

SMART SOLUTIONS

SUMMER 2014

Helping contractors save money and enhance productivity



W.J. Maloney knew that Sloan plumbing systems were the right choice for the Chicago Cubs' new spring training facility. "Because the restrooms get used heavily for one month out of the year, we were looking more for durability," said Alan Boughton of W.J. Maloney, but the Sloan systems also save water.

W.J. Maloney Relies on Durable Sloan Systems at Chicago Cubs' New Spring Training Facility

Cubs Honor Hometown Roots by Specifying the Illinois-Based Manufacturer

Dedicated Chicago Cubs fans who attended the Major League Baseball team's spring training in Arizona this year were rewarded with modern restrooms (among other amenities), thanks to **W.J. Maloney Plumbing, Heating & Cooling** and **Sloan Valve Company**. W.J. Maloney chose Sloan plumbing because its products have such a good batting record at the Cubs'

main stadium and on other W.J. Maloney projects.

While Cubs fans defend their beloved, yet rapidly aging, Wrigley Field in Chicago during the official baseball season, their surroundings for preseason have improved substantially, and no one is complaining. In March, the team

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J.C. Cannistraro Meets Tight Installation Deadline—With Time to Spare—Thanks to Autodesk BIM and Prefabrication

To upgrade the water systems at the University of Massachusetts Boston's central utility plant—in a single weekend and without disrupting any other system functions—**J.C. Cannistraro** put to work the **Autodesk® Fabrication CADmep™** system it has used since 2003.

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The upgraded water systems at the University of Massachusetts Boston's central utility plant had to be installed in extremely tight existing conditions. By modeling existing site conditions using Autodesk's Fabrication CADmep, J.C. Cannistraro anticipated the challenges and succeeded in getting the systems installed and running within a day.



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Manufacturer/Supplier Council
MCAA
Adding Value to
Your Supply Chain

SMART SOLUTIONS

Helping contractors save money and enhance productivity

Smart Solutions showcases new technologies and promotes cost-saving and productivity-enhancing applications available from members of MCAA's Manufacturer/Supplier Council. *Smart Solutions* is published biannually for contractor members of MCAA and its subsidiaries.

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Partnership, Performance, and Productivity

At Sloan, I've seen firsthand how *Smart Solutions* can make a difference. A previous issue featured Sloan fixtures used in the renovation of New Orleans' Superdome. More than a year later—thanks to social media—that news was still making the rounds among potential clients. That story, like so many in *Smart Solutions*, demonstrated how manufacturers work closely with contractors to meet their unique needs and challenges.

For example, in this issue, learn how Hill York is satisfying the increasing demands of a Florida campus for cost- and energy-efficient power by using Baltimore Aircoil Company's innovative ice thermal storage product. A host of Jay R. Smith Mfg. Co. products fit the bill when C.J. Erickson Plumbing Co. took on a research facility with complex requirements. Legacy Mechanical relied on Victaulic grooved systems to meet the compressed schedule for a sprawling project.

W.J. Maloney Plumbing, Heating & Cooling appreciated the durability of Sloan products, which they used for the Chicago Cubs' new spring training facility in Arizona. Woodford's reputation for reliability and ease of installation made its roof water hydrant the ideal choice for a school in Colorado.

Work Smarter, Not Harder

This issue includes lots of examples of contractors using products and services to improve efficiency. Vanguard HVAC Technologies, for example, was surprised how quickly they could install Viega ProRadiant™ floor systems and move on to other tasks. J.C. Cannistraro put its Autodesk® Fabrication CADmep™ system to work along with prefabrication to meet a tight schedule with time to spare.

Western Allied Mechanical is using AirAdvice technology to show customers how quickly they can recoup their investments in HVAC upgrades. Graco Mechanical, Inc. has relied on Davisware software to cut billing turnaround times and improve office processes. Murphy Company took five days off its service billing process and cut costs by adopting PENTA software. To put your IT system to work for you, see WennSoft's tips on how to get more out of your existing software.

Our supplier partners can help you find other ways to save as well. CNA describes steps you can take to mitigate workers' compensation costs. AlliantGroup explains how to take advantage of tax credits for the kinds of clever solutions you create to handle challenging jobs. Greenheck provides advice on fan installation to avoid costly problems later on. Read on to learn more about how you can partner with manufacturers for better performance and productivity.

A handwritten signature in blue ink that reads "James C. Allen".

Jim Allen, Chairman

Join me in welcoming our newest supplier partners:

- BELIMO Americas
- Chase Brass and Copper Company, LLC
- Mathey Dearman, Inc.
- Leica Geosystems
- Wayne Water Systems

C.J. Erickson Anticipates Needs of Future Scientists with Jay R. Smith Specialty Products

C.J. Erickson Plumbing Co. took on the complex task of installing plumbing systems not only to meet the individual needs of an exacting group of tenants already scheduled to move in, but also to anticipate the needs of unknown future tenants. The new William Eckhardt Research Center at the University of Chicago will offer

world-class scientific research facilities, and thanks to C.J. Erickson and Jay R. Smith Mfg. Co., those facilities are prepared for just about anything.

The William Eckhardt Research Center is a 277,000-gross-square-foot facility with five above-grade floors, basement, and subbasement. The building will

house offices, conference rooms, and laboratories for the university's Division of Physical Sciences units, including the Astronomy and Astrophysics Department, the Kavli Institute for Cosmological Studies, and the Enrico Fermi Institute. It will also house the university's new program in molecular engineering, providing offices, conference rooms, an 11,000-square-foot clean room, and specialized laboratory and imaging facilities.

Making Adjustments

Because of the complexity of the project and all the entities involved, the design phase alone was a five-year project. C.J. Erickson got involved in 2012. Among the many challenges with this project was the base of the structure. The five above-grade floors and the two subfloors sit on a 3' slab of concrete. C.J. Erickson had to encase all the piping within that slab so that if the building settled, the plumbing would settle along with it.

C.J. Erickson digitally mapped out the area. Using 3D modeling, they set up a grid that included all the field layout points. When construction began, they laid and suspended all the piping, and the concrete slab was poured over the piping.

Another challenge was in the design of the plumbing for the two floors of laboratory space. Dan Whitehead, project manager for C. J. Erickson, said the designs for individual laboratories were shown to the researchers who would use them.

"Each researcher came in with very specific and special needs, so we had to go back and design the space for each of those researchers. We constantly had to pause and make adjustments," said Whitehead.

All parties involved decided that even though the process may have been slower up front, having the

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C.J. Erickson used acid-resistant pipes from Jay R. Smith Mfg. Co. throughout a new scientific research center to ensure that all researchers, regardless of the work they were doing, would have the appropriate plumbing in their lab space.



To accommodate any building settling, C.J. Erickson encased all the piping within the concrete slab of the base. They used 3D modeling to set up a grid with all the field layout points. Then all the piping was laid and suspended, and the concrete slab was poured over the piping.

Murphy Company Slashes Billing Time, Saves Costs with PENTA

Even though **Murphy Company** has over a century of experience in delivering mechanical solutions and a long record of excellent performance (it is consistently recognized by *Engineering News Record* as a top-20 contractor), it was saddled with a 25-year-old software system. Since adopting the **PENTA** construction Enterprise Resource Planning (ERP) platform, Murphy Company took five days off its service billing process and cut more than \$100,000/per year in costs related to lost/missing tools, among other benefits.

Under the old software system, access was limited. The system lacked desired functionality in project management, billing, and other areas, and enhancements were not being added. In 2010, a team was assembled to analyze the issues and review software providers. Chief

“We need to use every tool at our disposal to add value for our customers. We couldn’t do everything we do without PENTA.”

