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FROM THE ASSOCIATE EDITOR

CARMEN CAPOCCIA



CBO Editor
Megan Beam

The Construction Business Owner Magazine & Digital Media (CBO) team is pleased to welcome Megan Beam as our new editor. Beam holds master's degrees in English literature (Montevallo University) and historical theology (Wheaton College). She previously worked for Milo's Tea Company, where she served as a senior creative manager.

It's my pleasure to pass this editor's note off to Beam so she can introduce herself to you:

I am excited to take on the role as the new editor of CBO. Though I am new to the construction industry, I bring with me an eagerness to learn and connect with each of you, first and foremost about what you love about this brand, as well as what you would love to see more of as we collaborate in future issues.

My 15-year career has spanned multiple industries from education to manufacturing, all utilizing my natural ability to connect information, solutions and innovation to any and all audiences. My personal passion is and always will be for other human beings and how they spend their days. And as you are spending your workday — either in the field or behind a screen — to me, you are part of the CBO community. And I would love to hear how we can be of valuable service to you.

I believe deeply in collaboration and mutual exchange of insight and wisdom as guidance for how we create sustainable businesses and infrastructures for the future. Community is and has always been our most valuable resource. As we live in a state of constant evolution, my hope for the future of CBO is to remain a steadfast source of helpful, engaging and ultimately meaningful connection with others across the industry.

In the pages of this issue, you'll find advice for improving your estimating processes. From preconstruction to data analysis to specialized software, discover how your business can achieve excellence.

This fall promises to be a busy one. The Utility Expo takes place Sept. 26-28 in Louisville, Kentucky. You can register for the biennial show at theutilityexpo.com. The International Risk Management Institute (IRMI) holds its annual Construction Risk Conference Nov. 12-15 in Orlando, Florida. Last year's conference sold out early, so don't forget to register at irmi.com.

Thank you for reading,

Carmen Capoccia

CONSTRUCTION[®] BUSINESS OWNER

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THE BEST IN THE BUSINESS.



Construction Business Owner Magazine is honoring some of the construction industry's best with a special section dedicated to outstanding women. From GCs to CEOs and specialty trade workers, your nominations will help us showcase the hardworking female professionals who are advancing the industry.

If you work with a woman who is making the industry a better place, we want to know about her. Visit constructionbusinessowner.com/owic2023 for more details on how to submit a nomination. Nominations close Sept. 15, 2023.

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► Construction Procurement Platform Kojo Expands Into Mechanical

Kojo Technologies Inc., a materials and inventory management platform for the construction industry, announced its expansion to serve mechanical contractors. Since launching the offering, mechanical contractors have sent more than 6,000 field requests to the office and created 17,000 purchase orders worth \$50 million in Kojo. The mechanical contracting market in the U.S. employs nearly 400,000 workers, and that number is expected to grow by 5% through 2031. Kojo's expansion into mechanical follows the launch of its Automated Invoice Matching product, which streamlines the accounting process for commercial trade contractors. This builds on Kojo's purchase order and delivery functionality, making Kojo an all-in-one platform that allows customers to manage the full end-to-end materials procurement process. Since its launch in Q2 of 2023, construction companies have used Automated Invoice Matching to process \$9.2 million in invoices, catching mistakes on 27% of them. Kojo announced their Series C in September of 2022 and has now powered more than 10,000 construction projects across 47 states, saving customers 75% of manual entry time and reducing materials waste on jobsites by up to 90%. Visit usekojo.com.

► Skanska Promotes Todd Reeves to North Texas Vice President – Account Manager



Todd Reeves

Skanska, a global construction and development firm, announced the promotion of Todd Reeves to vice president — account manager in North Texas. As a leader in North Texas construction, Reeves is instrumental in the development of some of Dallas-Forth Worth's most innovative and community changing projects that will support the area's exponential growth. Reeves began his construction career at

Skanska as an intern and now has 24 years of experience in commercial construction under his belt. He has also served on construction teams for clients including IBM, Royal Bank of Canada, UT Systems, DFW Airport and several confidential clients. Skanska is one of the world's largest development and construction companies. Skanska's U.S. office headquarters is in New York City, and the company has 29 additional offices around the country; the company's construction division generated \$6.9 billion in revenue in 2022. Visit skanska.com.

