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JANUARY/FEBRUARY 2010

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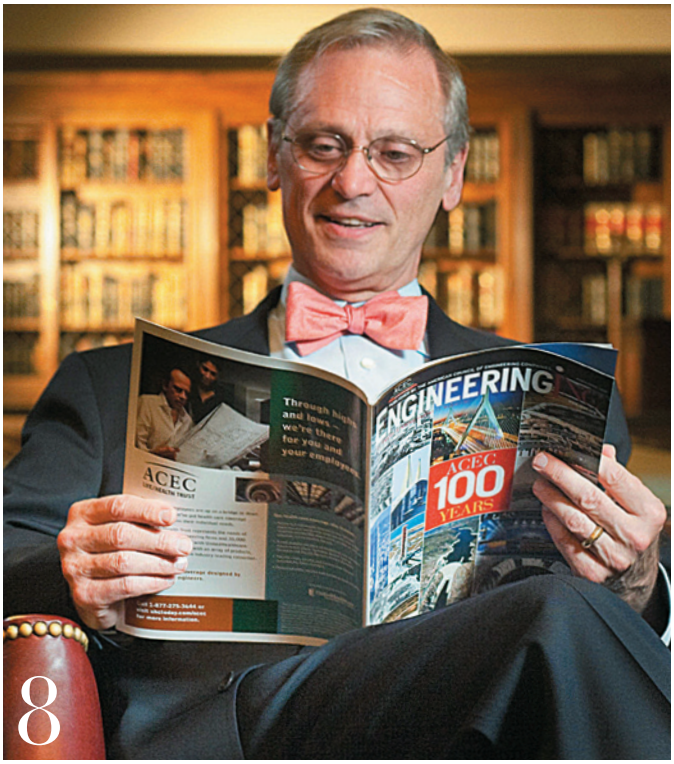

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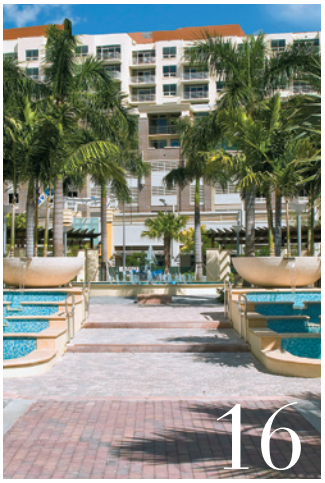

COVER FEATURE

DEPARTMENTS

COVER PHOTO: GARY LANDSMAN

ACEC
American Council of Engineering Companies

Engineering Inc. promotes the advocacy and business interests of ACEC by offering news, legislative analysis and business practice information to member firms, clients, opinion leaders and policy makers.

Make Your Voice Heard On Capitol Hill

Unprecedented challenges face our nation, our economy and our industry. Critical decisions are being made in the halls of power in Washington, D.C., and we have the opportunity to shape the final content and direction of those decisions.

We encourage you to travel to Washington for ACEC's Annual Convention and Legislative Summit, April 25–28, in support of the Council's New Recovery Agenda. Meet your elected representatives and make your views heard.

Congress knows that engineers will play a central role in designing solutions to many of the nation's most pressing challenges, from modernizing our deteriorating transportation and water infrastructure to promoting greater energy self-sufficiency and re-establishing the strength of our national economy.

There is no doubt that Congress holds the opinions of our industry and Council in high esteem. Just check out the video on ACEC's website of U.S. House members commemorating ACEC's 100th anniversary.

There is already a strong push on Capitol Hill for major federal investments in transportation and environmental infrastructure, and further opportunities for the structural, mechanical and electrical sectors will only increase as Congress takes more steps on a recovery agenda.

Meeting face to face with your senators and congressional representatives can achieve dramatic results. As citizen lobbyists, you have tremendous clout. By explaining our industry's views on critical issues, you will garner support in the Senate and House for the entire range of initiatives we believe to be essential for a sustainable recovery and healthy industry.

So, mark your calendars—and start making plans today!

Timothy Psomas
ACEC Chairman

David A. Raymond
ACEC President & CEO

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Nowhere to Go but Up

Construction market bottoms, but there is light ahead

By Joe Salimando

McGraw-Hill Construction (MHC) is predicting an 11 percent bounce in the dollar value of 2010 construction starts compared with last year. Most of that gain is attributable to single-family housing (up 32 percent) and public works projects (up 14 percent), the company says.

When I mentioned these figures recently to one industry veteran based in Southern California, he was incredulous; from where he stood, it just didn't seem possible. The national housing picture simply couldn't rebound that fast, could it?

It depends on your vantage point. Expectations of a continued boom, or a moderate decline, were the rule in 2008. MHC originally predicted that 2009's construction start volume would exceed $500 billion; forecasters have since scaled those projections back. The latest year-end estimates come in at around $418 billion.

Highways and Streets

Historical comparisons of nonresidential construction starts show a significant decline during the past 12 years. Between 1998 and 1999, for example, MHC recorded 298 million square feet of construction starts on new manufacturing buildings. If the company's latest estimates for 2009–2010 are accurate, construction starts on new manufacturing buildings will total just 79 million square feet.

The news is not all bad, however. Infrastructure—roads and bridges, in particular—is one bright spot.

According to MHC forecasts, in 1998 and 1999 combined, $68 billion worth of new highway and street construction projects broke ground in the United States. The estimate for 2009 alone eclipsed $57.3 billion. The forecast for 2010 is higher still at $64.7 billion.

Cement Optimism

If the amount of construction materials—cement, for example—used in major road and highway projects is an indicator, recent projections from the Portland Cement Association (www.cement.org) are another cause for optimism.

- *2010:* 29.6 million metric tons
- *2011:* 33.1 million metric tons
- *2012:* 36.4 million metric tons
- *2013:* 38.5 million metric tons

FMI's Heavy Forecast

Construction industry consultant FMI Corp. provided detailed current-dollar forecasts through 2013 in its Q3 2009 construction outlook.

According to the report, construction put in place (a term used by the Commerce Department to describe construction spending) exceeded $1 trillion each year from 2005 through 2008 before falling back in 2009. Put-in-place figures are expected to climb in coming years, potentially exceeding $1 trillion again by 2013.

U.S. Construction Spending

Annual % change

	2009	2010	2011
Nonresidential	-5.7%	-5.0%	6.3%
Residential	-27.9%	7.0%	15.9%
Heavy	11.3%	-1.7%	1.9%
Total	1.2%	0.4%	4.8%

Source: *Reed Construction Data*

What will be important for U.S. engineering firms—assuming FMI's forecast is correct—is the makeup of these opportunities. Will the focus be on residential construction, power construction, or highways and roads? Consider these FMI comparisons:

Residential—2005: $627 billion (56 percent of total put-in-place spending); 2013: $351 billion (33 percent).

Power Construction—2005: $35.5 billion (3.2 percent); 2013: $122 billion (11.6 percent).

Highways and Streets—2005: $64.1 billion (5.8 percent); 2013: $104 billion (9.9 percent).

Inflation Concerns?

An October webinar sponsored by Reed Construction Data (RCD) featured information from three leading economists: Jim Haughey of RCD, Kermit Baker of the American Institute of Architects and Ken Simonson of the Associated General Contractors of America.

RCD's forecast for three categories of U.S. construction spending is shown in the chart above. Given these changes and the realities of inflation, Simonson said, one could expect a 6 percent to 8 percent increase in the cost of materials used in construction.

His back-of-the-envelope summary of the 2010 construction outlook was as follows:

Nonresidential construction spending: flat to down 5 percent; residential construction: up 5 percent to 10 percent; total construction spending: up 2 percent to down 4 percent; labor costs: up no more than 3 percent; materials cost: flat to up 8 percent.

In addition to watching niche markets, U.S. engineering firms looking to satisfy existing clients will have to keep an eye on worsening materials shortages and potential price spikes (which, according to Simonson, could exceed 8 percent for some items).

Still, as the latest projections show, there is opportunity on the horizon.

Joe Salimando writes on the construction industry at www.electricalcontractor.com. He can be reached at ecdotcom@gmail.com.

LEGISLATIVE ACTION FROM ACEC'S GOVERNMENT AFFAIRS DEPARTMENT

HEALTH CARE DEBATE RESUMES; ACEC URGES INFRASTRUCTURE UPGRADES IN JOBS PACKAGE

House Passes Jobs Bill Including Major Infrastructure Investments; ACEC Urges Congress to Move Beyond "Shovel Ready"

The House cleared a $75 billion jobs bill prior to adjournment in December that includes more than $48 billion for transportation, water, energy, school renovation and housing projects. Funds redirected from the Troubled Assets Relief Program, which aided struggling financial institutions, will pay for the bill.

ACEC President Dave Raymond applauded House leaders for the continued emphasis on infrastructure investment, but cautioned Congress to move away from basic maintenance projects and fund larger infrastructure improvements that will do more to create and sustain jobs.

"The previous focus on pothole filling and pavement resurfacing cannot sustain robust job creation or energize the economy," Raymond said. "We need to go after major infrastructure upgrades to give the economy the boost it needs."

The Jobs for Main Street Act sets aside $27.5 billion for highway projects and $8.4 billion for transit, amounts almost equal to the first stimulus bill passed earlier in the year. Amtrak receives $800 million, and $500 million goes for airport projects.

For water and wastewater projects, the bill sets aside $2 billion to be divided equally between the Clean Water Act and the Safe Drinking Water Act State Revolving Fund.

The legislation provides $4.1 billion for school renovation grants, as well as $2 billion for affordable housing and public housing projects. On the energy side, the legislation includes $2 billion for renewable energy and electric transmission projects.

The Senate is expected to act on the jobs bill early in 2010.

ACEC Pushes for Long-Term Transportation Bill; Congress Passes Short-Term Extension

The U.S. House and Senate agreed to another short-term extension of federal programs under the Safe, Accountable, Flexible, Efficient Transportation Equity Act (SAFETEA-LU), which now are set to expire on Feb. 28, 2010. The action was necessary to keep federal funds flowing to state highway and transit projects while Congress continues to debate a long-term bill.

Congressional interest in a robust transportation bill is growing as a means for lawmakers to respond to rising unemployment. In an industry coalition letter to every member of Congress, ACEC and other organizations wrote, "Enactment of a multiyear transportation bill is a unique opportunity to address two major national economic challenges by promoting job creation and incentivizing capital investment."

One proposal, offered by House Transportation and Infrastructure Committee Chairman Jim Oberstar (D-Minn.) and Appropriations Committee Chairman David Obey (D-Wis.), would suspend payments from the Highway Trust Fund for two years and replace it with General Fund spending in excess of $100 billion. The Highway Trust Fund would continue to accumulate tax revenues during this period and would resume outlays to the states for the remaining four years of the six-year program. Because few in Congress want to consider boosting the federal gas tax to pay for the new program, supporters say, this proposal is one way to secure passage of a new bill with significant funding increases.