—Robert L. Koester, Chief Financial Officer, Murphy Company

Financial Officer Robert L. Koester said, “We’re a full-service mechanical contractor with multiple business units. Our idea was to have an ERP software platform designed for construction that understands service and has enterprise-level content management functions.”

Cutting Costs with Inventory Control

“A real success story is how our warehouse uses PENTA,” said Koester. “We wanted to use the system to track our durable tools and rental equipment. At first they were skeptics, but now, they’re believers and advocates. Since implementing PENTA, we have seen our costs related to lost/missing tools decrease in excess of \$100,000 per year.”

Better Billing and Payroll Procedures

“We’ve been able to reduce our days to bill by approximately five days in our service department. So many hours used to be put into physically preparing each invoice, taking information from the job reports, and retyping it in Excel,” said Koester. “When I saw what PENTA could do, I said, ‘That’s what we’re going to do.’”

For labor-intensive organizations, particularly those that manage union reporting, payroll can be one of the most difficult administrative challenges. The PENTA eTimesheet and eExpense modules provide self-service time entry and approval capability for those who charge time and expense to projects or overhead expense accounts. “When we imple-

mented PENTA eTimesheet and eExpense, we took a 25-year leap forward, because it had all been done in paper,” Koester observed.

Combining Service and Project Management Systems

With over 100 service technicians who make over 15,000 service calls per year, field service is a crucial aspect of customer satisfaction and revenue for Murphy Company. Managing field service within the same system used for managing projects and financials was a “must-have” for the new system.

“We had previously built our own service application and underestimated the complexity involved with software required to support our service offerings” said Koester. “Over time we

began to realize that even though we developed a fully-customized service program, we didn’t always get the reliability we had hoped for. We found ourselves having issues where people didn’t trust the accuracy of the data. Since we’ve been on PENTA, we no longer have those issues.”

For project management, Koester said, “Our goal was to get away from having so many folks doing clerical data entry and more of our project staff and project engineers able to manage projects using information in the system.”

“The old blue-screen systems were efficient for data entry, but with PENTA we get much better management capabilities. The data goes into the system once, the right people see the data and review it, and, based on the trends that surface, they can implement change, which helps to improve our opportunities to enhance profit margin on projects.”

Simplifying Reporting and Financial Statements

“In the past, we had enough reports to fill a huge, thick binder. If someone wanted data, the culture was to ask a person to generate a report—that’s just how it was done. If the person who pulled the report was out or on vacation, the report would have to wait,” said Koester. “Now when someone needs project data, they get the information themselves. They get exactly what they want, when they want it, right from PENTA.”

Koester added, “We got tremendous benefit from PENTA’s organizational unit structure. We set up new financial statements very, very easily. It would have been extremely difficult in our previous system to create new legal entities or operating groups. Now it’s no problem: It’s done in half an hour.”

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Legacy Mechanical Gets New Transit Hub on Track with Efficient Victaulic Grooved Products and Prefabrication Services

Speed and Safety of Installing Grooved Pipes Saves Contractor Time and Money

To meet the complex requirements of a massive public transit expansion, Legacy Mechanical, Inc. called on Victaulic. “We’ve worked with Victaulic grooved mechanical systems for nearly a decade so we know we can trust them to help us maximize productivity and address compressed work schedules, while increasing worker safety,” said Scott Krum, president at Legacy Mechanical. “We also know we can count on them for expert prefabrication and minimizing time in the field.”

Big Project, Big Challenges

The \$650-million revitalization of Denver’s historic Union Station is the nation’s largest public transit expansion project. The site was once a key transportation hub for the United States, connecting Denver to the transcontinental railroad line. Serving as a distinctive gateway to downtown Denver, the modernized facility brings

together many different transportation modes (including light rail and commuter rail, regional bus lines, taxis, Amtrak trains, and local shuttles), along with private development, to create a new bustling urban center.

Spreading across 20 acres, the Union Station site includes a 1,100’-long underground bus depot with 22 bus bays and also houses aboveground transportation hubs. The site also incorporates two million square feet of mixed-use development, including office, retail, residential, and restaurant space. It goes without saying that a task of this magnitude requires

“By using grooved mechanical systems and eliminating welding, we were able to speed up productivity, increase cost savings, and minimize field labor by at least 10 percent.”

—Matthew Archuletta, Project Manager, Legacy Mechanical

significant planning and strategy, but building the new facility in the center of one of the fastest growing metropolitan areas in the United States presented a unique set of challenges.

As a full-service mechanical contracting company, Legacy Mechanical was up for the challenge. In addition to working onsite in a design/assist capacity starting in March 2012, the Legacy Mechanical team was responsible for all mechanical, plumbing, and HVAC work in the underground bus station. The work included 3D coordination services and modeling of the entire project as well as pipefitting, HVAC, plumbing, fuel, and gas pipe work, which required the contractors to work subgrade. The work had to be conducted in phases, and the team was tasked with completing the project in just three years.

To help them meet the compressed schedule and handle intricate structuring and phasing, as well as sim-

plifying their subgrade work, Legacy Mechanical chose Victaulic. Together, the teams needed to install miles of pipe safely, including approximately 6,000’ of hot water piping, 8,000’ for chilled water, 4,000’ for domestic water, and 1,500’ for snow melt.

Alleviating Time and Safety Constraints

Timing was critical with the Union Station project. Thousands of pedestrians, motorists, and businesses were affected by detours and construction zones. The phased approach made for a very fragmented construction process, further compressing the work schedule. To alleviate time constraints and to further streamline

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Denver’s historic Union Station is the nation’s largest public transit expansion project. To meet the project’s strict timelines and streamline installations, Legacy Mechanical chose Victaulic grooved products to avoid welding and roll grooved most of their piping in a prefabrication setting, which improved productivity, safety, and efficiency.

Vanguard HVAC Technologies Lays Foundation for New Tavern on the Green with Easy-to-Install Viega ProRadiant Heating

Installing Viega ProRadiant™ systems as part of the renovation of New York City's famous Tavern on the Green restaurant was a simple process—so simple, in fact, that Robert Stewart, steamfitter foreman for Vanguard HVAC Technologies, joked, “I was disappointed there wasn't more to do.” Completing the radiant floor heating installation quickly allowed the rest of the project to move forward.

“This was our first time using Viega,” said Stewart “I have a lot of years of knowledge in the business, and basically the Viega systems were

very simple, very easy. They worked great.”

Located in Brooklyn, NY, Vanguard HVAC Technologies was selected to install the air conditioning and heating systems in the new Tavern on the Green, including boilers, chillers, air handler units, heat recovery units, and unit heaters. Vanguard HVAC Technologies installed radiant heating in the terrace, which features a glass-enclosed dining area with views of Central Park.

Viega ProRadiant systems were listed in the building specifications,

so Vanguard HVAC Technologies installed 1,500 square feet of ViegaPEX™ Barrier tubing with insulated panels, as well as stainless manifolds and manifold cabinets.

A Restaurant Revived

Few restaurants in American history have had as great an influence on popular culture as the Tavern on the Green on the Upper West Side of New York City's Central Park. From its original opening in 1934, it has appeared or been mentioned in several movies and television shows and has even played a role in commercial advertising.

During the financial crisis of 2009, the Tavern on the Green closed its doors. Nearly a year later, the city reopened the building as a visitor's center and gift store. In 2012, a pair of restaurateurs from Philadelphia won the bid to redesign and reintroduce New York City's famous landmark. The only problem was the condition of the building. It needed to be completely renovated.

