
- Vibration Monitoring
- Consulting
- Pile Driving Monitoring
- Other _____
- Educational/Association

Step 4. Geographic Areas Where Contracting, Products and Services Available

(All applicants check all that apply)

- All States
- CT
- ID
- MD
- NE
- NY
- SD
- WI
- AK
- DC
- IL
- ME
- NC
- OH
- TN
- WV
- AL
- DE
- IN
- MI
- ND
- OK
- TX
- WY
- AR
- FL
- KS
- MN
- NH
- OR
- UT
- Canada
- AZ
- GA
- KY
- MO
- NJ
- PA
- VA
- Mexico
- CA
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- LA
- MS
- NM
- RI
- VT
- Europe
- CO
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- MA
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- SC
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- Global

Step 5. Sponsorship: Who told you about PDCA?

Member Name _____

Step 6. Method of Payment

Attached is my payment of \$_____ for annual dues.

- I understand that dues are due annually on December 31 and, that if I joined PDCA after March 31, I may be entitled to a prorated dues amount for the subsequent year only.

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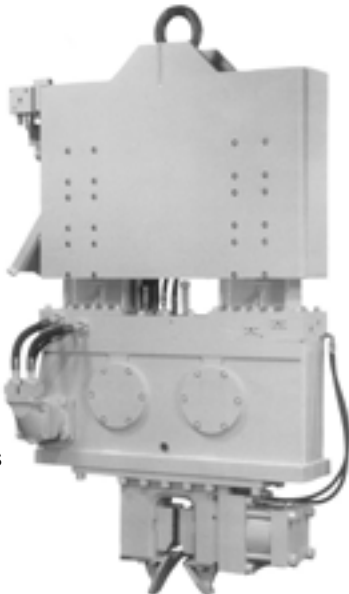
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