One item of concern, however, would be the potential loss of budgetary firewalls that protect the transportation Trust Fund, provisions ACEC and the other major stakeholder groups would fight to defend.

CARRIE DEVORAH/NEWSCOM

Appropriations Committee Chairman David Obey (D-Wis.)

BRENDAN HOFFMAN/GETTY IMAGES

House Transportation and Infrastructure Committee Chairman Jim Oberstar (D-Minn.)

Partisan Climate Change Bill Clears Committee; New Approach in Progress

The U.S. Senate Environment and Public Works Committee approved a global-warming bill in November; without bipartisan support, its future is bleak and next steps are unclear.

One of the bill's co-sponsors, Sen. John Kerry (D-Mass.), is working with Sen. Lindsey Graham (R-S.C.) to develop a bipar-

ISSUES ON THE MOVE	WHAT'S NEXT
Six-year transportation program	Action expected in the spring
Health care reform	Final action anticipated late winter
New DOT audit and accounting rules	FHWA regulations expected in the spring
Expanded federal water program	Senate action expected late winter

tisan cap-and-trade bill that includes new incentives for nuclear energy development and more offshore oil and gas production, an approach that could attract support from some moderate Republicans.

Meanwhile, the Senate Energy and Natural Resources Committee already has passed a bipartisan bill that establishes renewable energy standards for electric utilities and other energy features tucked inside the House climate change bill. Of particular interest to Member Firms are advanced building code requirements for states and federal financial assistance for retrofitting buildings to meet energy-savings targets.

Educational Efforts Advance Implementation of New AASHTO *Audit Guide*

Having gained approval last October, the American Association of State Highway and Transportation Officials' (AASHTO's) new *Uniform Audit and Accounting Guide* is being implemented by engineering firms and respective state Department of Transportation (DOT) partners across the country.

After extensive collaboration with ACEC and the Federal Highway Administration (FHWA), AASHTO updated its *Audit Guide* to ensure compliance with the Federal Acquisition Regulations (FAR), improve audit consistency and quality, promote the recognition of a single cognizant audit and improve government oversight and overall guidance.

Last fall, ACEC worked to educate the industry on the major provisions of the new *Audit Guide* through a series of educational online seminars that also featured participation by state DOT staff and accountants. The *Audit Guide* online seminar series gave participants a broad overview of the new guide and featured expert presentations on key elements such as executive compensation and FAR compliance. ACEC members can access the Audit Guide online seminar series from ACEC's Bookstore at www.acec.org.

Going forward, FHWA has assembled a panel of experts who are working with the National Highway Institute (NHI) to develop formal training modules. Upon completion, the *Audit Guide* training modules will be made available to all state DOTs, FHWA division offices and the engineering and accounting industries. Included on the panel is Julian Rosenberg, HDR director of federal contract compliance, who was nominated by ACEC and served on the Council's *Audit Guide* working group.

FHWA also has announced its intention to incorporate the new *Audit Guide* into regulation by including it in an upcoming rulemaking on consultant services, which could be completed by the summer.

The new *Audit Guide* can be found on AASHTO's website at www.transportation.org. Additional informational resources can be accessed on ACEC's website at www.acec.org.

ACEC Water Agenda Continues in 2010

Among ACEC's major agenda items for the upcoming session is completing action on major water infrastructure bills.

ACEC continues to press for floor action on S. 1005, the Senate version of a bill to reauthorize the Clean Water State Revolving Fund and the Drinking Water State Revolving Fund.

The bill overwhelmingly passed the U.S. House early in 2009 and received strong bipartisan support from the Senate Environment and Energy Committee in May, but other Senate priorities have prevented a floor vote. Once the bill passes the Senate, it will be conferenced with the House version and returned to both chambers for a final vote.

ACEC also is working to build support for H.R. 537, introduced by Rep. Bill Pascrell (D-N.J.), which would waive the state cap on private activity bonds for financing water and sewer projects. The Council is working with a coalition of industry and municipal groups to obtain additional co-sponsors.

MEL EVANS/AP PHOTO

Rep. Bill Pascrell (D-N.J.) seeks to waive private activity bond cap for financing water projects.

Health Care Debate Resumes

The U.S. Senate cleared a health care reform bill before the end of the 2009 session, but the difficult process of reconciling the House and Senate bills pushed final consideration into 2010.

The Senate bill contrasts with the House bill in several ways. The House bill takes a stringent approach, mandating that employers provide health insurance that covers certain benefits, and limits co-pays and deductibles. In addition, employers would be required to pay at least 72.5 percent of the premium for individuals and 65 percent of the premium for family coverage.

The Senate legislation does not include an employer mandate, but does propose penalizing employers that do not offer coverage and where employees receive government subsidies for the purchase of insurance.

Another issue is how to pay for the legislation. Although the House and Senate bills would both reduce spending on Medicare and Medicaid, the House bill includes a tax increase on wealthy individuals, while the Senate would impose a tax on expensive health insurance plans.

ACEC continues to lobby House and Senate leaders against burdensome mandates and financing provisions that could impact engineering firms. ACEC President Dave Raymond also has called on Congress to include provisions in the package that will help firms control rising costs, such as making it easier for firms to access insurance across state lines and reasonable limits on medical malpractice liability.

The differences between the two bills will make producing compromise legislation challenging. Congressional Democrats would like to finalize legislation for the president's signature by the 2010 State of the Union in late January.

FOR MORE NEWS

For weekly legislative news, visit ACEC's *Last Word* online at www.acec.org.

Champion For Change

Congressman Earl Blumenauer

U.S. Rep. Earl Blumenauer (D-Ore.) has been a longtime supporter of Council initiatives and is leading an effort in Congress to significantly increase federal funding for water and transportation infrastructure throughout the nation.

First elected to the House of Representatives in 1996, Blumenauer has served on the Transportation and Infrastructure Committee and the International Affairs Committee. Currently, he is a member of the Ways and Means Committee and the Budget Committee and is vice chairman of the Select Committee on Energy Independence and Global Warming. In an exclusive interview with ACEC, Blumenauer discussed his federal legislation to create a dedicated trust fund to help communities address water needs, his support of a Vehicle Miles Traveled system to fund highways, and the impact of the American Recovery and Reinvestment Act.

ACEC CHAIRMAN TIM PSOMAS: From your perspective, does Congress think it has done enough to handle the nation's needs for drinking water and wastewater infrastructure upgrades? What more needs to be done?

REP. EARL BLUMENAUER: The biggest challenge in water infrastructure is how to get people in Congress to focus on the issue. I've found that when we do, they are well aware of water quality problems. Across the country, 6 billion gallons of water are leaked every day, the equivalent of 9,000 Olympic-sized swimming pools. And over 1,000 communities have problems with combined sewer overflows.

When people think about health and economic development and the stability of our nation's infrastructure, they recognize that we have a problem and should be doing more. What frustrates me, however, is that too many people do not have a sense of urgency. We're trying to change that by helping people understand that the extreme weather events and droughts associated with climate change will create additional stress on systems already in poor repair. With this information, I suspect there will be more recognition of the urgency and a willingness to do more.

ACEC PRESIDENT DAVE RAYMOND: The American Recovery and Reinvestment Act (ARRA) provided new funding to the states to supplement the State Revolving Funds for water and wastewater. How successful was that stimulus bill in jump-starting infrastructure funding, and to what extent do we need to follow it up now with more activity on a sustained basis?

BLUMENAUER: The stimulus bill was extraordinarily helpful, but did not go far enough. President Obama and his team inherited an unprecedented set of circumstances. We had been losing jobs every month for a year before Obama took office, and then the already struggling economy went over the cliff. They had to move quickly, even before they had a chance to have their team in place; we literally were preparing this before President Obama took office.

However, I think we sent mixed messages. In an effort to reach out and be bipartisan and accommodating, the stimulus package was scaled down and included things that minimized the infrastructure piece. In the House, we tried to have a larger portion devoted to infrastructure, but ran into conflicting interests: People wanted all the work done tomorrow; people wanted more safeguards. But if you step back and take a broader look, you'll see that the stimulus package has made a difference in every state. Because of the long-range nature of infrastructure investment, it's just now starting to peak and still is playing out.

We're going to see the benefits of this at least into the next quarter or the quarter after that, but it's still not sufficient. That's one of the reasons why I'm pushing the water infrastructure bill, and why we're trying to focus on the transportation reauthorization. Right now, I'd give the stimulus package a B-minus, but I'd hate to think of where we would be if we didn't have that money for health care, for energy, for water and for transportation. We really would be in worse shape without the recovery funding.

> Right now, I'd give the stimulus package a B-minus. But I'd hate to think of where we would be without that money...

PSOMAS: You are the author of a water infrastructure trust fund—the Water Protection and Reinvestment Act—that will create a new dedicated source of revenue to finance water infrastructure and environmental restoration in the United States. What are the benefits of this trust fund, and what is your prediction for passage of the legislation in this Congress?

BLUMENAUER: We've been working on a water trust fund, something like the dedicated Highway Trust Fund, for three years, trying to create something that will stand the test of time. We were looking for something that would be walled off, unavailable for other purposes, something that would be deficit-neutral, yet would enable us to expand water infrastructure spending by $10 billion a year, for the State Revolving Fund and for clean wastewater treatment. Our proposal also contains special provisions that would help smaller communities and provide for research and development.

After working with a couple hundred stakeholders, we arrived at funding sources that focused on users who either benefit from clean water or those who contribute to the need for extensive treatment. Each of them would pay a little bit, such as a fee on water-based beverages, and another on flushable products. We would have a tiny surcharge on all American industry that benefits from clean and safe water and couldn't survive without it. Then there is the tricky area of pharmaceuticals. As more and more drugs are flushed into our wastewater system, we are slowly medicating the American population with trace elements of potentially very dangerous drugs. Since these not only are hazardous to our health, but also very expensive and hard to remove, we'd impose a small fee to address the increased costs of water treatment.

Combined, these fees could result in $10 billion of revenue each year and could leverage billions of dollars more from the private sector in local communities' bonding authority. If we use these fees to jump-start this program, we could be looking at a trillion dollars for water infrastructure over the next 20 years—investments that would add tremendous value to our communities, significantly improve public health and actually save money in the long run.

RAYMOND: This is a critical time for transportation policy—current revenues in the Highway Trust Fund are insufficient

GARY LANDSMAN

Rep. Blumenauer (center) meets with ACEC Chairman Tim Psomas (left) and ACEC President Dave Raymond (right) in his Capitol Hill office.

to support our existing system, let alone to meet new needs. Do you think there is a potentiality for an infrastructure bank that would handle the transportation sector, as well?