Unfamiliar but Easy to Install

Stewart explained that despite his years of experience he still prefers to understand a system completely before installing it, and he appreciated the availability of local Viega sales team members who took the time to help.

“Even though you're familiar with the product, you still want to have a guideline of that manufacturer's procedure,” he said. “I did have a couple of questions here and there, which they answered quickly. They were at the ready. If I needed anything, literally within the hour they were back to me with the answer.”

As with any other radiant floor heating installation, ideally, the entire project is on hold until the tubing is laid and the concrete floor is poured.

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Installing Viega ProRadiant systems as part of the renovation of New York City's famous Tavern on the Green restaurant “was one of the easiest things I had to do on the job,” said Vanguard HVAC Technologies' Robert Stewart.

Graco Mechanical Expedites Office and Field Operations Using Davisware Solutions

When Graves Mechanical, Inc. formed **Graco Mechanical, Inc.**—a 24/7 service arm concentrating on preventive maintenance—the company needed a business solution that would support its essential and continuous office-to-field communication and its promise to stay constantly connected and available to customers. In addition, Graco Mechanical needed to expedite many of its processes, especially its 10–14-day billing turnaround time. With **Davisware** technology, the company reduced its billing turnaround time to 3–5 days and decreased its invoice processing time. In addition, Davisware's Remote Field Service solution allowed Graco Mechanical to reduce its gas costs by 10–20 percent.

Graco Mechanical adopted Davisware's S2K software (formerly

S2000), fully integrated Global One Fleet GPS Tracking System, and Remote Field Service modules. The modular setup allowed Graco Mechanical to purchase essential business tools as needed. The Service Dispatching & Mapping application has proven to be extremely effective for Graco Mechanical by making scheduling more efficient and increasing call-per-technician ratios.

With Davisware's Remote Field Service tools, Graco Mechanical has enhanced customer experiences, provided greater accuracy and efficiency to its accounts, simplified communication between office employees and technicians, and reduced the need for paperwork. Now, the company's customer service representatives can electronically assign and route service calls through the BEST TECH

Dispatch Board, and office staff can upload manuals to a service order. Using Android tablets in the field, technicians can receive assigned work orders; view work order details, comments, manuals, and service history; electronically fill out inspection forms and weekly timesheets; type or speak work notes; upload images from a site; verify time onsite; capture customer signatures; enter payment methods; and send all the information back to the office in real time.

Since partnering with Davisware, Graco Mechanical has increased customer satisfaction and boosted both its own and its customers' bottom lines. The HVAC company has successfully improved many of its processes, including reducing billing turnaround time and invoice processing time.

For more information, visit www.davisware.com, or call Jennifer Davis at 847-426-6000 (ext. 111).

MCAA Resources Provide Additional Information on Fabrication and Software

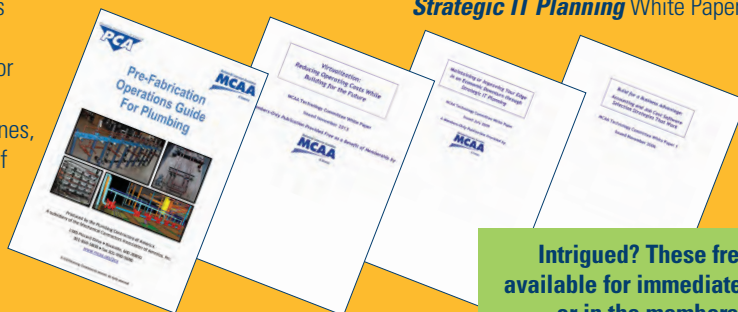
Several of the articles in this issue of *Smart Solutions* offer information about pre-fabrication and software. MCAA offers educational resources to help you learn more about these important topics. **Members receive free access to these exclusive items at www.mcaa.org/store or in the members-only area of MCAA's website.**

Whether you've been thinking about making the jump into pre-fabrication or you want to ensure that your pre-fab processes are taking advantage of the latest technology and tooling, one of your MCAA member benefits can help. The **Pre-Fabrication Operations Guide for Plumbing** introduces pre-fabrication and explains how changing your company's culture to one that focuses on fabrication can yield benefits such as significantly reduced labor costs through productivity gains, reduced onsite installation timelines, increased quality and reliability of work and reduced waste.

If you're preparing to upgrade your accounting/job cost software, the **Build for a Business Advantage: Accounting Job Cost Software Strategies That Work** White Paper will help you take the pain out of the process and turn it into one of the most valuable that your company will ever undertake.

Looking for concise, easy-to-implement tips on how to use strategic investments in IT during an economic downturn to help your company come out on the other side leaner, better-run and with a sharper edge over the competition? You'll find them in MCAA's **Maintaining or Improving Your Edge in an Economic Downturn through Strategic IT Planning** White Paper.

Whether your company is large or small, the **Virtualization: Reduce Operating Costs While Building for the Future** White Paper describes how you can invest in IT in a smarter way for your day-to-day needs while also preparing for the exponential and needed-it-yesterday capacity growth required to perform BIM...all without breaking the bank! It will help you quickly understand why the concept of "virtualization" needs to get out of discussions for the server room and into strategy sessions in the board room to help your company effectively prepare for the future.



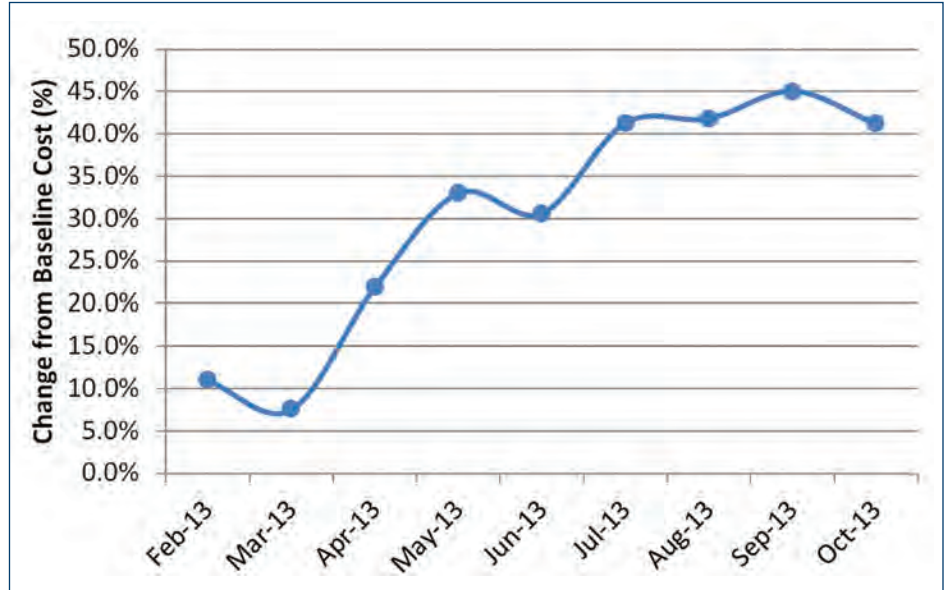
Intrigued? These free, members-only exclusives are available for immediate download at www.mcaa.org/store or in the members-only area of MCAA's website.

Western Allied Mechanical Gains Competitive Advantage by Demonstrating Rapid ROI with BuildingAdvice Technology

After completion of an HVAC controls retrofit project, Western Allied Mechanical engaged AirAdvice energy analysts to demonstrate that the upgrades yielded a return on investment (ROI) of 65 percent and a payback time of 1.5 years. Being able to demonstrate rapid ROI on HVAC upgrades gives the contractor a significant competitive advantage.