► Terex Utilities Uses Green Energy to Make Aerial Lifts & Digger Derricks in South Dakota

Terex Utilities announced that 100% of the electricity that powers its facilities in South Dakota comes from renewable resources — and has since Jan. 1, 2022. "This was made possible through the purchase of Renewable Energy Certificates (RECs) from our local utilities," said Eric Moore, facilities manager. An REC is created each time one megawatt-hour of renewable energy is generated and made available for consumption. The RECs are verified and tracked by the Midwest Renewable Energy Tracking System (M-RETS) as proof of the renewable generation. Utilities use RECs to comply with state environmental standards and goals, and can offer RECs to customers to offset any fossil fuels in their power supply mix. The use of RECs supports investments in additional carbon-free energy production. The purchase of RECs enabled Terex Utilities to reach 100% renewable energy consumption in Watertown, South Dakota. Terex Utilities is a business group within the Terex Aerial Work Platforms business segment of Terex Corporation. Visit terex.com/utilities.

► Hoar Construction Expands to West Florida

Hoar Construction's Florida division announced an increase to its footprint

and the opening of a second office location in Tampa, Florida. Over the past 25 years, the company has established a solid reputation in Florida with its Orlando-based office across multiple sectors. This office in Tampa will be the company's 10th office nationwide. The new office will enable the company to better serve clients and projects within the Tampa and Sarasota area. Hoar Construction formally established an office in Florida in 1998, but work across the state dates to the 1960s. Initially building for large retail developers throughout the state, the business evolved to serve private clients within the cultural, entertainment and hospitality sectors and is presently building for health care systems and multifamily developers. Hoar Construction hired Matt Valentine as project executive to lead the sales efforts and grow relationships in the Tampa area in 2021. Valentine's long resume within the Tampa area will continue to guide the direction and growth of this new office. Visit hoar.com.

► HCSS Partners With Gearflow to Enhance Heavy Equipment Parts Procurement

HCSS, a provider of software that helps heavy civil businesses streamline their operations, and Gearflow, a company that streamlines the parts procurement process for construction fleets, announced a strategic partnership. Gearflow's Parts Hub Pro procurement platform will integrate with HCSS Equipment360, a heavy equipment maintenance solution. The partnership will close the loop for fleets from work order to invoice, resulting in a seamless, end-to-end parts procurement workflow that reduces the costs incurred by today's manual parts procurement process. HCSS Equipment360 allows construction companies to manage assets and inventory, schedule and plan for preventive and predictive maintenance, manage mechanics and work orders, perform and track inspections, and more. Gearflow

simplifies the parts ordering process for heavy equipment fleets by increasing access to parts suppliers, centralizing communication and maximizing visibility — all in one platform. Integrating with E360 removes the need for duplicate entry of parts request information and eliminates manual steps while giving fleet teams automatic oversight of all parts transactions. Gearflow and HCSS want the same thing: to reduce cost and equipment downtime for heavy equipment fleet teams through an improved level of productivity achieved through technology. By digitizing the entire parts procurement process, users will save time and money while eliminating downtime. Visit hcss.com and gearflow.com.

► **Cal Pacific Constructors Inc. Receives Southern California Minority Supplier of the Year Award**

Cal Pacific Constructors Inc. (CPCI), a family-owned and Native-American-owned construction company specializing in electrical vehicle charging stations, battery energy storage systems and hydrogen gas renewable construction, announced its recognition as the Southern California Minority Supplier of the Year. The prestigious award, presented by the Southern California Minority Supplier Development Council (SCMSDC), acknowledges CPCI's outstanding performance, remarkable business growth, and commitment to philanthropy and investment in local minority communities. SCMSDC presents the Southern California Minority Supplier of the Year award annually to minority-owned firms that have exhibited remarkable business growth, service excellence and a strong commitment to community support. CPCI was nominated for this recognition by Southern California Edison in acknowledgment of the company's performance and unwavering support of the "Charge Ready" initiative. Visit calpacificconstructors.com.

► **BMC Enterprises Inc. Acquires Raineri Building Materials, Eureka Materials & Blue Grass Ready Mix**

BMC Enterprises Inc. (BMC), a producer of aggregates and concrete in the St. Louis region, has completed acquisitions of Raineri Building Materials, Eureka Materials and Blue Grass Ready Mix within the last three months. The new additions increase BMC's holdings in three verticals, including aggregates, ready-mix concrete and concrete products. BMC will now manufacture construction materials at more than 70 facilities in Missouri, Illinois and Arkansas. For the Raineri acquisition, second-generation owners Dominic and Martin Raineri will stay on with BMC in the positions of president and senior customer relationship manager of Raineri Building Materials, respectively. These transactions follow several other acquisitions throughout Missouri, Illinois and Arkansas in recent years. In fact, under Nathan McKean, CEO of BMC, leadership has grown twentyfold since he assumed control of the company at the end of 2004. Recognizing BMC's need to expand its geographic footprint and vertically integrate, McKean and his team have implemented a long-term sustainable growth strategy, completing nearly 30 acquisitions in three states in 19 years. BMC is the parent of the legacy Breckenridge Material Co., founded in St. Louis in 1925. Visit bmcenterprises.com.