BLUMENAUER: As a matter of fact, we already have proposed a major infrastructure bank, to be capitalized from a number of sources, and circulated this idea to the administration, congressional leadership and industry stakeholders. The first purpose of the infrastructure bank would be to sell bonds that would enable us to frontload the reauthorization of the surface transportation act.

Quite frankly, we are in a precarious situation. We have a trust fund that is not generating enough money to finance the *existing* six-year program—$230 billion was the last revenue estimate for what currently is a $287 billion–$289 billion program. Adjusting for inflation, the current cost of our existing program is closer to $310 billion–$320 billion. Now, the Transportation and Infrastructure Committee's program for the next six years is in the neighborhood of $450 billion. We have to find a better way. Our proposal would capitalize the infrastructure bank with a series of potential funding sources, none of which, by the way, would levy costs on the American family this year or the next. If policy changes generate future revenue, the historically low interest rates will allow us to borrow against the anticipated income.

> Creating an infrastructure bank would give the American economy a powerful shot in the arm.

Creating an infrastructure bank would give the American economy a powerful shot in the arm. Creating one now will enable us to start disbursing funds before we lose another construction cycle and would provide immediate capitalization for other projects. Think about it: California already has issued billions of dollars in approved bonds for high-speed rail. A federal infrastructure bank could be the mechanism for leveraging public and private funds. There is real potential here, and it's long overdue.

PSOMAS: ARRA provided a sizable, one-time boost to transportation programs, but the funding largely has been directed to simple resurfacing projects, and states continue to cut back major improvement projects due to the uncertainty of future funding. What are the chances of Congress passing a robust six-year surface transportation bill in 2010?

BLUMENAUER: Reauthorization absolutely is contingent on solving the funding crisis. We've already had two significant General Fund transfers just to keep the program afloat. There are those who say, with the best of intentions, "Let's just kick the can down the road for another 18 months." I think that is ill-advised, because it doesn't send the signals of certainty our communities—and your industry—need. The big projects, which cost hundreds of millions or even billions of dollars, require a full six-year horizon and sometimes longer. If there is uncertainty about that, people are not going to make commitments for these big projects,

resulting in even more delay. I've already said—and our leadership agrees—that we're not going to propose anything that is going to burden motorists, especially when unemployment is 10 percent and going up. But that doesn't mean we can't put in place funding mechanisms that would kick in as the economy grows, or deal with other funding sources.

Speaker Nancy Pelosi has been clear that the next financial stimulus should be a robust reauthorization of the surface transportation act. Chairman James Oberstar doesn't want to wait 18 more months; he's been working 40 years for this moment. There are glimmers that we will not continue this game, but do a short-term extension through spring. That's enough time to get this right. Once we decide to go forward, it's only going to take six to eight weeks to hammer out the details. There already has been unprecedented involvement from the broad range of interests that care about reauthorization. You folks have monitored commissions, you've got policy papers and you've got people that have been involved all over the country.

On one level, it *is* rocket science; we need a truly transformative piece of legislation. We all know it's due. But I've spent enough time in politics to know that Congress is going to spend only a finite amount of time on it anyway; I truly believe that it will take only six to eight weeks when it really gets down to crunch time. The question is, are we going to spend those six to eight weeks of effort between now and the first of February, or the first of March? Or will it be in the next Congress? We cannot afford to let this become another partisan hotshot game. I was stunned that the bill's extension turned into a partisan vote. All of us, including the engineering community, must make sure that this is a bipartisan process. You folks have been terrific, but if reauthorization turns into partisan games, we won't get a bill, and America will suffer.

RAYMOND: Oregon has done a study on the Vehicle Miles Traveled system (VMT). Do you think it is part of the long-term solution for stable transportation financing?

BLUMENAUER: Ninety years ago, Oregon gave America its first dedicated gas tax for road construction. My hope is that Oregon's pioneering VMT pilot project will now help eliminate the gas tax because we're caught in a downward spiral. Between increases in fuel efficiency and inflation, the average motorist now pays about half of what he or she paid per mile in 1993. New technologies—hybrid vehicles, as well as cars fueled entirely by electricity or compressed natural gas—accelerate the downward spiral of declining gas tax revenues. As a result, we have completely disconnected the cost responsibility of wear and tear on the roads. Yet we haven't raised the gas tax since 1993. Sadly, the increased politicizing of this issue makes it all the harder to address; it's only going to get worse.

Oregon's successful VMT experiment shows how technology can be used to administer a program that ensures long-term and stable road funds. But there's an additional benefit: According to the research, once people realize they are paying by the mile instead of by the tank, they actually change their driving behavior, voluntarily reducing their vehicle miles traveled by an average of 11 percent. When people start to keep track of their mileage, they begin to link their trips together. This change in behavior actually can help us coax more capacity out of our infrastructure, as we rediscover cost responsibility.

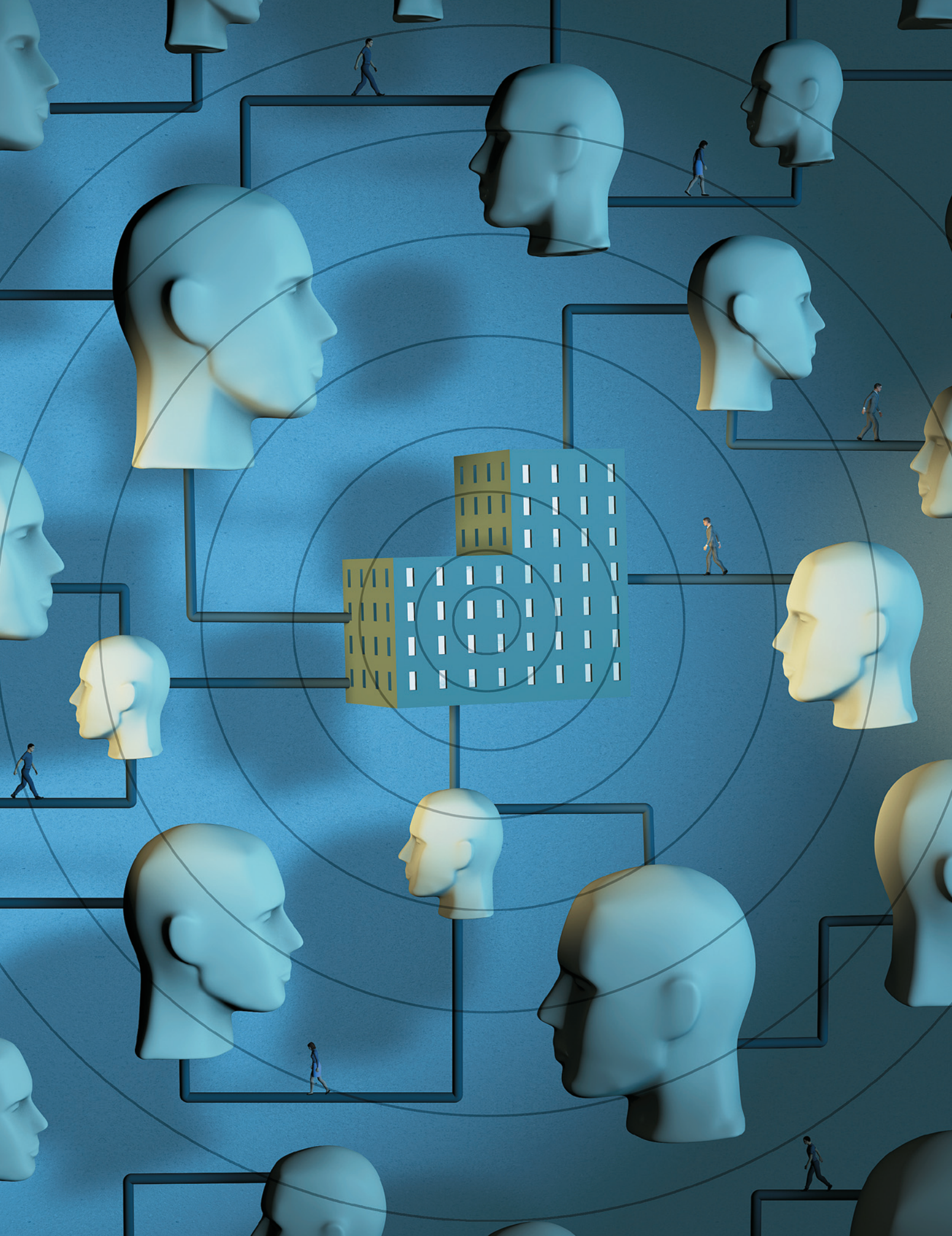
PSOMAS: ACEC Member Firms represent half a million employees throughout the nation. We have a huge grassroots effort that is very active in supporting policymakers who share our concerns. How can we best help you advance your infrastructure agenda?

BLUMENAUER: I have seen a tremendous revolution over the last 10 years within the engineering community: Engineering companies and individuals have become increasingly sophisticated, playing increasingly critical roles both in terms of innovation and crafting solutions. Organizations such as ACEC are making significant contributions to public policy discussions, as well as the political debate. The most important thing ACEC can do to help me move this agenda forward is to keep on doing what you are doing. ■

An environmental advocate, Rep. Blumenauer practices what he preaches, riding his bike to work on Capitol Hill.

MATTHEW CAVANAUGH/AP PHOTO

GARY LANDSMAN



Linked In Logged On

By Gerry Donohue

Weighing the benefits, potential pitfalls of social-networking applications

The reach of the Internet's leading social media sites—Facebook, Twitter, LinkedIn—grows longer and wider by the second.

Just how large is the social media landscape? Consider this: If Facebook were a country, its 300 million users would make it the fourth largest in the world. Since its inception in 2006, Twitter has grown its user base by a staggering 1,300 percent year after year. LinkedIn, the network for professionals, welcomes a new user into its fold every second.

Despite the wide and ever-growing net cast by these and other online applications, many engineering firms have approached the social media phenomenon with skepticism, even caution.

Such hesitation is warranted. The social media universe—which also includes sites such as YouTube, Flickr and others—still is in its infancy and remains largely untested. And the technology keeps evolving. The most popular applications are socially oriented rather than business-focused. Plus, there's the question of control, or lack thereof.

"Facebook and Twitter?" asks Scott Mickle, director of marketing and business development at LandDesign in Charlotte, N.C. "As a business-to-business tool, I think they're bogus."

Mickle is hardly alone in his thinking. Still, the promise of a network that reaches millions of users—potential customers and employees—is tough for any profit-minded business to ignore. The question is how to use these tools effectively.