Rob Monaghan, executive vice president of Northern California-based Western Allied, is always looking for an edge to gain the trust of his customers and prospects. Western Allied has long used BuildingAdvice™, an energy services delivery platform, to help uncover PM and project opportunities justified through potential energy savings. Monaghan had been working with an Abbott Laboratories hematology facility in Santa Clara, CA. Through ongoing assessment, he determined that substantial savings could be gained by upgrading their controls systems.

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HVAC upgrades proposed by Western Allied began yielding savings immediately according to AirAdvice analysis; the trend is moving upward, and the client is ecstatic with the results.

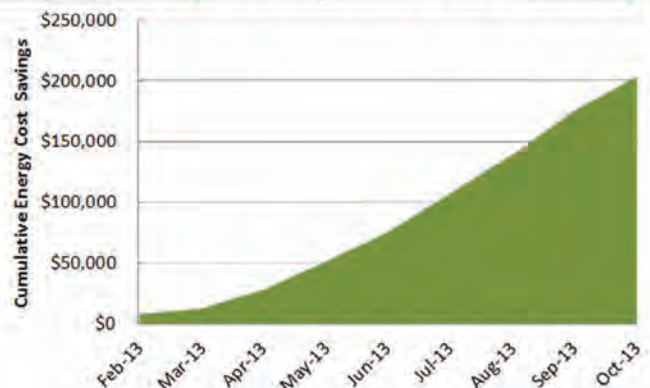
Needless to say, the customer is ecstatic with the results. Having had to convince a skeptical financial team, the facility manager felt that [Western Allied] had underpromised and overdelivered with these results.

Cumulative Savings Since Project Completion

	Predicted Cost	Actual Cost	Savings	
Since February '13	\$658,900	\$455,420	\$203,540	30.9%

The cumulative savings are normalized for weather and compare baseline costs with costs since Western Allied implemented preventive maintenance measures.

Thus far, the building's cumulative savings trend has been consistently moving upward, with an average monthly savings around \$22,600.



Western Allied relied on AirAdvice energy analysts' SavingsTracker tool to demonstrate the energy savings realized by improvements to their customer's HVAC systems. The \$420,000 project saved the customer over \$200,000 in just the first nine months.

CNA Offers Strategies for Mitigating Workers' Compensation Costs

Take a look around your company. Chances are, your workplace has changed in the past 10 years. Your workforce has changed as well. Regardless of industry, the U.S. workforce is aging. The U.S. Bureau of Labor Statistics has estimated that 25 percent of the workforce will be age 55 or older by 2020. This aging workforce brings with it the potential for escalating workers' compensation costs, particularly since older employees typically experience more severe workplace injuries and illnesses than younger ones.

One of the most effective ways to reduce these costs is through a commitment to workplace safety. A commitment to safety is the key to a successful workers' compensation process and cost containment. A successful process creates a better work environment and improves productivity. A

commitment to workplace safety makes your company an attractive place to work, helping you retain employees and reduce employee turnover.

Below are some workers' compensation mitigation strategies that you should keep top of mind during the time of hire, during day-to-day operations, and when an injury occurs in the workplace.

Time-of-Hire Considerations

Make every effort to ascertain that new or potential hires are physically capable of handling the requirements of the job.

A job interview provides an opportunity to gauge a potential employee's safety commitment. Including a section on your company's safety policies and procedures in employee orientation reinforces your safety culture from day one.

A new or potential hire should be mentally capable of understanding and consistently applying safety training, procedures, and protocols.

Companies with safety in their DNA want to make sure they hire employees with the same mindset.

Understand that age, obesity, and co-morbidities will generally result in more time and treatment for injured workers to return to full duty after an accident.

A more extensive transitional duty program may be necessary to mitigate off-duty status.

Day-to-Day Strategies

Build a safety culture.

A safety-focused work culture attracts safety-minded employees. With a strong safety culture, both

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Alliantgroup Offers Insight on R&D Tax Credits for Mechanical Contractors

For those MCAA members looking for a practical way to grow their business, the answer may lie in an often overlooked section of the tax code. The research and development (R&D) tax credit—an incentive that rewards internal improvements made to a company's products, processes, and techniques—has been around since 1981. Producing tax relief at a rate of nearly \$10 billion a year for U.S. businesses, it is one of the most generous and lucrative tax incentives offered by the federal government.

In one example, a mechanical contractor received \$245,099 in federal credits for innovative and practical solutions made while working on the dormitories of a college. The company improved its designs and equipment while in the field to ensure that the dormitories' mechanical systems were efficient and operational. Another contractor

received \$81,696 in federal credits for a number of projects, including fabricating and installing a new HVAC system and asbestos treatment. Yet another received \$33,809 in federal credits and \$10,477 in state credits for projects including the design and installation of a new generator and the design and installation of a new 1,000-ton chiller.

The R&D tax credit was designed to reward practical solutions for the kind of problems a mechanical contractor deals with on a daily basis. However, when it comes to R&D, people tend to think of scientists in white lab coats. You don't need to reinvent penicillin or put a man on the moon to qualify. The problem-solving that occurs in the field or onsite—even if it is just a way to improve a building's plumbing or HVAC—is also eligible for R&D tax credits.

The R&D tax credit has been around for over three decades. It has bipartisan support in Congress and has been supported by every administration since 1981. In addition, 38 states have introduced their own versions of the incentive, and a number of court rulings have further expanded the reach of the federal credit. Among those applicable to mechanical contractors are *Trinity Industries, Inc. v. U.S.*, a ruling allowing businesses to claim the credit for their designs, even if said building designs are under contract with a client the firm is working for, and *FedEx Corp. v. U.S.*, a ruling providing that businesses only need to prove a substantial and economically significant reduction in cost or improvement in speed—in short, your work only has to be “new to you,” not “new to the world.”

For more information, visit www.alliantgroup.com.

Hill York Meets Growing Campus' Energy Demands with BAC's Innovative, Efficient Ice Thermal Storage



Since Hill York installed the BAC ice thermal storage system, which stores energy as ice during off-peak hours, NSU's energy costs are less than \$8 per hour during peak hours.

With 26,000 students and a growing campus, Florida's Nova Southeastern University (NSU) was challenged with finding a reliable cooling system that kept both expenses and the environment in mind. **Baltimore Aircoil Company (BAC)** and **Hill York** mechanical contractors worked together to find a solution for NSU, finally settling on BAC's innovative ice thermal storage. Now, NSU is reducing their peak electrical demand and saving electricity costs while remaining environmentally sensitive.

Located in steamy Fort Lauderdale, FL, NSU is one of the nation's largest independent universities. In 2009 NSU began phase 1 of its expansion project and set out to find a cooling solution for their growing campus. Their goal was to provide chilled water to the entire university from one central energy plant. Five years ago, Hill York installed the first BAC

ice tank, with a cooling capacity of 2,220 tons and 19,800 ton-hours of ice storage capacity.

Now, half a decade later, Hill York and BAC have come together again to help NSU with phase 2 of the cooling system as the campus further expands, installing two more BAC coils. Chip Lafferty, CEO of Hill York, commended the partnership with BAC, saying it was fostered around trust and teamwork, making the project at NSU not only a successful installation but a successful collaboration as well.