► **K.A. Group Appoints Daniel Pashniak as New President & CEO**



Daniel Pashniak

K.A. Group announced the appointment of Daniel Pashniak as its new president and CEO. Pashniak will replace Mike Palitsky, who announced in May 2023 his intention to retire from K.A. Group. Pashniak was most previously the vice president and general manager, airlines and fleets from the StandardAero organization based in Winnipeg, Manitoba, Canada. He also continues to be an advisory board director for the

Canadian Manufacturers & Exporters. Pashniak became the CEO of K.A. Group on July 17, 2023. Pashniak is an executive-level, customer-focused general manager, business and multisite operations team leader and plant manager of large teams with full profit and loss (P&L) experience of over \$700 million. K.A. Group is a global company in the design, manufacture and distribution of construction, agricultural and mining earthmoving equipment. Equipment brands of the K.A. Group include K-Tec, Ashland and Metalcraft. Visit kagroup.com.

► **Kodiak Building Partners Announces Shift in Leadership Team**



Mark Garboski

Kodiak Building Partners, a building materials distribution firm, announced Mark Garboski will take on a strategic adviser position within the company. Having served as chief operating officer (COO) for the past three years, Garboski is taking a step back for health-related reasons. Continuing to report to CEO Steve Swinney, Garboski will develop long-term strategic plans for several key initiatives critical to the company's future growth and success. Moving forward, Mike Flood and Pat Flood, executive vice presidents of operations, will report directly to Swinney, with Mike Flood and Jeff Smith, Kodiak's CFO, assuming additional leadership responsibilities. Kodiak Building Partners was founded in 2011 to acquire locally owned and operated businesses in the building material sales and distribution industries. Over the past 12 years, Kodiak has acquired more than 100 locations that serve general contractors, homebuilders, subcontractors, remodelers and consumers. Visit kodiakbp.com.

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Why You Need a Full-Charge Bookkeeper

Unpacking the benefits & responsibilities of an accounting pro



GEORGE HEDLEY, CSP, CPBC, is a professional construction BIZCOACH and industry speaker. He helps contractors build management teams and get their businesses to work for them. He is the bestselling author of "Get Your Construction Business To Always Make A Profit!," available on amazon.com. Email Hedley at gh@hardhatpresentations.com to sign up for his free e-newsletter, start a BIZCOACH program, attend a Wealthy Contractor BIZ-BUILDER Boot Camp or get a discount at hardhatbizschool.com online university for contractors. Visit hardhatpresentations.com for more information.

Just Ask George.

Send your questions for Hedley to Associate Editor Carmen Capoccia at ccapoccia@cahabamedia.com.

Construction business owners regularly ask me what their controller's or bookkeeper's job description should include. They know they must be able to generate an income statement (P&L), pay the bills, prepare payroll, collect receivables and take care of other accounting tasks. But what else?

Business owners need their accounting team to add more value than just pay the bills. They must provide regular information and timely reports to help the company make more money, stay on top of weekly job costs, develop exact labor and equipment rates, assist estimating with final project costs versus estimates, provide cash-flow projections, manage and invest cash balances, provide detailed work-in-progress (WIP) and completed progress schedules, manage the line of credit, provide the bonding company with regular reports, etc.

Most company owners and presidents learned their business skills as field supervisors, estimators or project managers. They usually don't come from the financial side of business, so they don't know exactly what they need from an accounting department. As owners are not bookkeepers in most cases, they require professional accounting and financial management to help the company grow and prosper.

They need someone in charge of the numbers who can add value for the owner and management team, set up the company accounting systems the right way, manage the accounting workload and additional staff that may be necessary, and deliver reports and information on a timely basis without exception. Most growing construction companies need more than a general accounting person.

Hire a Pro to Grow & Profit

Contractors often start their companies with an office manager who's also tasked with the bookkeeping duties. When the company grows, the office manager/bookkeeper gets overwhelmed and stops being able to keep up with all the demands. Larger companies have more jobs and, therefore, more people to handle the additional invoices, payroll and job reports. As the owner realizes the office manager/bookkeeper can't do it all, they then must decide how to handle the larger workload.