Growing Up Young

For younger generations, social media has all but supplanted e-mail as the preferred mode of online communication. Opportunistic marketers bill the technology as fresh and vibrant. What's more, they say, these sites cost next to nothing to use and, for a nanosecond at least, are the "in" thing in today's ever-fickle, always-on Internet consciousness.

"We just started a Twitter site," says Doris Willmer, president of Willmer Engineering, a 42-person firm in Atlanta. Initially, the company plans to use Twitter to keep customers and employees informed about new and completed projects.

"It looks like we're one of the first in the industry out of the box," says Willmer. "Everyone in the firm is really participating, strategizing. We're really excited about it."

Firms, for the most part, have adopted a go-slow approach to social media. Many are standing on the sidelines, waiting to see what practical uses emerge. Still other firms are trying their hands, reasoning that even a small presence on the social media scene could translate into a profit in a growing user community.

Social Media 101

Though they share basic concepts and structures, Facebook, LinkedIn, Twitter and other social-networking tools also sport key differences, important for firms weighing the benefits of participation.

"Facebook is all about being part of a community," says John Zimmerman, president of eRocketFuel, a web consulting firm in Chicago. For most firms that use Facebook, he says, the goal is to build a community around a firm's brand, field or employees. By providing interesting and entertaining information about the company, its projects, its people, or engineering in general, the firm aims to attract a following of "friends" or "fans."

Twitter, on the other hand, is all about sharing information quickly and efficiently with interested community members. Given its strict limit of 140 characters per

RANDY LYHUS

We established our Twitter page as a listening post first, then we slowly engaged by making a few comments.

JONATHAN MAST
BLACK & VEATCH

post, Twitter lends itself to quick updates about the company or its projects, usually with a link to the firm's website. "It's all about the information that you provide," says Zimmerman. "If you're providing good information, people will follow you. If not, they'll stop."

Firms use LinkedIn primarily as a networking and recruiting tool. The site, which connects professionals through an organic network of online profiles, helps workers stay in touch with key industry players and provides an outreach tool for career advancement and potential business opportunities.

Says Mickle, "I was searching on LinkedIn to connect with economic development folks in Washington, D.C. I found someone in Alexandria, Va. I reached out to him and he introduced us to some more people. He later took a job in Louisiana. Now there may be some opportunities for us down there, as well."

Look Before You Tweet

The biggest mistake firms make is jumping into these media "too deep and too quick," says Cort Kane, COO of designDATA, an information technology firm in Gaithersburg, Md. "These are great tools once you decide what the goals of your firm are. But you want to align these tools to your firm—not the other way around."

Before moving forward, a firm must determine what it wants to accomplish with its foray into social media. "If you're just doing it to get your feet wet, then all you're going to do is have wet feet," says Jonathan Mast, manager of new media and channels at Black & Veatch.

A firm needs to decide, for example, if it wants to interact with potential customers, current clients, employees, potential employees or decision-makers.

"For certain groups of people, these are the tools they use to communicate," says Brent Campbell, president of the WGM Group, a 30-person firm in Missoula, Mont. As younger generations ascend to positions of authority—in politics and industry—Campbell says, social media might soon become the outreach method of choice. "For some folks," he explains, "Facebook is the way to get a hold of them."

A firm can spread its efforts across multiple platforms or focus on one or two. Black & Veatch, for example, has a multipronged social media effort. At LandDesign, Mickle focuses almost exclusively on LinkedIn.

Some firms use private social media sites as a way to reach employees at far-flung offices. Others use these same tools to reach employees just down the hall. Community outreach also is a possibility. Some firms use social networking sites to communicate to local residents about how their projects will likely affect the communities they serve.

And then there's the question of management. Though setting up a company account on most of these sites is easy and free, effective implementation requires effort and planning. "To have a successful Twitter site," says Zimmerman, "you want to send out a minimum of three tweets a day."

"Most of us can't keep our websites updated on a six-month basis. Now we're going to start an activity that needs to be updated several times daily?" asks Mickle. No question: Effective social media campaigns require a serious commitment—and that means time. If the old cliché rings true, and time is indeed money, are the potential benefits of social networking truly worth the investment? Engineering firms, for the most part, are just beginning to figure that out.

Testing the Waters

Black & Veatch, for example, spent several months researching various social media before taking the plunge. "First, we went out to Twitter, Facebook and others and secured the Black & Veatch name," says Mast. "Then we sat down and wrote the social media policy for our organization. It took a couple of weeks, working with legal and human resources departments, but we wanted to establish the rules of the game."

After these initial steps, the firm launched a Twitter page. "We established our Twitter page as a listening post first," he says. "Then we slowly engaged by making a few comments."

Since then, Black & Veatch's Water Division has launched its own Twitter page, and the company has started a Facebook page to recruit college students. To make the Facebook page as vibrant and youthful as possible, Black & Veatch handed out nine video-enabled flip phones to a team of summer interns and asked them to chronicle their experiences with the firm. "We launched three of their videos on our page," says Mast. "They've met with a really favorable response."

Mast says his company's "biggest win in social media" was CEO Len Rodman launching an internal blog to communicate with the firm's employees. "The blog had 4,500 unique visitors in the first 30 days," says Mast. "Rodman covers a wide range of topics and regularly asks for comments about what we should be focused on. For a recent meeting with one of our senators, he asked what questions people would like him to ask."

The PBSJ Corporation also has taken a broad approach to social media. In 2008, the firm, which employs nearly 4,000 people in 80 offices throughout the United States, launched a LinkedIn page to recruit new employees. At the beginning of 2009, the firm launched an interactive employee website (www.pbsjbuzz.tv), known throughout the company as "Buzz."

"Buzz is an employee site, although we share it with some outside people," says

We see tremendous potential for marketing our firm through these sites.

DORIS WILLMER
WILLMER ENGINEERING

Kathe Riley Jackson, PBSJ's manager of corporate communications. "It is largely a replacement for our in-house newsletter, but employees can participate in it, submitting videos, podcasts, as well as text articles, family photos. The goal is to allow us to share our culture with family, friends and clients."

The firm has had a Facebook page since May, but gaining traction has been difficult. "It's a challenge to get employees to engage in it," says Jackson. "This is a very conservative industry. They might get more engaged if it were a personal site, but when it comes to the company, they tend to be more respectful and cautious."

The firm also has seven Twitter accounts. "We made them very industry-specific, setting up individual accounts for transportation, water, waste management, et cetera," she says. "On Twitter, people want to focus on particular interests."

Among smaller firms, social media initiatives tend to be narrower. Willmer Engineering has a LinkedIn page in addition to its Twitter account. Both pages are invitation-only.

"We see tremendous potential for marketing our firm through these sites," says Willmer. "Right now, though, we are moving slowly. When we complete a project, for instance, we'll announce it to our employees and clients."

On WGM Group's Facebook page, Campbell writes a regular blog about happenings in the firm or industry. "It's a way to circumvent the e-mail deluge," he says. "When people log on to their Facebook page, they will see that I've posted an article. If they're interested, they can click through and read it."

Concerns Linger

When CEOs look at social media, three issues keep them awake at night: Such sites don't lend themselves to business-to-business communications; results often are hard to measure; and discussions are tough to control.

Businesses on these sites have had more success reaching out to consumers than to each other. "Whole Foods will send out a tweet on what specials they are offering and people want to get it," Mickle says. "You can't tell me that there is a land developer out there who wants to get tweets from our firm."

Though various social-networking sites rattle off statistics about the size of their networks and user communities—how many followers a site might have, how often they attract new users—these same tools offer few insights for companies (i.e., how valuable each follower or member might be, what products or services they are interested in, or whether their participation in the network is likely to translate into business for the firm).

"It's really tough to get the statistical data," says PBSJ's Jackson. "You can't expect to get direct results."

Among the most pressing issues for engineering firms is how to moderate and control discussions to ensure their business is projected in a positive light.

One way is to limit access. "We are trying to exercise some control," says Willmer, whose firm's social-networking sites are private. "We don't want these sites to become places where people can become negative."

When it comes to public sites, design-Data's Kane says firms are fooling themselves if they think they can exercise control.

"You can have the illusion of control, but it's just that," he says. "Companies can no longer manage the message."

The fact that there is negative information floating around out there in cyberspace should not come as a surprise. "Things already are being said about your firm online, whether you know it or not," says Jackson. "If you have an official site, at least you can be part of that dialogue."

Adds Black & Veatch's Mast, "You don't want to be on YouTube and not know it." ■

Gerry Donohue is ACEC's senior communications writer.

Stepping Out Into Social Media

Experts advise firms wading into the fluid world of Twitter, Facebook, LinkedIn and others to move slowly and expand their presence incrementally. Here is a 12-step process for getting started.

1. Determine your firm's strategy and goals regarding social media. What do you hope to achieve?
2. Appoint a leader to spearhead the initiative. Without a leader, your program isn't likely to get off the ground.
3. Establish a social media policy. A policy depends on the size and scope of the project and can range from a multipage document vetted by the legal department to the simple dictum, "Don't do anything stupid."
4. Secure your firm's name on all the social media sites. Signing up is easy and free. On most sites, it takes less than 10 minutes.
5. Search for your firm on the sites. If you find people who are talking about your business, follow them. On Twitter, that's as easy as hitting the "Follow" button.
6. Search social-networking sites for information about your competitors, vendors, clients and potential clients. Get a sense of how they are using the sites. What works? What doesn't work? What could you do better?
7. Determine if your firm has the capability to provide a regular flow of valuable information. Without that capacity, any social media effort is likely to fall short.
8. Start on one site. Don't spread yourself too thin. You will get much more value by concentrating your efforts.
9. Join discussion boards on the site that relate to your area of expertise. Rather than jumping right in, monitor the discussions. What are people saying? How does it apply to you and your business?
10. Comment when you feel comfortable. Post as often as you have something interesting and entertaining to say. Engage with the community. Provide helpful content. Don't pitch.
11. Recommend vendors and business partners to users.
12. Be patient. Give the effort at least six months before deciding whether to continue.

From the Ground

By Darlene Bremer

Casino Foundation Project Pays Off


Frank Callanan

PROJECT:
Ameristar Casino Resort Spa Site Improvement, St. Charles, Mo.

FIRM:
Geotechnology, Inc., St. Louis

The success of any land development project begins with the foundation. This was the philosophy St. Louis–based Geotechnology, Inc., brought when it undertook a nearly three-year effort to provide geotechnical engineering design and foundation construction and testing for an Ameristar Casino Resort Spa and parking expansion project in St. Charles, Mo.