Ice Thermal Storage Cuts Costs

The ice thermal storage system used at NSU is a sustainable alternative to traditional cooling that stores energy as ice during off-peak hours (usually at night), allowing the system to take advantage of cleaner and more efficient energy sources. Ice thermal storage systems are up to 35 percent

more efficient than traditional cooling systems and offer several unique qualities. For example, because ice is formed at night, using ice thermal storage avoids the high cost of the electricity needed to run the chiller during peak hours.

The local power company offers lower rates during off peak hours to help customers save on electric bills. With melting ice providing the cooling needs for the campus, the plant is able to achieve a running cost of less than \$8 per hour during peak hours, significantly less than that of a traditional cooling system, according to Kevin Gamble, central plant supervisor for Hill York.

Environmentally Friendly Solutions

Universities, hospitals, sports stadiums, and even office buildings around the world have been using ice thermal storage for years to shift their energy load. By lowering peak demand, ice thermal storage can offset the need to build new power plants, helping to reduce greenhouse gas emissions. According to John Nix, senior engineer at Florida Power and Light, thermal energy storage has helped to avoid building 13 power plants in Florida alone in the past 20 years. Additionally, an ice thermal storage system can help qualify for a number of LEED® credits in the following areas: energy performance, refrigerant management, acoustic performance, and demand response.

Room to Grow

The NSU central energy plant has a total cooling load of approximately 1,800 tons with the 16 buildings it currently serves. The second phase of the NSU project is finally coming to a close, and in two months the fourth and final ice tank will be installed. Each tank has a maximum capacity

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Greenheck Offers Ten Tips to Save Time and Money on Fan Installations

When it comes to installing fans, contractors ask 1) Where can I save money? 2) Where can I save time? and 3) How can I reduce problems after the “equipment has been installed? There is nothing worse than hearing You are short on air because you installed it wrong.”

Saving money is critical for success, but the lowest fan bid does not always equate to the lowest installed cost. **Greenheck Fan Corporation** products have timesaving features and accessories that result in money savings for contractors. In reality, the contractor provides the equipment, the labor to install the fan, and all required components. If the manufacturer of the equipment can provide an option, accessory, or feature already installed, the contractor’s overall cost will be reduced. The following tips for installing fans properly to ensure effective airflow can save you time and money.

1. Make sure there are no obstructions close to the inlet or outlet of the fan (e.g., a damper, elbow, duct transition, or guard). Typically, allow 2.5 duct diameters (approximately 2.5 wheel diameters) of space away from both ends of the fan.
2. Avoid placing a damper too close to the inlet or outlet, which will cause an uneven flow of air.
3. Adding extra guarding can restrict the airflow through the fan. Avoid expanded metal guards; use thin wire guards if possible.
4. Avoid damper actuators that block 25 percent or more of the free area. They can add up to 1/2” of static pressure. Typically, large damper actuators can be mounted outside the duct.
5. Avoid elbows and transitions directly after inline fans. A good solution for commercial inline fans is to use a side discharge option. The fan acts as the elbow—the air discharges out the side of the fan, preventing poor outlet conditions.
6. Placing a damper too close to the propeller of a sidewall propeller fan will cause vibration. As a general rule of thumb, have at least one half of a propeller diameter between the damper and the propeller.
7. Be certain the wheel is rotating in the correct direction. An exhaust fan with a backward inclined wheel will exhaust air, even if it is rotating backwards. Remember, you have a 50/50 chance of wiring a three-phase motor correctly the first time. To change the rotation, reverse any two of three leads.
8. Utility sets are designed so the fan’s discharge can be rotated, eliminating the need for an elbow at the outlet. Performance will be greatly reduced if you do not use

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Built-In Freeze Prevention Makes Woodford Rooftop Hydrant Ideal for Colorado School

Ease of installation and reliability made the **Woodford RHY2-MS** roof water hydrant the ideal choice for a school in Parker, CO. Roof hydrants provide access to rooftop water, which is then used to clean condenser coils, windows, cooling towers, green roofs, and other types of rooftop equipment.

Because the installation was in Colorado, hydrant freezing was a concern. The last thing a contractor wants is a leaking hydrant on the roof. The RHY2-MS features a built-in vent that allows automatic draining. There is no need to drain the hydrant for freeze protection, even with a hose attached.

Installing the Woodford roof hydrant at the school was simple. Its heavy-duty cast-iron mounting system can be installed by the roofer or plumbing contractor, and the hydrant can be installed later during the water piping process. The mounting system secures above and below the roof deck, providing exceptional strength and security—which is important when the hose is stretched or pulled and in potentially harsh rooftop weather conditions. The product comes with a 2-degree shim for pitch adjustment.

Maintenance and repairs are easy with the RHY2-MS. All repairs can be made

continued on page 17



Ease of installation and reliability made the Woodford RHY2-MS roof water hydrant the ideal choice for a school in Parker, CO, where hydrant freezing is a concern.



Hill York used BAC's innovative ice thermal storage to meet NSU's demands for a reliable cooling system that kept both expenses and the environment in mind. Here, a truck delivers the BAC coils.

BAC

continued from page 10

of 2,220 tons, allowing NSU plenty of room to grow with 8,800 total tons of cooling capacity for their current load and future cooling plans. Lafferty noted, "NSU has plans for a research facility and a university park plaza and are waiting for approval on a hospital. NSU chose to install the cooling system as an aggressive

growth campaign and as assurance for room to expand."

The central energy plant began with less than 20,000 ton-hours of ice capacity. When installation is complete, it will have a total of 79,200 ton-hours, making it one of the largest thermal energy storage

systems in the world. This fall, NSU will name the central energy plant the Robert S. Lafferty, Sr., Central Energy Plant after Hill York's founder, the current CEO's grandfather.

For more information, visit www.hillyork.com.

PENTA

continued from page 4

While functionality is important, the ongoing relationship between the two companies was also considered critical. "From the start, we knew we wanted to work with a provider with industry experience who views us as a long-term partner," said Koester. "The system has been really well received and our experiences with the implementation and support teams have been very positive."

"Now when someone needs project data, they get the information themselves. They get exactly what they want, when they want it, right from PENTA."

—Robert L. Koester, Chief Financial Officer, Murphy Company

Koester recognizes the competitive advantage that PENTA provides Murphy Company. "We need to use every tool at our disposal to add value for our customers," he said. "We

couldn't do everything we do without PENTA."

For more information, call 262-782-7700 or visit www.penta.com.

Tips from WennSoft for Getting the Most Out of Your Existing Software

When a business has been using the same software system for years, it is easy for employees to get trapped in a cycle of doing things the way they have always done things. It does not occur to them that there are different—and sometimes better—ways to tailor their software to fit their needs.

When a software system is first implemented, it is designed to meet the needs of the business at that time. But soon, two things happen. First, the software changes. Most software companies are continuously improving their software and often provide free upgrades. The improvements typically include a lot of newer functionality. Second, the needs of businesses change. A function that was not needed just a few years ago may now be the company's key to success.

When it comes to discovering previously unused features of your software, how do you figure out what is available and what could be of the most benefit to your company? First, step back and

look at your software as if you were buying it for the first time. Does it fit the needs of your company today? Where are your areas of greatest inefficiencies? Here are a few other ways to educate yourself about all the features of your existing software:

Take advantage of online demonstrations and e-learnings provided by your software vendor. Even executives should periodically reeducate themselves about how their systems can work. If your company had a tool in the field that your technicians were only using half right, you would immediately insist that they learn how to fully utilize that tool. Your software is no different.

Ask for a system review. Many software companies will spend time at your company shadowing your users and reviewing current processes, then provide advice on areas for improvement. These checkups are designed to provide recommendations tailored to your specific business needs.