To move to the next level, successful construction contractors need a high level of professional financial management expertise, weekly job cost labor and equipment tracking, and on-time financials, plus the added demands of insurance, banking and bonding. What they don't need is an



untrained bookkeeper who doesn't know how to properly manage a professional construction company's accounting operation.

Contractors Need a Full-Charge Bookkeeper

Profitable construction companies have professional accounting departments that give the president and managers regular reports and advice to help them manage the business. At the next level, contractors require an experienced "full-charge bookkeeper" who knows construction accounting versus a more expensive controller or chief financial officer (CFO). Here are some of the key differences between these positions.

- *Full-charge bookkeeper* – This is a finance professional who is 100% accountable to professionally manage and implement all company accounting requirements, transactions, general ledger, income, receivables, payables, expenses, reports, workload and deadlines. They are educated in accounting, up to date on financial rules and requirements and know

what construction companies need from their accounting department. Full-charge bookkeepers implement recognized best accounting practices and procedures with consistency and meet regular schedules. They can identify and solve financial problems with project invoices, contracts, change orders, timecards and approvals. They also identify overall financial trends for the company and in the industry.

Full-charge bookkeepers manage financial statements, balance sheets, payroll, job costs, equipment costs and journal entries. In addition, they manage company insurance, employee benefits, up-to-date accounting software and project management integration. They also work directly with the company owners and key managers, handle all bank accounts and lines of credit, help prepare tax returns, and supervise the accounting staff and their workload.

- *Controller* – A controller typically manages the financial operations at larger companies that have multiple departments and accounting teams.

They are managers who don't do accounting work. They oversee their team members, who do the accounting work, advise executives on financial matters, help create company budgets and ensure the accounting functions run smoothly.

- *CFO* – A chief financial officer is responsible for the overall financial health of a company.

Full-Charge Bookkeeper Job Description

When posting a job description for a full-charge bookkeeper, you want your ad and internal documents to clearly state the responsibilities. Follow this guide, outlining accountability objectives, as well as weekly, monthly and yearly expectations:

100% Accountable for Results:

1. Full-charge responsibility for all company finances and accounting.
2. Manage workflow of accounting department and delegate some tasks and activities to accounting staff and project administrators.
3. Manage, implement and maintain all

To move to the next level, successful contractors need a high level of professional financial management expertise, weekly job cost labor and equipment tracking and on-time financials, plus the added demands of insurance, banking and bonding. What they don't need is an untrained bookkeeper who doesn't know how to manage a professional construction company's accounting operation.

aspects of accounting and financial management that effectively allow the company to profit, operate efficiently and meet goals.

4. Manage, mentor and maintain professional accounting employees who can handle accounting workload and financial requirements for a well-organized, growing company.
5. Manage, maintain and improve timely, updated, accurate and integrated accounting and financial management reports and systems:
 - Income statements, overhead and budgets.
 - WIP and completed contract schedules.
 - Balance sheet, assets, liabilities and general ledger.
 - Account payables, receivables and collections.
 - Payroll, taxes, benefits and reporting.
 - Job costs, labor and equipment costs, and job charges.
 - Updated labor, equipment and tool rates.
 - Tax preparation and reporting.
 - Implement fully integrated software.
6. Manage and monitor financial systems, policies, procedures, tracking and budgeting.
7. Coordinate and maintain effective management of legal, certified public accountant (CPA), banking, bonding, audits, insurance, benefits, retirement plans and investments.
8. Maintain a positive team environment, working relationships and communication with all employees, subcontractors, customers, etc.

9. Implement, balance and match financials, cost codes, job cost reports, timecards and estimating by using fully integrated and updated accounting and construction software.
10. Maintain continuous education laws and implement the latest Construction Financial Management Association (CFMA), CPA and generally accepted accounting principles (GAAP) standards and practices.

100% Responsible to Manage and Maintain — Weekly

1. Bank accounts, deposits, cash report, investments and credit cards.
2. Account receivable preparation, aging, invoicing, collections, lien releases and retention reports.
3. Cash flow, debt, loans and line-of-credit reports.
4. Input and process all accounts payables — labor, materials, equipment, subcontractors, suppliers and overhead.
5. Input and process payroll, taxes, benefits, certified payroll, prevailing wage reports, workers' compensation, etc.
6. Maintain subcontractor and vendor compliance — W-9 and insurance.
7. Prepare job cost production labor and equipment scorecards.
8. Provide support and reports to construction and estimating — input and update project budgets and lien releases.
9. Hold weekly accounting meeting with president.