"The site is located in the floodplain of the Missouri River where the underlying soils are potentially liquefiable during an earthquake. As the geotechnical consultant, we were responsible for providing an assessment of the difficult ground conditions to determine the appropriate foundation solution," explains Frank Callanan, vice president of Geotechnology's development market team.

Geotechnology assisted with foundation design analyses and provided value-engineering assessments used to evaluate foundation options and construction methods, and to overcome seismic and other land engineering challenges, including adjacent wetlands protection, flood protection and riverbank stability.

The client's goal of building a new, nine-story highrise on a geotechnically unstable site forced engineers to mitigate and, in some cases, eliminate deep deposits of silt, clay and loose sand.

The New Madrid Fault, which lies just 150 miles south of St. Louis, poses the highest earthquake risk on the mainland United States apart from the West Coast. "The site also was adjacent to the existing casino and the client required that no operational disruptions occur," Callanan says.


The casino resort is located in the floodplain of the Missouri River where underlying soils are potentially liquefiable.

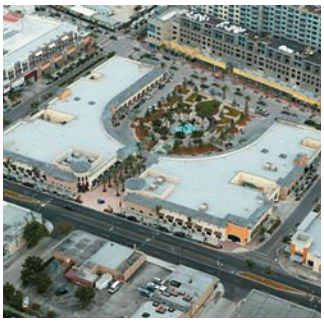
Geotechnology performed subsurface exploration and provided geotechnical design recommendations. Those recommendations determined that to assure a solid foundation, the ground had to be strengthened to depths up to 50 feet. "The top cohesive soils were removed from the site, and the density of the underlying sand was increased using vibrocompaction techniques," says Callanan.

Compounding matters, engineers could not safely densify the ground with vibrocompaction near the existing casino building. Instead, the ground adjacent to the existing casino was strengthened through compaction grouting, by which "fluid cement is injected into the ground based on a grid of drilled holes," explains Callanan.

Another challenge was how to mitigate the weight of the new structure on the existing casino buildings. To strengthen certain sections of the existing structures, Geotechnology recommended a technique called micropiling. The foundation company drilled down through the existing foundation to the rock bed below and installed small-diameter micropiles. "Each micropile is a 10-inch-diameter steel pipe filled with concrete and is designed to carry 100-ton loads," says Callanan.

The project's foundation was unique to St. Louis and resulted in a $2.5 million cost savings.

Up Member Firms tackle land development projects with innovation, ingenuity



Kimley-Horn helped developers create a mixed-use housing and shopping destination on a formerly troubled downtown Miami site.

Charlie Geer

Resurrecting Miami's Buena Vista Rail Yard

PROJECT:
Midtown Miami, Miami

FIRM:
Kimley-Horn and Associates, Inc., Miami Beach, Fla.

Since the 1800s, the Buena Vista Rail Yard has played several roles in downtown Miami. It's been a railroad maintenance yard and roundhouse, a steel fabricating facility, a gas pumping station, a fuel oil plant and a shipping container storage and repair facility. The site subsequently became an economic and aesthetic eyesore, plagued by poor upkeep and rampant drug activity. Its industrial legacy also resulted in years of neglected soil and groundwater contamination, making it a health and environmental hazard.

In 2002, Biscayne Development Partners (BDP) selected Kimley-Horn and Associates to develop a master plan for redeveloping the site. The goal: to create an urban mixed-use residential community with commercial, retail, office and entertainment facilities. In late 2002, BDP purchased the site from the railroad and brought in Developers Diversified Realty to develop the western portion of the property as a retail destination center, while BDP developed the eastern and central portions as residential and entertainment complexes.

Kimley-Horn provided the environmental master plan and Brownfield Rehabilitation Plan and authored the urban master plan and streetscape design guidelines. The firm also planned and designed all public and private infrastructure, including roads; drainage, water and sewer systems; lighting; duct banks and telecommunications; traffic signals; and tracks for a future streetcar system.

The key land engineering challenge was the environmental restoration of the property and its contaminated groundwater. "With only 18 months until the scheduled groundbreaking, we asked the state to designate the entire site as a brownfield site. With the approval of the Department of Environmental Resource Management, we were able to quickly address the site's contaminated groundwater and soil remediation issues," says Kimley-Horn Senior Vice President Charlie Geer.

As much as 95 percent of soil remediation was accomplished by obtaining limited contamination-source removal and administrative control over contaminated areas. This included providing impermeable cover via building foundations, parking areas and roadways over highly contaminated areas.

"These controls not only prevent direct contact with the contaminated soil, but also greatly reduce storm-water runoff and improve groundwater quality," explains Geer. The rehabilitation included removing contaminated soil and replacing it with clean material and landscaped vegetation.

The project has an estimated development value of $1.2 billion and has generated approximately 1,700 permanent jobs. It also received the EPA Region 4 2009 Phoenix Award, the nation's most prestigious award for brownfield redevelopment.

Grand Vision for Candlestick Point

Project organizers envision a place where San Franciscans of all income levels can live and work.

Steve Cox

PROJECT:
Candlestick Point/Hunters Point Shipyard Redevelopment, San Francisco

FIRM:
Winzler & Kelly, Santa Rosa, Calif.

When San Francisco city planners looked out over Candlestick Park and Hunters Point Shipyard in 2006, what they saw didn't yet exist. Their collective hope was that the massive swath of abandoned buildings and languishing real estate would one day become a place where San Franciscans could live and work.

In an effort to realize that vision, the San Francisco Mayor's Office of Economic and Workforce Development teamed up with the city's Redevelopment Agency and Lennar Urban, a developer that specializes in community needs, to plan a $1.6 billion redevelopment project on a 720-acre site near the San Francisco Bay.

"The overriding goal for the development is to offer San Franciscans a new community built upon abandoned and underused lands," observes Steve Cox, COO of Santa Rosa, Calif.–based Winzler & Kelly. As the lead engineer in charge of the development's infrastructure and utility systems master plan, the firm helped conceptualize a 15-year build-out with the goal of providing housing for residents at a range of income levels, all of which would be clustered in close proximity to shopping and transit. The project also calls for hospitality and recreational space, as well as arts venues.

Winzler & Kelly is working with the U.S. Navy to remediate, remove and cap sources of ground contamination, and dealing with land ownership, land swaps and project phasing.

The team has attempted to overcome these challenges by researching land ownership and coordinating with the city and county of San Francisco, the Navy, title companies, surveyors and community members.

"The permanent employee population associated with the site is predicted to be more than 10,000," adds Mike Kincaid, Winzler & Kelly's principal in charge of the project.

Winzler & Kelly is responsible for updating infrastructure concepts with detailed engineering analyses with an eye toward the future.

"Green building practices, sustainable energy loading, water conservation, low-impact development and storm-water treatment are just a few of the design factors that need to be integrated into the project," says Cox, who adds that it's the first project of its kind in the area to take predicted sea-level changes into consideration.

Environmental remediation is multifaceted and integrated with overall development and infrastructure planning. Lennar Urban has engaged Atlanta, Ga.–based MACTEC, to conduct environmental remediation. The firm will work closely with Winzler & Kelly and other project consultants to coordinate planning, design and construction of the remaining remediation work. The goal: to manage environmental risks consistent with planned land use, and to protect the community.

The overall strategy is to develop parcels in a sequence that will maximize economic returns, control construction costs and effectively integrate infrastructure systems. Initial demolition is scheduled for late 2010; in the meantime, comprehensive land planning, engineering analyses and environmental investigations are under way.

The cleanup effort along the Ann Street Railroad Corridor is part of a decade-old plan to repair damage inflicted by years of industrial activity.

The Great Ann Street Cleanup

Scott Wilson

PROJECT:
Ann Street Railroad Corridor Brownfield Redevelopment Project, Delavan, Wis.

FIRM:
Ayres Associates, Madison, Wis.

The Ann Street corridor surrounds an established industrial and residential portion of Delavan, Wis., that runs along an old railroad line. For nearly a century, the area has played home to industrial businesses, from a metal finishing shop to a dry cleaner to a petroleum storage facility. While business owners have come and gone, the remnants of their many wares and services have left an unattractive and potentially destructive mark on the land.

As part of a decade-old plan, the city has resolved to clean up the neighborhood through a rehabilitation effort that would reduce soil and groundwater contamination, alleviate storm-water flooding and breathe life back into a community overrun with crime and degradation.

Since 2000, Madison-based Ayres Associates has provided services related to the project, including assistance identifying and preparing grants, hazardous materials assessments, groundwater site investigations, the creation of a remedial action plan and deconstruction oversight of several buildings.

"Our team has prepared asbestos abatement and demolition specifications for more than 300,000 square feet of structures and has overseen soil remediation activities and the design and construction of a water quality basin intended to mitigate flooding," says Ayres Vice President Scott Wilson.

The 14-acre site includes 12 parcels of land that will be redeveloped for light industrial and commercial use. The site already is home to a new park and native plant storm-water quality basin, an automated car wash and an expanded storage facility and parking; a fire station will break ground this year.

One of the toughest challenges Ayres has faced thus far was how to address five commingled groundwater plumes containing petroleum and chlorinated hydrocarbon contaminants. To clean the soil, engineers proposed the installation of multiple soil vapor extraction and air sparge systems.

"Air is blown into the groundwater, the volatile contaminants are purged and deposited into the soil, where soil vapor extraction probes pull the contaminated, purged air out of the soil, where it is treated before being released," explains Wilson.

Another challenge was how to demolish a massive century-old, 180,000-square-foot, three-story light industrial facility on site—without harming the surrounding environment.

"Abutting the property are 40-year-old variegated maples. Not one was damaged in the demolition," says Wilson.

There were other questions, too, including how to address funding, scheduling and incorporating input from local residents—a tough task, considering the project already has outlasted four city administrators, two mayors and multiple council members.

Says Wilson, "The real support mechanism was having a continuous flow of information between our staff, stakeholders and the community to identify options that would be the most cost-effective and environmentally friendly." ■

Diligence, Caution Urged AMID TOUGH Economy

By Maureen Conley

Competition keeps prices low, but surge in claims fuels unstable market

The majority of contractors are still very hungry, and prices are coming in about 30 percent below engineers' estimates.

JOHN FARRAR
CLARK DIETZ

A fresh wave of carriers has entered the Professional Liability Insurance (PLI) market for design professionals. As a result, competition among insurance providers is holding rates steady and driving premiums down despite the rough-and-tumble economy, according to results from the ACEC/AIA/NSPE 2009 PLI Survey of Carriers.

Out of an estimated 40 or more carriers offering PLI to architecture/engineering (A/E) firms, the 15 who responded to this year's survey contend that an industrywide quest for new customers should keep prices low, at least in the short term. But fair prices alone do not shield firms of risk.