Network with other companies using the same software. Talking to a similar business about the way you each use your software can be invaluable. In talking through each other's successes and failures, you will learn what to try and what to avoid. If you do not already know another company that uses the same system in a similar way, ask your software company to connect you with one or more businesses.

Attend a users' conference. Many software companies host an annual customer conference that brings together a diverse mix of different users of that company's software. In addition to providing opportunities to meet and network with other users, these events expose users to new software functionality. Breakout sessions showcase new product features, and experience centers offer the opportunity to test drive those new features.

For more information, visit www.wennsoft.com.

JAY R. SMITH

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researchers who would be using the space involved at the start of construction was the better process. It was easier to redesign each space than to shell it out and make the adjustments after construction.

Products for the Future

Another challenge, but perhaps the easiest to overcome, was the specification of products. With all the individual laboratories in the building, most drains and piping had to be acid-resistant.

Whitehead said that you could not just do your specification based on the

needs of particular researchers lined up to come to the facility and the type of research they were planning to do. You had to plan for potential future research and design to accommodate the "worst-case scenario" to ensure that anyone coming into the lab, regardless of the work they were doing, would have the appropriate plumbing in their lab space.

C.J. Erickson worked closely with Jay R. Smith Mfg. Co. through the constant changes to spec out the appropriate drains, piping, and eye wash stations. In addition to specialty products, Jay R. Smith Mfg.

Co. also supplied water closet carriers, urinal supports, roof drains, and wall hydrants for this project.

The job is now sixty-percent complete, and Whitehead said they are on track to finish up by June 2015.

Whitehead offered his take on the challenges faced while building the research center: "There's a saying: 'There is no hill for a climber.' These are all just challenges you need to manage to complete the job."

For more information, visit www.jrsmith.com.

AUTODESK

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Thanks to building information modeling (BIM) and prefabrication technologies, Cannistraro installed in one day the temporary systems it needed to ensure a smooth transition for the rest of the project.

“Given our limited time to install the temporary systems and the large number of systems we had to connect, BIM-enabled prefabrication was a perfect fit on this job,” said Cannistraro’s project manager Eric Beck. “We used Fabrication CADmep software to create 3D models of the existing plant, the temporary systems, and the new systems. This helped us coordinate the new HVAC systems and hangers with the existing connections and services and prefabricate a tremendous amount of work.”

The project was part of a major infrastructure overhaul involving the development of a new utility corridor and roadway network for the 175-acre campus overlooking Boston Harbor. As part of the project, the school’s existing 40-year old central utility plant will be upgraded to a more energy-efficient primary and secondary pumping arrangement to serve the campus’ hot and chilled water utility loop. The upgrade includes four 2,000-ton centrifugal chillers, three 800-horsepower hot water boilers, and one 400-horsepower hot water boiler. The new hot water system has piping sizes up to 16” in diameter and the chilled water system has piping up to 30”.

Keeping Campus Up and Running

“The campus operates 24 hours a day, all year long, which complicated the logistics of the project and installations,” explained Beck. “To keep the campus running, we had to install temporary chillers and repipe the 400-horsepower boiler to serve

“With support from [Autodesk] Fabrication CADmep software, it took half the time to create [several hundred spool] sheets than it would using 2D drafting software, and the quality is better.”

— Colin Detra, HVAC Coordinator, J.C. Cannistraro

the campus while the balance of the heating plant was upgraded.” The installations had to be done within a very small window: a weekend in the spring to install system isolation valves for both the 400-horsepower boiler and 30” chilled water valves to isolate the campus/temporary chillers from the central utility plant’s chiller piping upgrades.

Furthermore, many services running through the plant were not affected by the HVAC update. These systems—including electrical, domestic water, and fire protection—had to remain undisturbed while the HVAC systems were upgraded. “We had to fit a large amount of substantially-sized piping through this maze of existing services, without reliable as-built documentation for the plant,” said Beck.

Tight Quarters

In addition, the existing plant is below ground and features concrete construction, including the roof. “We were not permitted to attach hanger rods to the underside of the deck, only to the sides of the concrete beams that were supporting the deck,” said Colin Detra, Cannistraro’s HVAC coordinator on this project. “This limited our pipe hanger locations, requiring careful layout of the new piping systems.”

Virtual Layout and Coordination

Instead of traditional tape measures and plumb bobs, Cannistraro captured the existing conditions of the plant with laser scanning technology. “I used the resulting point cloud as a reference to build a model of the existing plant, turning everything (from 3/4” conduits to 30” chilled

water piping) into 3D objects,” said Detra. “Then I used this model and the software’s 3D modeling environment to precisely layout all the new systems—more effectively coordinating the 50-plus connections and finding suitable locations for the hanger rods, while helping avoid interferences with existing services.”

Cannistraro also used the Fabrication CADmep software model to help virtually plan and coordinate demolition and installation, phase by phase. “For example, while we installed the hot water systems, we knew the chilled water piping would still be there,” said Detra. “So in our planning model, I displayed the new hot water and existing chilled water systems, as well as all unaffected services, to verify the layout and minimize clashes during installation. Later on, I did the same thing to route the new chilled water system—toggling off the old chilled water system and toggling on the new hot water piping and unaffected services.”

Beck noted, “We use prefabrication whenever possible. It gives us a controlled environment and lets us perform months of work beforehand—helping to increase project quality and safety while minimizing project cost and schedule.” Fabrication CADmep software plays a critical role, helping Cannistraro automatically produce intelligent shop drawings from the project model with the necessary detail for fabrication, including manufacturer-specific content and components.

“We generated several hundred spool sheets for this project,” said Detra.

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AIRADVICE

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Western Allied proposed a number of measures, including the following:

- Taking control of the chiller set points, hot water set points, and the start/stop mechanisms on both
- Putting variable frequency drives (VFDs) on both systems to manage speed and startup control
- Revising sequencing on both systems
- Adding VFDs to the control towers

Monaghan and his team convinced the customer to move forward based on the simple payback of the project, which he projected would pay for itself within three years based on measured energy savings. On completion of the project, AirAdvice's energy analysts deployed SavingsTracker™, a proprietary measurement and verification tool, to evaluate the results.

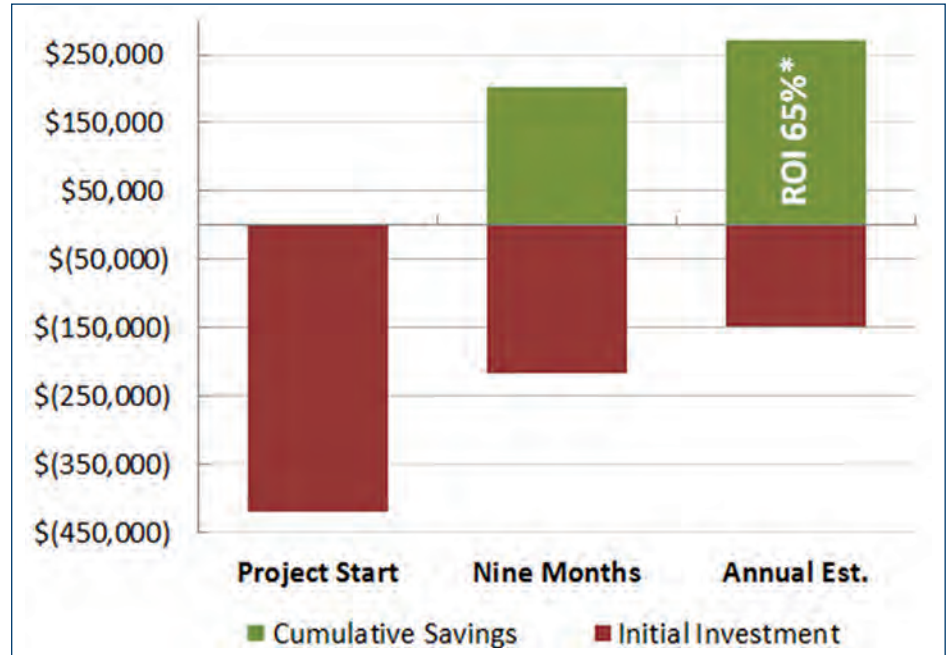
After building a baseline energy model for the period prior to the retrofit project, the AirAdvice analysts, working with the Western Allied team, assessed the post-implementation impact on energy costs. From February 2013 to October 2013, the study's window of analysis, the project had already lowered energy

“The combination of our team, the BuildingAdvice suite of tools and services, and these kinds of results positions me well in a very competitive market.”