100% Responsible to Manage and Maintain — Monthly

1. Closeout — complete it accurately and timely on deadline.
2. Present monthly financials at management team meeting.
3. Reconcile all general ledger accounts, bank accounts, credit cards, company equipment, etc.
4. Provide month-end project job cost reports to project managers.
5. Income statement — P&L and chart of account reports:
 - Current markup and margin versus bid estimate and updated job budgets.
 - Overhead expenses and overhead markup percentage.
 - WIP schedule — WIP report including over- and under-billing adjustments to P&L.
 - Work with project managers to complete updated job cost reports with estimated cost to complete and estimated final costs on every job.
 - Contract revenue and gross margin backlog report.
 - Self-performed labor and equipment job cost to date versus budget.
6. Balance sheet = financial statement:
 - Current and long-term assets and liabilities, loans and line of credit.
 - Equity, return on equity (ROE), return on overhead (ROOH) and working capital.
7. Equipment — income, cost, profit, return on investment (ROI), utilization and maintenance costs.
8. Monitor and prepare city, state and federal taxes and licenses.
9. Journal entries to adjust and account

- for company equipment, labor burden, overhead, tools, labor, supervision, etc.
10. Manage banking and line of credit.
 11. Manage company, general liability, equipment and workers' compensation insurance.
 12. Monitor liabilities, debt, bonding and banking capacity.
 13. Prepare accounting for investments, 401(k), etc.

Annual Update

1. Labor costs, burden, change order rates, equipment rates and depreciation.
2. Manage CPA, banker, bonding agent and insurance broker.
3. Coordinate year-end closeout, audits and tax preparation.

Know Your Numbers

You can't manage your construction company properly unless you understand and monitor your numbers. Being good at building projects won't make you rich unless you charge the right price and track your results on a regular basis. To keep abreast of your company's financial condition, numbers and results, you must hold regular financial meetings.

Investing in a professional, full-charge bookkeeper and integrated software will deliver much higher returns than buying a new truck ever will. For example, hiring a full-charge bookkeeper might cost the same as the truck — maybe \$75,000 or more. But I guarantee the return will be a minimum of four times that amount if you get the right person to manage your accounting department. If you don't have a strong accounting team that can produce the results you need, it's time to stop short-changing yourself, limping along and making excuses. A professional will help you manage your money, grow your top and bottom lines, and allow you to make more profitable withdrawals from your bank account. ▲



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Your Budget Is Your Company Scoreboard; Share It

How to establish a culture of financial acumen for field leaders



GREGG M. SCHOPPMAN is a partner at FMI Corp., management consultants and investment bankers for the construction industry. Schoppman specializes in the areas of productivity and project management. He also leads FMI's project management consulting practice. Prior to joining FMI, Schoppman served as a senior project manager for a general contracting firm in central Florida. He has completed complex construction projects in the medical, pharmaceutical, office, heavy civil, industrial, manufacturing and multifamily markets. He holds a bachelor's degree and master's degree in civil engineering, as well as a Master of Business Administration. Schoppman has expertise in numerous contract delivery methods, as well as knowledge of many geographical markets. Contact Schoppman by email at gregg.schoppman@fmicorp.com. Visit fmicorp.com.

Even today, some construction companies are reluctant to share information with the field employees — mainly, the budget figures. For a litany of reasons, “the office” is fearful of the superintendent or foremen possessing job cost information.

Additionally, field leaders are equally reluctant to have this information. Ask some field leaders about their general conditions or their labor budget, and you might hear, “You’ll have to ask the office because that’s not my job. I’m just building the project.” That would be like asking a blue-chip quarterback if his team is winning, only to hear, “Hey, I just throw the ball. I have no idea if we’re winning or losing.” Organizations must first confront the challenge of creating a scoreboard that is transparent, believable and, most importantly, realistic.

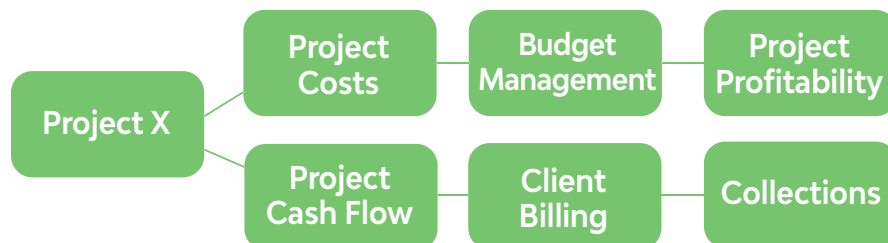
Establishing the Currency

One of the most interesting aspects of construction budget creation and controls is the currency. But the information

being shared with the field can be about more than dollars and cents. You should be able to trust the team members who are building multimillion-dollar structures with millions of dollars’ worth of equipment and materials to see the budget. However, consider the following scenario: You tell your field leader he or she has \$125,000 to complete a particular trade package, but they might better understand that they have 1,500 man-hours to complete that same trade package. The currency for the field is not about euros or dollars or pesos, but rather the actual denomination those leaders use on a daily basis.