John Farrar, vice president of multidisciplinary engineering firm Clark Dietz, and Timothy Corbett, president of Smart-Risk, a risk and performance management consultancy for A/E firms, helped compile this year's survey results with representatives from AIA and NSPE, conducting face-to-face interviews with 13 of 15 participating insurance carriers. Farrar says new carriers are "gaining business on low rates," a reality that has forced existing PLI carriers to keep prices steady.

What's more, the struggling economy is contributing to lower premiums—usu-

Characteristics in the Premium Determination Process

(1 is the highest level of influence, 8 is the lowest)

	ACE USA	Arrowhead	Beazley	Benchmark	Catlin	Euclid	Insight	Lexington	Liberty	RA&MCO	Travelers	VOSCO	XL	Zurich
Location of firm	5	6	6	1	7	6	5	7	8	7	4	1	8	3
Location of projects	6	7	5	1	8	7	7	6	7	6	7	1	7	7
Type of practice	3	3	2	1	2	2	2	3	3	2	3	1	4	4
Type of projects	4	4	4	1	3	4	3	4	4	3	5	1	6	5
Annual billings	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Claims history	2	2	4	1	4	3	4	2	2	4	2	1	2	2
Firm experience		5	7	1	5	5	6	5	5	5	6	1	3	6
Other			8	1	6		8		6	8	8	1	5	

Source: *2009 Professional Liability Insurance Survey of Carriers (One firm—AVRECO—did not respond.)*

ally the product of rates times past billings. Farrar says A/E billings dropped 20 percent to 25 percent in 2008. Corbett says the number of unemployed engineers has doubled in 12 months to more than 113,000 at the end of the second quarter of 2009. Both men believe that these and other mounting pressures place engineering firms at higher risk in terms of PLI purchasing decisions, project selection and potential claims—all of which could translate to higher costs down the road.

Impact of Hard Times

A tough economy usually drives claims up, a primary concern for carriers this year.

Among the reasons, Farrar says, is that many firms are forced to do more with less. As firms consolidate resources to stay competitive in leaner fiscal times, opportunities for errors and omissions abound. Plus, there often is less time to meet with clients, which can stymie communication and create delays and challenges. In the midst of a shrinking market, surviving firms might be tempted to expand into areas for which they are not qualified, which could lead to even more problems, says Farrar.

> If the price is really low, the firm should take a closer look at what they are getting.
>
> AL RABASCA
>
> *XL DESIGN PROFESSIONAL*

The weak economy also has affected project owners, forcing state, county and local governments to reduce dedicated staff and slash program budgets. Such an environment makes it tough for clients to fund cost overruns or major change orders, explains Farrar. This, too, can lead to an increase in insurance claims.

Tom Porterfield, recently retired vice president of insurance carrier Victor O. Schinnerer & Co., says a tough economy means his firm's clients have "less ability to negotiate onerous and unfavorable contract terms and conditions" with public- and private-sector clients.

Contractors are hurting, too. Even with federal stimulus money flowing in, "the majority of contractors are still very hungry, and prices are coming in about 30 percent below engineers' estimates," says Farrar.

Across the country, the corporate appetite for new business is insatiable. Gary Prather, head of risk management for Travelers Insurance, says projects that once might have attracted a handful of bidders are now seeing bids from 30 or more engineering firms.

Tom Bongi, president of insurance carrier Catlin Design Professional, says stimulus projects typically represent low-risk ventures for engineering firms when compared with more complex private-industry projects. However, firms vying for stimulus work should be leery of "strings attached in terms of timetables, performance standards and the number of jobs created."

Dana Hughes, an underwriter for Beazley, warns firms pursuing stimulus projects that state governments often have different interpretations of what is considered a "design error."

Risk vs. Reward

Given the tough economy, some engineering firms have considered dropping PLI coverage as a necessary cost-cutting measure, a step PLI carriers strongly advise against—and not simply in their own self-interests.

One participating carrier reported that of the firms that opted not to renew their policies in 2009, 58 percent chose to "go bare," or to carry no coverage—a risky proposition, considering that discontinuing PLI often means a total loss of coverage for current, future and past work. One large claim and any company operating without a PLI safety net could find itself on the verge of collapse, says Hughes. Some firms also might find themselves in breach of contract, particularly if existing contracts require that a firm carry sufficient PLI coverage.

Robert Coleman, president of a/e ProNet and CEO and owner of Professional Underwriters, urges firms that are considering closing or going bare "to buy something." Coleman, who practices in Michigan, where the economy has been especially hard-hit and unemployment topped 15 percent in October, says raising deductibles or reducing policy limits is safer than going bare. When the economy

While business for many firms is shrinking, liabilities for work completed over the past five years are on the rise.

MICHAEL DAVIS
ZURICH NORTH AMERICA

eventually does regain its footing, firms can increase their limits or reduce their deductibles, which in most cases would apply retroactively.

States such as Florida, California, Arizona and Nevada have experienced problems similar to Michigan. Daniel Delarosa, president of the Professional Liability Agents Network and a principal and vice president at Suncoast Insurance Associates, calls conditions in Florida "the worst I've seen in my business career."

With private-sector work in Florida "pretty much at a standstill" and with more than 200 previously insured firms already out of business, Delarosa says those that remain are beginning to question whether they can ride out the slump.

With commercial property vacancies up around 20 percent to 30 percent and unemployment above 11 percent, there also is widespread concern that Florida's commercial bubble is about to burst. Though select firms have found work retrofitting empty commercial space for new tenants, Delarosa urges local A/E firms to "look northward for work" for the next couple of years.

Coverage Adjustments

As the economic fallout continues to wreak havoc on corporate balance sheets, insurance carriers say an increasing number of firms are inquiring about "tail insurance." Also known as an "extended reporting period," tail insurance provides an additional one to three years to report claims in the event that a firm is bought or goes out of business.

The situation has gotten so bad in parts of the country that some insurance carriers report firms unable to cover claim deductibles. James Bechter, chief operating officer of RA&MCO Insurance Services, says it's not uncommon for today's underwriters to request financial statements to verify a firm is capable of paying its deductible. In certain cases where firms cannot cover the cost of their deductibles, carriers might agree to cover the cost in exchange for promissory notes that require firms to pay the money back. Given the recent financial crisis, he says, it's not unusual for carriers to "try to work with the insured."

Claims on the Rise

Every insurance carrier that responded to this year's survey reported stable or slightly higher claims compared with the previous year.

As in previous years, residential and public K–12 school projects experienced the most claims. One carrier reported that only one in five claims had any merit and one in six ended in a payment.

Michael Davis, professional liability product manager for Zurich North America, says that "while business for many firms is shrinking, liabilities for work completed over the past five years are on the rise." Davis says a plummeting real estate market has contributed to the increase, while some real estate owners say that construction delays have prohibited them from realizing profits on property deals.

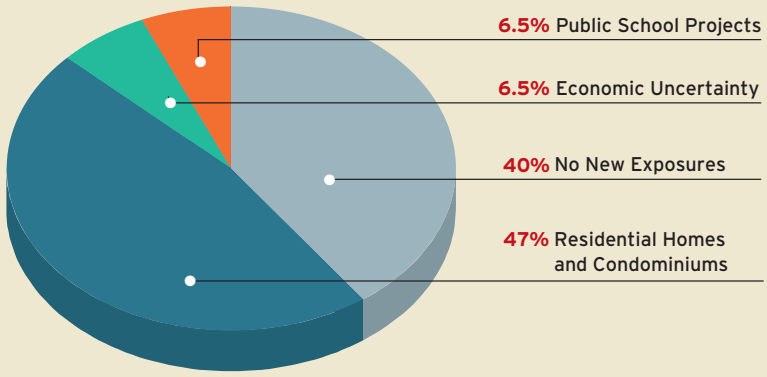
Qualifications-Based Selection

With claims ticking upward and opportunities for liability on the rise, it's more important than ever that firms choose the right carrier and level of coverage for their particular situation. It's a decision that requires more than simple price shopping.

Among the most popular criteria for choosing an insurance provider is Qualifications-Based Selection.

Carriers vary widely in their experience in the marketplace, underwriting expertise, policy coverage, pre-claims assistance, claims management strategy and risk management program support. Some carriers publicly disclose features of policy coverage; others claim that disclosing coverage leads to more restrictive policies. Whether a firm lists its coverage outright or holds its parameters close to the vest, Corbett says, firms should know what they're paying for. If a price seems low, ask why. The last thing a firm wants is to assume coverage based on its policy only to have its claim denied.

Particular Exposures That Might Lead to Higher Rate Increases Than in Recent Years



Source: *2009 Professional Liability Insurance Survey of Carriers*

Al Rabasca, director of industry relations for XL Design Professional, says, "If the price is really low, the firm should take a closer look at what they are getting."

Developing and maintaining high-quality loss prevention and risk management programs costs more, says Corbett. And while some of the newer carriers have attracted underwriters and claims managers from more experienced insurers, he says, "not every new carrier equally is qualified and capable" to practice in this specialized market.

Eight of the 15 carriers responding to the survey provide professional liability coverage brokered by Marsh to Member Firms through the ACEC Business Insurance Trust (BIT). Jeff Connelly, vice president with Marsh, says his team "is frequently approached by new carriers interested in participating in the BIT's program."

Davis says a carrier's financial stability is "exceptionally important" and urges design firms—by themselves, or with the help of a capable industry consultant—to look beyond the ratings to carriers' balance sheets in an effort to determine their relative financial strength and risk management strategies.

Beazley's Hughes urges firms to obtain a "loss run" from their carrier, or a report of claims paid out. Similar to applying for credit, she says, it is a good idea to know your history. A firm without claims or losses in the past five years is viewed as favorable, and "more carriers are going to want" such firms, Hughes says. Those with a more modest track record will have a tougher time negotiating policy terms and conditions. Be prepared to explain any claims, as well as any corrective actions taken, she says. "An underwriter doesn't want to hear, 'It wasn't our fault.' There's always something you can learn."

Connelly agrees, noting his team "has had success negotiating rate reductions based upon Member Firms' specific loss experience." Further, he says, "at least one of the BIT Program's carriers is adjusting its rating methodology to take into account the firm's most recent 12-month period's billings, rather than historical averages."

Schinnerer's Porterfield calls design professionals "the most honest, dedicated group of people I have ever worked with." His advice: Consider all aspects of a project. "Look at what you are doing as a business, and try to evaluate client selection and projects on that basis."

A spreadsheet of the 2009 survey results is available on the Risk Management webpage of the ACEC website at www.acec.org. ■

Maureen Conley is a business writer based outside of Washington, D.C.




ACEC's Annual Convention and Legislative Summit

April 25–28, 2010
Grand Hyatt,
Washington, D.C.