— Zach Denning, Controls Sales Representative, Western Allied

utility bills from the predicted cost of \$658,900 to \$455,420—saving the customer \$203,480.

In only nine months, Western Allied's measures had recovered almost half the entire project cost of \$420,000, well ahead of the projected savings budget. Average



Western Allied gains a competitive edge by using AirAdvice technology to demonstrate energy savings and ROI. They will use the 65-percent ROI achieved recently by one customer as a case study to convince other skeptical clients about the benefits of PM and upgrades.

monthly savings were over \$22,000 per month. While initial savings at project implementation were only 10 percent, by the end of the study period, savings were trending as high as 45 percent.

The average savings over the nine-month period were used to generate

a conservative ROI estimate. Using this method, the estimated year-one savings is \$271,300, yielding an ROI of 65 percent and a payback of 1.5 years.

Needless to say, the customer is ecstatic with the results. Having had to convince a skeptical financial

team, the facility manager felt that Monaghan and his team had underpromised and overdelivered with these results, building credibility, a compelling case study, and a long-term reference.

Zach Denning, controls sales representative at Western Allied, said, “I feel like we achieved a lot in this project. First, I’m proud of our team. We delivered a quality project that exceeds all expectations. Second, I now have a case study I can use to open doors with a lot of prospects that are just as skeptical about savings claims made by my competitors. The combination of our team, the BuildingAdvice suite of tools and services, and these kinds of results positions me well in a very competitive market.”

For more information, visit www.airadvice.com.

SLOAN

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debuted Cubs Park, its preseason stadium near Phoenix.

W.J. Maloney of Phoenix was tapped for the 14-month design/assist project, which had to be finished in time for the 2014 preseason. Before the Cubs Park project, W.J. Maloney had installed Sloan plumbing in the Los Angeles Dodgers' portion of the Camelback Ranch Spring Training Complex in Glendale, AZ, as well as in other local commercial facilities.

The firm's good experience with Sloan over the years made the plumbing choice for Cubs Park a logical one. "We've used Sloan on other projects and never have had any problems," said Alan Boughton, vice president of construction for W.J. Maloney.

It was the Cubs organization, however, that really went to bat for Sloan, so to speak. The Cubs specifically requested that the Illinois-based Sloan, which has manufactured its flushometers in the Chicago area for more than 100 years, supply plumbing for its new park.

Although saving water is a major issue for plumbing projects in Arizona—and Sloan's water-efficient products help reduce water consumption—that was not a top consideration for Cubs Park. "Because the restrooms get used heavily for one month out of the year, we were looking more for durability," said Boughton. Arizona's poor water quality can also take its toll on plumbing, and Boughton knew that Sloan systems could stand up to the challenge.

The fact that the Sloan systems could save the park water was a bonus, as well as save money and improve aesthetics.

Cubs Park has installed 188 wall-mount water closets, plus 82 ADA-compliant water closets with Royal® flushometers

and 124 complete Sloan urinal systems. The public restrooms have Sloan wall-hung vitreous china lavatories; the more upscale clubhouse and private restrooms have countertop lavatories.

The Cubs Park's public restrooms far surpass those at Wrigley—especially

the notorious trough urinals in the men's restrooms. Cubs fans treated to the modern restrooms in Cubs Park may find it easy to forgo that Wrigley tradition.

For more information, visit www.sloanvalve.com.

CNA

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management and employees are engaged in the process and share responsibility for accident prevention and effective injury management.

Encourage collaboration and communication to promote safety as the priority.

When collaboration and communication are encouraged, employees feel comfortable voicing their suggestions and concerns and may be involved in developing and revising safety procedures. If an accident happens, everyone knows what to do and how to report the incident.

Treat "near misses" as accidents.

Conduct defect check processes and root cause analyses, and develop the best safety solutions for operational activities.

Share knowledge.

In states where it is permitted, inform injured workers and managers about which occupational medical providers in the area are available to treat work-related injuries.

When an Injury Occurs

Contact the insurance company as soon as possible after an occurrence.

Prompt reporting assures that the necessary medical attention is provided and a return-to-work process is put into place. Claims reported to the carrier within three days of injury

cost up to 20 percent less than claims reported outside that time frame.

Conduct a thorough investigation to determine what caused the accident and make workplace adjustments to prevent similar accidents.

Carriers may need your support in validating the accident or to pursue subrogation against a third party. *Don't wait to complete this step before reporting to the carrier.*

Maintain regular contact with the injured employee throughout the course of recovery.

Management should accompany the injured worker for treatment and should make sure that the medical provider is aware of the availability of transitional or modified duty when the injured worker is capable of performing that duty safely.

For more information, please contact your local independent agent or visit www.cna.com/planet.

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GREENHECK

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- 2.5 duct diameters of straight outlet ductwork.
- For fans with no inlet duct, the distance between the fan's inlet and a wall or housing must be at least one inlet diameter to ensure proper performance.
 - When wiring the fan motor and the damper actuator, confirm that the wiring is correctly run so it does not get caught in the damper, preventing proper operation.

From a performance perspective, remember that the fans were originally tested under ideal conditions. If the fan is not installed the way it was tested, it will not perform as specified. If you encounter a jobsite problem, one of these timesaving installation tips may help you quickly resolve the issue.

For more information, visit www.greenheck.com or contact Mike Wolf, product manager, fans and ventilators at mike.wolf@greenheck.com.

WOODFORD

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from the top of the hydrant; it is not necessary to remove the hydrant. The Woodford RHY2-MS roof hydrant has an ASSE 1052 double-check backflow preventer that can be field tested.

Woodford also offers a freezeless sanitary roof hydrant, the SRH-MS,

that does not require a drain, and a mild-climate roof hydrant, the RHMC-MS, for nonfreezing environments.

For more information, visit www.woodfordmfg.com or call 719-574-1101.

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Look to the MCAA *Smart Solutions* archive at www.mcaa.org/news/smartsolutions.

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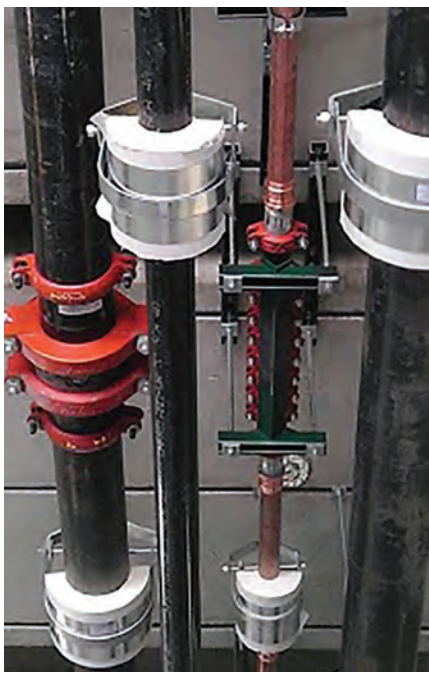
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March 8-12
Wailea, Maui, Hawaii

Planning details will be
mailed in September.