Financial management is multipronged (see Figure 1). The dollars on a project are inextricably linked. A field leader, however, is largely concerned with the top line of the graphic. But from an estimating and project management perspective, there may be a tendency to create budgets that manage costs, schedule values and bill simultaneously. If this can be done, that’s outstanding.

Figure 1. Financial management for construction projects





But there is often a push to crowbar everything into a one-size-fits-all bucket. For instance, consider a highway project where there could easily be hundreds or thousands of pay items. Sometimes, those same pay items might be labor codes that have dollars or hours attached to them. The field now has to choose from a menu that should correlate to a job feedback report they can see. Without proper forethought and strategic thinking, there is little hope the field will recognize the importance of seeing how each element intersects with the other. You should create budgets that speak to the field in their currency of choice: hours.

Addressing the 'Why'

Let's step back a moment. Why do firms not share budget and job cost information with the field? Below is a brief list:

- *The "games"* – Money is shuffled from job code to job code, so even if the field did see a job cost update, it might lack integrity.
- *Fear of it falling into the wrong hands* – What if the budget/job cost information is left in the job trailer and someone sees it?
- *Fear of a team slowing down* – What if the team members see they are doing well, so they slow down because they

might work themselves out of jobs?

- *Stacks of money* – If the field employees knew how much money we make, they would want more money.

These are definitely some of the reasons why, but consider this: Would a sports team shut off a scoreboard so the team couldn't see the clock or performance statistics? It certainly doesn't seem realistic, so why do construction organizations think keeping the team most connected to the work in the dark is a viable idea? The arguments against these theories are below:

- *The "games"* – Integrity is not just a corner-office trait. Project managers who are shuffling money might have larger issues, and this can certainly create a pervasive lack of distrust.
- *Fear of falling into the wrong hands* – Since most of the information is electronic, this is a bit far-fetched. Second, have you seen your cost reports? Some of your own people can't read them, so who is to think a competitor, owner or trade contractor could decipher them?
- *Fear of a team slowing down* – It is only natural to want to engage in "job protection mode." However, the organization has an obligation to drive

strong internal communication so this doesn't occur by sharing what is on the horizon.

- *Stacks of money* – A little education goes a long way. The construction industry is largely a 3% to 4% net profit margin business (translation: low margin, high risk). Teach your teams this nugget so there is not a misconception about bloated profits.

Focusing on the Behavior

If the company has the right tools and structure, reinforcing behaviors becomes a great deal easier. If there are no guardrails, field leaders will assume the mantra: "That's not my job." In reality, there is no job more important to the field leader than budget management. Who else will drive daily productivity and cost management if not that field leader? Organizations that have the infrastructure have a greater ability to drive individual accountability. Furthermore, they more than likely spend time educating all team members – office and field – on financial acumen. In the end, being better builders means being well rounded and exceptional at adding money to the bottom line. If you aren't lighting up the scoreboard, are you really a great builder in the first place? ▲

Preparing for the Worst: What Happens When Operations Fail

How your team can learn from the recent crane collapse in NYC



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July's tower crane fire, and subsequent collapse, at a construction site on 41st Street in New York City (NYC) made for some exciting viral video content and a few days' worth of local headlines. Just as quickly as it went viral, it faded away and will be another footnote in the ongoing story that is the Manhattan skyline. For those directly affected by the collapse, though, the effects will last much longer. When these types of accidents occur, we look for answers to the same three questions:

1. Could this have been prevented?
2. What can be done to prevent this from happening again?
3. Who pays for it all?

Early investigation reports show that the fire was caused by hydraulic fluid leaking onto hot metal within the engine and igniting. The heat from the ensuing fire caused the supports and machinery attached to the crane's boom to melt and fail, and the boom to collapse. If these early reports prove to be accurate, the obvious answer to the question regarding prevention might be that there should have been more frequent inspection of the

crane and its maintenance.

This simplistic answer ignores several key facts, including that crane operations in NYC are some of the most closely monitored in the country; that it isn't exactly practical for the crane to be disassembled and inspected on a weekly basis; and that regardless of the maintenance procedures, sometimes mechanical components fail.