Engineering America's Recovery: New Directions

Join ACEC at its Annual Convention and Legislative Summit in Washington, D.C., April 25–28, and help the Council promote its "New Recovery Agenda" to Congress. Don't miss your chance to shape the direction of legislation affecting our economy and industry. The Convention also includes business management sessions designed to help your firm navigate through an uncertain economic landscape.

OPENING RECEPTION AND DINNER

FEATURING THE *CAPITOL STEPS*
SUNDAY, APRIL 25

The *Capitol Steps*—the nationally famous satirical troupe of current and former Congressional staffers—returns to the Annual Convention for a reprise performance on our pressing political issues.

OPENING GENERAL SESSION

THE STATE OF THE ECONOMY
GREG IP
MONDAY, APRIL 26

The U.S. economics editor for *The Economist* will share his unique insights. Ip, a frequent commentator on radio and television, formerly worked for *The Wall Street Journal*.

KEYNOTE LUNCHEON AND DEBATE

THE CHANGING POLITICAL CLIMATE
PAT BUCHANAN vs. ELEANOR CLIFT
MONDAY, APRIL 26

Two of the nation's most renowned and respected political observers—Pat Buchanan, analyst for MSNBC and Eleanor Clift, contributing editor for *Newsweek*—will provide a spirited debate from opposite political perspectives on where the nation should be headed.

PREMIER LEGISLATIVE SUMMIT WITH MEMBERS OF CONGRESS

- Lobby Congress on Water, Transportation, Tax, Energy and other Key Issues
- Federal Officials Discuss New Markets
- Business Opportunities with U.S. Army Corps of Engineers, GSA, NAVFAC, NASA and the U.S. Veterans Administration

TOP-TIER BUSINESS SESSIONS

- 25 Educational Seminars to Help Your Business Survive a Tough Economy—and CEO Roundtables
- Company CEOs Discuss Key Challenges
- Hot Topics include: Green Building Design, New Business Development Techniques, New Federal Opportunities, Impact of BIM and Virtual Design on Your Business

ENGINEERING EXCELLENCE AWARDS GALA

EMMY AWARD-WINNING HOST ROSS SHAFER
TUESDAY, APRIL 27

Known as the "Academy Awards" of the engineering industry, the annual black-tie reception, dinner and awards program honors the year's most outstanding engineering achievements.

CONVENTION INFORMATION

EARLY REGISTRATION FEES

FULL CONVENTION	EARLY BIRD	AFTER 4/2
Member	$995	$1,075
2nd + Member, same firm	$850	$950
Non-Member	$1,350	$1,450
Spouse/Guest Fee	$350	$350

HOTEL INFORMATION

Convention activities will be held at the Grand Hyatt Washington, located at 1000 H St., N.W., between the White House and Capitol Hill and easily accessible by Metro.

The ACEC room rate is $280, single/double occupancy, plus 14.5 percent tax. The hotel reservation deadline is *March 19*. Reservations received after this date, or after the group block sells out prior to this date, will be on a space- and rate-available basis.

To make your reservation online, go to www.acec.org. Or call toll-free: **888-421-1442** and reference **ACEC Annual Convention**.

For more Convention information, contact meetings@acec.org or visit www.acec.org.

ACEC, APWA TO PRODUCE 'GREEN SCORECARD'; STUDY MAKES CASE FOR QBS; *2010 INDUSTRY TRENDS SURVEY* IDENTIFIES FIVE EMERGING MARKETS

ACEC Works With APWA to Produce 'Green Scorecard'

The market for residential and nonresidential "green" construction is projected to triple (from $44 billion to $118 billion annually) between 2009 and 2013, according to the U.S. Green Building Council.

In response to the growing application of sustainability criteria to projects, ACEC is working with the American Public Works Association to produce a "Green Scorecard" for rating sustainable infrastructure. A draft of this standard is expected to be available for comment during the first half of 2010.

ACEC also has collaborated with Colorado State University on a four-day certificate course entitled "Green Infrastructure and Sustainable Communities" in New Orleans Feb. 23–26. Among the presenters are David Carlson of the Federal Highway Administration, Jon Roberts of CTG Energetics and Larry Roesner of Colorado State University (previously with the firm of Camp, Dresser & McKee).

Course highlights include the integration of sustainability and context sensitive design into project components. An afternoon field trip will highlight sustainable metro New Orleans projects undertaken since Hurricane Katrina. Visit www.acec.org/education or contact Education@acec.org for registration information.

New Study Makes Compelling Case for QBS

A new study by researchers from the University of Colorado and the Georgia Institute of Technology contains six reasons, backed by empirical data, why Qualifications-Based Selection (QBS) is the most efficient method to procure design professionals' services.

According to the study, QBS should be used because it:

- Ensures cost-effectiveness in project outcomes;
- Lowers risk on complex projects;
- Results in better projects and highly satisfied owners; and
- Encourages innovation and protects intellectual property.

The Analysis of Issues Pertaining to Qualifications-Based Selection report was sponsored by ACEC and American Public Works Association. "This research represents the first nationwide study of the effectiveness of QBS," says Jeffrey Beard, ACEC vice president and director of ACEC's Institute for Business Management.

To obtain a complete copy of the report and its accompanying charts and graphs, please go to www.acec.org/bookstore and click on the "QBS Study" download.

Five Emerging Markets Identified In Latest *Industry Trends Survey*

The annual *ACEC Design and Construction Industry Trends Survey* report, issued in early January 2010, identifies five emerging markets for engineering firms.

1) **Security and Safety**—Design and construction for the safety and security of facilities and infrastructure has received renewed attention since the terrorist attacks of 2001, Hurricane Katrina and other typhoons and seismic events in the far west.
2) **Renewable Energy** (e.g., wind farms, biofuels)—Wind farms now are a mainstream power source—projected to generate 20 percent of the nation's electrical power by 2050—but also require significant permitting and distribution assistance from the engineering community. Newer technologies for biomass fuels now use many types of organic matter.
3) **High-Speed Rail**—California is pursuing its San Diego-to-Sacramento high-speed line, and U.S. Transportation Secretary Ray LaHood says plans are in the works for similar systems in the Midwest and in the Northeast, pending dedicated funding and a relatively long permitting, design and construction process.
4) **Ecological Restoration Projects**—Large-scale environmental restoration projects, such as the U.S. Army Corps of Engineers Everglades restoration contracts, are stimulating interest in projects to restore other ecosystems, including the Mississippi River delta wetlands and the Chesapeake Bay estuary.
5) **Water Supply** (especially where sources are low, contaminated or depleted)—The No. 1 long-term engineering need identified in successive *ACEC Design and Construction Industry Trends* surveys has been that of adequate water supply. A prolonged and severe drought, coupled with increased water demands in specific areas, is a prescription for shortages.

To review all of the findings of the latest *Industry Trends Survey*, please go to www.acec.org and click the bookstore link on the left, and purchase the download for just $199 or a printed version of the final report for $299.

The ACEC Institute for Business Management provides comprehensive and accessible business management education for engineering company principals and their staffs.

Visit ACEC's online educational events calendar at http://www.acec.org/calendar/index.cfm or bookstore at https://netforum.acec.org/eweb/?site=acec_store, or call 202-347-7474, ext. 338 for further information.

On The Move


Paul Malir


Steve L. Stretchberry


Daniel McCann


Nick Flew

Paul Malir was appointed president of **TranSystems**, replacing **Brian Larson**, who remains chairman and CEO. Malir will continue as COO of TranSystems and president of its Architecture, Engineering and Planning line of business. **Steve L. Stretchberry** was appointed vice president/market sector leader for TranSystems' San Francisco office in support of the firm's aviation group.

Daniel McCann has been named CFO of **Greeley and Hansen.** Most recently McCann served as CFO at the Chicago-based law firm Sonnenschein Nath & Rosenthal LLP.

Nick Flew was appointed managing director of the UK and European operations of **Parsons Brinckerhoff (PB)**. Flew will lead the integration of Balfour Beatty Management and the UK/Europe operations of Parsons Brinckerhoff following PB's acquisition by Balfour Beatty.

Cosema "Connie" Crawford has joined **The Louis Berger Group Inc.** as senior vice president of engineering for its U.S. operations. Formerly, Crawford served as senior vice president and chief engineer at the New York City Transit Authority, and also worked for the Parsons Corporation.

Richard Simonetta joined **URS Corporation** as vice president and national director of High Speed Rail, operating from the firm's Columbus, Ohio, office.


Cosema Crawford


Richard Simonetta


Craig A. Savage


Rick Herrington

Craig A. Savage was named vice president and regional office manager for **Gannett Fleming**'s Detroit office.

Donald D. Hamilton joined **Parsons** as vice president for its Commercial Technology group, where he will lead the firm's health care practice.

Dewberry named **John Moynier** western regional vice president of management and consulting services in the firm's Sacramento, Calif., office. Moynier will coordinate the firm's business development and operational activities in the western U.S.

Stephen L. Pattison joined **Greenhorne & O'Mara (G&O)** as vice president of water and environment, where he will lead G&O's environmental services in the Mid-Atlantic and Southeast regions.

Mary C. Giles joined **STV** as vice president and business manager of land development in the firm's Buildings and Facilities Division. She will be based in STV's Baltimore office.

Rick Herrington joined **HNTB Corporation** as vice president and toll services director, Western U.S.; he will be based in the firm's Dallas office.

Anniversary


Judith Nitsch

Nitsch Engineering celebrated its 20th anniversary Sept. 15, 2009. The firm will commemorate the milestone throughout 2010 by hosting and participating in a series of events to improve local communities in its areas of service.

Founded in 1989, Nitsch Engineering has grown from a one-person civil-engineering company into the largest Women's Business Enterprise civil-engineering firm in Massachusetts. The firm has expanded to provide land surveying, transportation engineering, sustainable site consulting, Geographic Information Systems and planning services.

"When I started Nitsch Engineering in 1989—in the midst of another recession—many people didn't think that a company like ours would flourish," said President and founder Judith Nitsch. "But thanks to our wonderful projects, terrific clients and fabulous employees, we've been able to grow into a successful, respected company with projects in 17 states and five countries."

Mergers

Kleinfelder announced the acquisition of **S E A Consultants, Inc.**, a full-service engineering, architecture and planning firm headquartered in Cambridge, Mass.

S E A will become Kleinfelder/SEA and represent the New England region for Kleinfelder after the transition.


Bill Siegel


Anthony Zuena

"S E A's unique capabilities and reputation for outstanding service and collaboration is what makes it attractive to Kleinfelder," said Bill Siegel, president and CEO of Kleinfelder.

Anthony Zuena, president and CEO of S E A, added, "We believe this opportunity will enable us to continue providing the creative and innovative solutions our clients have come to expect. Kleinfelder provides our clients nationwide resources and a wide breadth of expertise and range of services."