VICTAULIC

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the installations, Legacy Mechanical decided to avoid welding whenever possible on the project. This decision helped eliminate the burden of stringent safety regulations as well as the potential for fire hazards and extra man-hours required for fire watches. In addition to increased safety on the jobsite, removing welding from areas such as the two subgrade mechanical rooms also improved overall efficiency on the project.



Legacy Mechanical used Victaulic Style 155 Expansion Joints (shown here) to address space constraints in Union Station's subgrade bus box and reduce installation time.

“By using grooved mechanical systems and eliminating welding, we were able to speed up productivity, increase cost savings, and minimize field labor by at least 10 percent,” said Matthew Archuletta, project manager at Legacy Mechanical.

Increasing Productivity

Additionally, Legacy Mechanical used the manufacturer's installation-ready™ Quick Vic Style 107

“We know we can trust [Victaulic] to help us maximize productivity and address compressed work schedules, while increasing worker safety.”

—Scott Krum, President, Legacy Mechanical

Rigid Couplings and QuickVic Style 177 Flexible Couplings. The patented technology is twice as fast to install as standard grooved couplings, up to 10 times faster than welding, and six times faster than flanging, while offering the same high-performance capabilities. The couplings expedite the project construction by requiring only standard handheld tools for assembly and by reducing installation steps. With no loose parts and no need to disassemble before installation, the coupling is simply pushed into the grooved end of the pipe, fitting, valves, or accessories as a fully assembled unit and joined by a second grooved end and tightened. In addition, no flame or heat is required for installation, furthering project efficiency and increasing jobsite safety.

Prefabrication also played a critical role in ensuring the project's installations stayed on course. By roll grooving most of their piping in a prefabrication setting, which largely consisted of 20' to 40' lengths of straight runs, Legacy Mechanical significantly increased productivity. Because the bulk of the work was executed in a controlled environment at the Legacy Mechanical prefabrication shop, the team had fewer on-site field hours when assembling the piping. This approach also meant fewer overall man-hours and fewer workers onsite, reducing the risks of accidents on the job, while improving safety and efficiency. Krum said the practice helps Legacy Mechanical remain competitive.

In addition to using grooved mechanical systems, Legacy Mechanical also engaged the Victaulic Engineering Services Department for design recommendations related to expansion joints.

With tight spaces in the subgrade bus box, the firm wanted to eliminate large welded expansion loops requiring a perpendicular louver arm. As an alternative, Legacy Mechanical installed Victaulic Style 155 Expansion Joints and Mover Expansion Joint Style 150. The linear grooved mechanical systems not only saved space and reduced installation time over welding but also eliminated the need for field welding.

Partnership Pays Off

Working with Victaulic paid off for Legacy Mechanical. “The success we had on the Union Station project once again confirms why we continue to go to Victaulic for our piping needs,” said Krum. “In addition to increasing our productivity, they also have the ability to help us meet compressed timeframes, increase jobsite safety, reduce man-hours on the job, and provide us with greater design flexibility—all while staying under budget.”

In addition, Legacy Mechanical improved productivity during the commissioning and pressure-testing of the thousands of feet of piping. According to Archuletta, testing for each system of the phased project was initially planned to take two to three weeks, but with Victaulic couplings the firm was able to finalize each phase of testing within a week.

“On the Denver Union Station project, we reduced our testing time in half, if not more,” said Archuletta. “That allowed us to stay ahead of schedule and reduced our man-hours on the job, translating into increased productivity.”

For more information, visit www.victaulic.com.



Vanguard HVAC Technologies found that the ease of installation of the Viega radiant floor heating meant that the rest of the project to restore this New York City landmark could move forward more quickly.

VIEGA

continued from page 6

The faster the radiant heating portion of the job can be completed, the more quickly the rest of the project can get under way.

“Installing the radiant tubing was one of the easiest things I had to do on the job,” Stewart said. “The insulated panels are great because they line everything up. It’s a great product to work with.”

Cost Savings

Viega offers a variety of panel options—insulated, uninsulated, assembled, and unassembled—along with tracks and plates. Insulated panels, which Vanguard HVAC

Technologies installed at the Tavern on the Green, are a versatile radiant option that incorporates insulation, vapor barrier, and a grid system to secure tubing all in one convenient product. Compatible with ViegaPEX Barrier tubing in sizes 3/8”, 1/2” and 5/8”, Viega insulated panels allow you to walk the tubing in easily. The approach also saves on material costs, because you don’t need fasteners.

Viega ProRadiant heating and cooling solutions are designed to integrate with other Viega systems, such as Viega ProPress®, Viega MegaPress®, and Viega PEX

solutions. Viega is the only manufacturer to offer press fitting systems in multiple materials, including copper, stainless, carbon steel, and high-performance polymer. The Smart Connect® feature helps installers easily identify unpressed connections, and Viega’s Zero Lead™ alloy is specifically engineered for pressing.

“I definitely recommend it for its ease of installation,” Stewart said. “To anyone thinking about installing radiant, Viega would be a company you should look at.”

For more information, visit www.viega.us.

AUTODESK

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“With support from Fabrication CADmep software, it took half the time to create these sheets than it would using 2D drafting software, and the quality is better.” In addition, the Fabrication CADmep software model has the intelligent data to drive automated welding machines, translating to almost 9,500” of X-ray-quality welding on this job.

Beating the Clock

The project is currently in the late stages of completion. “For the temporary installations, we didn’t even need the whole weekend,” said Detra. “We had the systems installed and running within a day.”

“We pay attention to details and strive to be the professional standard for

quality and reliability in mechanical construction,” said Beck. “Autodesk Fabrication CADmep software helps us achieve that goal. We are more accurate, efficient, and deliver more innovative building strategies.”

For more information about Autodesk Fabrication software, visit www.autodesk.com/fabrication.



Support the Suppliers Who Support Your Association

When choosing a product or service for that next bid, give an extra edge to the companies that support your association.

Members of the Manufacturer/Supplier Council play an increasing role in MCAA's commitment to lifelong learning by participating in a number of educational ventures. Over the past several years, the Manufacturer/Supplier Council has had the opportunity to cooperate with MCAA initiatives that produced or are in the process of producing some of the association's most valuable educational products.

In addition, MCAA's Supplier Partners support our annual convention through their sponsorships, and their participation at the exhibit. They also publish the semiannual *Smart Solutions* newsletter to showcase new technologies and promote cost-saving and productivity-enhancing applications.

Learn more about MCAA's Supplier Partners and find contact information for the key individuals who can assist with your next project in the *MCAA Membership Directory & Buyer's Guide*. Then, plan to meet your supplier partners in person at the Annual Manufacturer/Supplier Exhibit at *MCAA 2015*. You will have an opportunity to learn about new products, see new technologies demonstrated, find new services, get solutions to your challenges, or stop by just to say hello and renew acquaintances.

Supplier Partners also can be found at MSCA's annual conference and select MCAA meetings. And, their websites are easily accessible via links at www.mcaa.org/directory.

When contacting MCAA's Supplier Partners, remember to thank them for all they do for your association.