The same nonanswers can be applied to what can we do to prevent this from happening again. In this case, as with many concerning safety and claim prevention in New York construction, we need to look at a much broader picture: a picture that looks at the cost of construction and the cost of insurance to cover it in NYC, and how that cost directly limits the amount and quality of safety and oversight on jobsites. Large and densely populated cities like NYC are inherently more risky and therefore more expensive to insure.

Look no further than the number of people injured in this collapse and the damage to the adjacent building, but that is only part of the story. The lead character in this tale is New York Labor

As for the future, what happens when a developer is forced to scale back limits on their policies to bare minimums required just to get the project built, and they are insufficient to cover a more severe accident? Owners and contractors need to see this accident for the warning that it is.



Law 204/241. This piece of legislation, originally enacted in the early 1900s, was designed to hold owners accountable for managing site safety by hurting them financially if they did not. This was long before there were workers' compensation laws, the Occupational Safety and Health Administration (OSHA) or the NYC Department of Buildings, and it assigns total liability to owners in the event of a gravity-related loss.

Many other states enacted such laws at the time, and they were responsible not just for improving worker safety but for paving the way for the laws and public agencies that safeguard modern jobsites. More than 120 years later we have, thankfully, outgrown the need for such measures but in New York, this law is still in place.

What does this have to do with rising construction costs? From an insurance perspective, quite a bit. Under Labor Law 240/241, comparable negligence is not a factor. All that needs to be proven is

that gravity was involved and there was injury. After that, claimants just wait for awards from judges and juries that far outweigh the injuries and losses sustained. Insurance companies — or the few left that are still willing to cover contractors and projects in NYC — have no ability to defend against these awards. Their only recourse is to continue to increase the premiums they charge.

As premiums rise within a finite budget, there is less that can be devoted to other areas. Imagine the quality of jobsite safety and oversight if liability premiums were cut in half because there were more carriers paying fewer claims. How many more site supervisors and safety personnel could your average contractor afford to hire, or how much downtime for equipment inspections would be allocated in a project's budget? Freeing up capital from needlessly high insurance rates to be used for new equipment and more site safety is one way to prevent accidents like these from occurring again in the future.

It is important to note that injuries and damages were minimized by the quick actions of responsible people. The injuries and damage that did result will be quickly and properly covered by an adequate insurance program.

As for the future, what happens when a developer is forced to scale back limits on their policies to bare minimums required just to get the project built, and they are insufficient to cover a more severe accident? Owners and contractors need to see this accident for the warning that it is.

If they do not join with entities like the Metropolitan Transportation Authority and Port Authority of New York and New Jersey in pushing for reforms to the labor law, the industry is going to reach a point where construction projects of any type will become uninsurable. It will become a challenge to build new schools, hospitals and buildings as well as continue infrastructure maintenance. That is the real lesson learned here. ▲

Avoiding Tax Audits — the Right Way

Your guide to navigating IRS penalties & staying compliant

BY MARK E. BATTERSBY

While the IRS's own figures reveal that, in general, it only audits 1% or 2% of all taxpayers each year, the threat of an audit continues to strike fear into every construction business owner.

The Inflation Reduction Act of 2022 directed \$80 billion in new funding to the IRS over the next decade so it could hire 87,000 new workers. Whether the increases will materialize or whether audit rates will increase, targeting more small business owners remains questionable.

In reality, the IRS, which was once a large and inefficient federal bureaucracy, is becoming more streamlined and, most importantly, expanding its ability to catch more tax offenders. The IRS is replacing agents in back offices with computers with complex algorithms that cast wide nets that can pull many law-abiding people into audits.

Penalties Abound

It is no secret that the IRS takes a dim view of a failure to report income — more than a minor overstatement of deductions. The IRS looks for incorrect expense totals, missing Form 1099s and transposed numbers, even if the mistakes are not big.

There is a penalty, and then there is the fraud penalty: equal to a whopping 75% of the unreported tax. While most penalties are based on the amount of the underpayments, the so-called “frivolous return” penalty is a flat \$5,000 that can be imposed even if there is no underpayment. Fortunately, there are legal strategies that can greatly reduce that audit threat.

Tips From the IRS

The IRS offers a few steps that everyone can take to reduce the risk of becoming an audit target. For example:

- Be specific about expenses.
- Provide more detail when needed.
- Be on time.
- Avoid amending returns.
- Match up all your paperwork.
- Don't use the same numbers repeatedly.
- Don't take excessive deductions.

Obviously, this list favors the IRS and the basic tax law. But keep in mind that striving for the lowest possible tax bill is perfectly legal.