S E A employs more than 200 people in seven locations, and Kleinfelder employs more than 2,000 people in more than 60 locations across the country.

URS Corporation announced its acquisition of **ForeRunner Corporation**, an engineering and construction management firm specializing in the oil and gas industry. ForeRunner has approximately 150 employees and is headquartered in Lakewood, Colo.


Gary V. Jandegian

ForeRunner, founded in 1996, complements URS' expertise in environmental permitting and the design and construction of oil and gas production and storage facilities, processing plants, refineries and related infrastructure.

Gary V. Jandegian, president of the URS Division, one of three divisions within URS Corp., said: "With its talented professionals, relationships with *Fortune 500* clients and strategic location near some of the nation's largest natural gas and oil fields, ForeRunner enhances URS' ability to pursue new opportunities and better serve existing clients in the oil and gas sector."

Welcome New Member Firms

ACEC/California
A & H Civil Engineering, Inc., Folsom
Bedrock Engineering, Inc., Madera
Gouveia Engineering, Inc., Gustine
Hope Engineering, Inc., San Diego
Robert Heinen Consulting Engineers, Martinez

ACEC/Colorado
Anchor Engineering, Inc., Denver
Peak Environmental Consulting, Inc., Loveland
The Frederick Group, LLC, Broomfield

ACEC/Georgia
The Good Group, LLC, Sandy Springs

ACEC/Idaho
TransCivil, Meridian
Transportation Municipal Civil Engineering, Inc., Boise

ACEC/Illinois
Midway Engineering Group, Inc., Chicago

ACEC/Indiana
Enginuity Management & Consulting Corporation, Indianapolis

ACEC/Minnesota
Oswell Engineering and Consulting, LLC, Minneapolis

ACEC/Nevada
Slater Hanifan Group, Las Vegas

ACEC/New Hampshire
Comprehensive Environmental, Inc., Merrimack
GM2 Associates, Inc., Concord

ACEC/New Mexico
Atkins Engineering Associates, Inc., Roswell

ACEC/New York
EnTech Engineering, P.C., New York
Joanne Darcy Crum, Professional Land Surveyor, Cobleskill

CEC/Texas
Bovay Engineers, Inc., Bellaire
EJES, Inc., Dallas
Goetting & Associates, Inc., San Antonio
IDC, Inc., Houston
IEA, Inc., Dallas
LJA Engineering & Surveying, Inc., Houston
Marshall Engineering Corporation, Humble
Rhed Oaks Engineering, Inc., Austin
RMD Consulting, LLC, Dallas

Calendar of Events

2010

JANUARY

12 H1N1 (Swine Flu) Pandemic Update (online seminar)

19 BIM for Bosses (online seminar)

FEBRUARY

2 Stress Testing for Design Firms: How to See Early Warning Signs and Make Course Corrections (online seminar)

10 Engineering the Smart Grid: New Opportunities for Engineering Companies (online seminar)

11-12 ACEC/Illinois Winter Conference and Engineering Excellence Awards, Springfield, Ill.

23-26 Green Infrastructure and Sustainable Communities: Opportunities in New Markets, New Orleans

MARCH

2 The Eight Network Competencies: What Engineers Need to Know About Building Social Capital and Attracting Clients (online seminar)

8-9 ACEC/Wisconsin Transportation Improvement Conference, Green Bay, Wis.

16 Recommended Practices for Engineering Expert Witnesses (online seminar)

APRIL

25-28 ACEC Annual Convention and Legislative Summit, Washington, D.C.

Additional information on ACEC's events is available at www.acec.org.

Thomas Porterfield, retired vice president, Victor O. Schinnerer & Co., Chevy Chase, Md.

A Look Back and Ahead at Professional Liability Insurance

Editor's Note: *Thomas Porterfield recently retired from Victor O. Schinnerer & Co., the professional liability insurance underwriting firm, after a 36-year career. A former chairman of the ACEC Risk Management Committee, his expertise has helped shape the Council's risk management services for more than two decades.*

Q. How has the professional liability insurance industry evolved during your career?

A. There has been a dramatic increase in the number of A/E professional liability insurance markets available to design professionals. In 1956, Schinnerer & CNA introduced the first A/E professional liability insurance program and was the only market available to design professionals. However, based on the ACEC 2009 Professional Liability Insurance Survey of Member Firms, there is a minimum of 17 carriers available today to design professionals.

Design professionals also have benefited by the evolution of programs that offer broad coverage including worldwide protection, pollution coverage, multiyear policies, pre-claims assistance and risk management services that include seminars, contract reviews and risk management publications, plus support for the A/E professional associations at the national, state and local levels.

Q. How does today's PLI market compare with that in previous recessions?

A. The impact on design professionals and the A/E professional liability market includes small and medium-sized design firms being forced to drop their coverage because of declining billings. Some firms also may reduce their limits of coverage to achieve a premium savings. A firm's annual billings are a key underwriting consideration in the premium computation process. A decline in billings may lead to a reduction in insurance company revenues to the point where some carriers may abandon the market because it is no longer profitable for them.

Q. Based on your experience, what are the most common mistakes that engineering firms make in their efforts to manage professional risk?

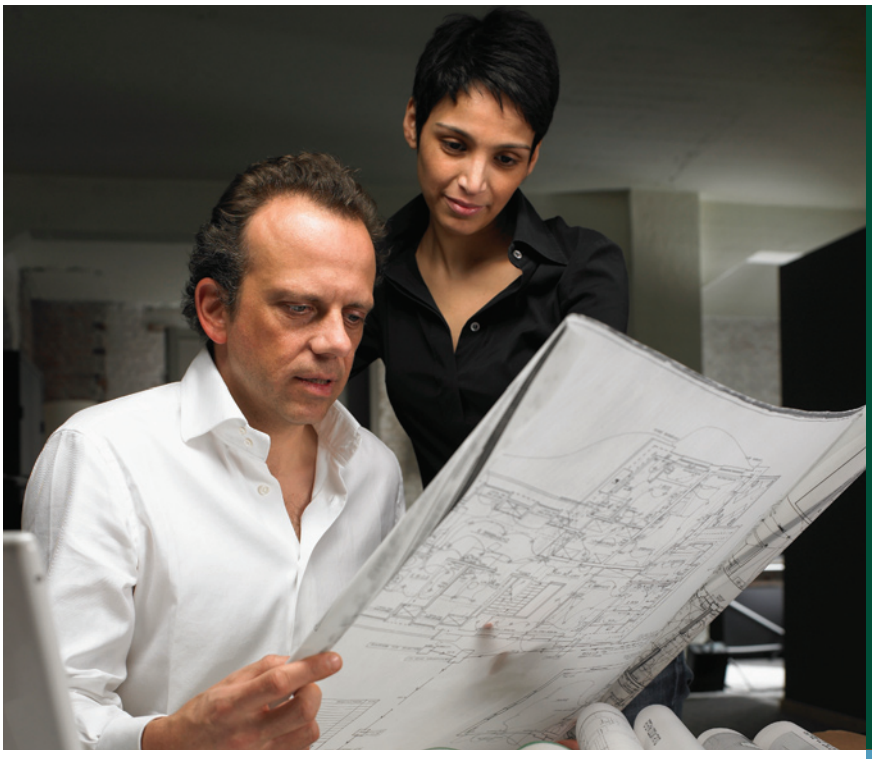
A. I prefer not to classify anything as "the most common mistakes." In my opinion, the majority of client-generated claims against design professionals are triggered by unfulfilled client expectations as opposed to professional negligence. While professional negligence always is alleged in a claim, it is very seldom proven. The majority of the unfulfilled expectations can be traced back to issues such as failure to require a client to have a well-defined program or scope of services; underfunded projects with no or inadequate project funding contingencies; allowing a client to control the budget, scope and quality; agreeing to unreasonable time restraints; failure to negotiate, sign and enforce good contracts; telling a client what they want to hear versus what they need to hear; and poor project communication and documentation.

Q. How have the nature, frequency and severity of PLI claims against engineering firms changed over the course of three decades?

A. Since the mid-1980s, when roughly 44 out of every 100 firms had a claim brought against them, the frequency of claims has remained somewhat stable at about 25 out of every 100 firms. With rare exceptions, the claim frequency and severity numbers for the last several decades have not changed that much. Based on Schinnerer & CNA statistics, 65 percent of all claims against design professionals are brought by their clients, and 71 percent of the dollars that Schinnerer & CNA pays to settle claims goes to its clients. General contractor claims account for an additional 11 percent of claims and 12 percent of the dollars that Schinnerer & CNA pays out on claims. The majority of claims still involve property damage to a project or project budget cost overruns.

Q. What risk trends on the horizon should Member Firms pay particularly close attention to?

A. I recommend that they continue to focus on client relationships because, in my opinion, client-generated claims will continue to be the source of the majority of claims and claim payments. I also recommend focusing on anything new or different, such as green building design and Building Information Modeling, along with new methods of project delivery. Each of these has the potential to advance the construction industry and, in many cases, the projects will be successful. Because these elements are new, however, they also create the potential for risks that are not known, or are known but tend to be overlooked, and that can lead to claims. ■



Through highs and lows – we're there for you and your employees.

ACEC
LIFE/HEALTH TRUST

Whether your employees are up on a bridge or down in the pipelines, we've got health care coverage solutions to address their individual needs.

ACEC Life/Health Trust represents the needs of more than 1,100 engineering firms and 35,000 employees. We've joined with UnitedHealthcare to provide our members with an array of products, from traditional PPOs to industry-leading consumer-driven health plans.

It's health care coverage designed by engineers for engineers.

Our health care coverage also features:

- Access to a nationwide network of more than 589,000 physicians and health care professionals, plus 4,920 hospitals and 60,000 pharmacies, so you can get care wherever it's convenient for you
- A vast product portfolio of traditional and consumer-driven health plans, including Health Savings Accounts and Health Reimbursement Accounts
- Strength in numbers, in that coverage is provided to an exclusive group of engineering peers and member firms frequently pay less than the average cost of insurance in their area
- Dedicated sales, service and wellness representatives

Insured and serviced by:

UnitedHealthcare®
Healing health care. Together.®

Call 1-877-275-3644 or visit uhctoday.com/acec for more information.

The American Council of Engineering Companies (ACEC), the ACEC Life/Health Insurance Trust and United HealthCare Insurance Company are three separate legal operating entities and, as such, the organizations are governed and function independently. UnitedHealthcare's services are provided with the authorization of the ACEC Life/Health Trust. Questions related to health benefits offered through the Life/Health Trust should be directed to 1-800-573-0415. UHCEW346178-004