Beyond the Obvious

While businesses can explain many unexpected and significant swings in income, large inconsistencies in income from year to year are often areas of concern to the IRS. Large shifts in income can be indicative of someone hiding income in either the current year or in a past tax year. Other possible red flags include such things as:

- *Cash* — Despite the postponed requirement that third-party payers report payments to recipients, cash remains a major red flag because it creates all sorts of problems for the IRS. Many businesses don't report cash transactions because they believe they don't have to or that the IRS will never know they received cash. However, today's IRS targets returns where

contractors may deal in large amounts of cash and considers it an audit red flag when a return contains a high probability of unreported income.

- *Independent contractors* — A disproportionate number of independent contractors as opposed to employees is more of an audit target today, with the states also on the lookout for general contractors or construction businesses using large numbers of independent contractors. Some businesses use independent contractors in order to avoid paying payroll taxes — federal and state — including the federally mandated employer portion of Social Security and Medicare. This doesn't mean the business shouldn't use independent contractors; it should just ensure compliance with the IRS's worker classifications and the “worker status tests” that vary from state to state.
- *Low salaries for S-corporation shareholders* — Many business owners set up an S corporation instead of an LLC to avoid the 15.3% self-employment tax. However, while they aren't subject to self-employment tax on distributions, S-corporation shareholders working as employees must receive “reasonable compensation.” The IRS is on the lookout for S corporations paying shareholder-employees unreasonably low (or even no) salaries. The IRS will compare compensation to the standard for a similar position in a similar industry. Regardless of the business entity, failure to provide shareholders/owners with reasonable compensation (as W-2 reportable wages) is an audit flag often leading to a more comprehensive audit of the entire construction business.
- *The home office* — Even prior to the pandemic, the home office provided a place for construction business owners to catch up on paperwork, bookkeeping or payrolls. With many taxpayers

shifting to work from home during the pandemic, it should come as no surprise that the home office deduction faces extra scrutiny. The deduction for home offices is more complex than many construction business owners realize. The calculation for the home office deduction is based on square footage — but only the square footage used exclusively for business purposes.

- **Vehicle deductions** — If a contractor uses a personal vehicle for business purposes, he or she can usually deduct a portion of the vehicle expenses. If the contractor uses the vehicle exclusively for business, a deduction for depreciation is often available. Unfortunately, because 100% business use is unlikely in most cases, claiming full business use of a vehicle is an audit red flag.

Reality vs. Triggers

In reality, no one knows which tax returns the IRS's computer algorithms will single out. Tax professionals have used their experiences to develop the many so-called "triggers." While the proposed increase in IRS staff may or may not impact the current audit rate that examines fewer than 2% of all income tax returns in a year, the penalties remain.

The statute of limitations for an IRS examination is three years from the due date of the federal tax return or the file date. This period doubles to six years if the return reveals a substantial understatement of income, which is usually more than 25% of taxable income. There is no time limit on failure to file a return for a particular year, or if the IRS suspects fraud.

Caught — Now What?

If the IRS selects a tax return for an audit, the business (or its owner) will receive a notice in the mail. The notice is always sent to the last known address



and is never sent by phone, email or social media.

If the IRS audits your business, it will most likely be through a correspondence audit. The letter will contain instructions about what information you must provide. If the IRS needs more information, its representatives will reach out again.

Should the IRS request an in-person meeting (typically at its regional office), the notice usually contains instructions about preparing for the audit and which particular items the IRS is examining. As an alternative, Letter 2205, a shorter version of the audit notice, will request a phone call and usually prefaces a face-to-face meeting.

Mixed Results

Remember, the IRS isn't hiring 87,000 people to fill auditor-specific roles, and the chances of a construction business — or its owner — getting a visit from the IRS will continue to be remote. Although compliance with the IRS's rules for many small businesses is fairly easy, especially with the help of a tax professional, keep in mind that an audit may not resolve all issues.

If the IRS audits a construction

business — or its owner — it doesn't mean all is not OK. IRS auditors rarely look at everything on a return.

But if the IRS doesn't challenge a deduction or accounting method, it doesn't mean the operation is off the hook. A change in facts or a change in the law may mean the deduction or method is no longer valid.

While it is impossible to fully inoculate the business or its owner since a portion of all audits are truly random, you can take steps to minimize the likelihood of receiving that feared notice from the IRS.

Honesty and clarity go a long way toward preventing, handling and surviving an IRS audit. Naturally, every construction business owner should have a strategy for avoiding audits and dealing with an IRS auditor. ▲

Mark E. Battersby is a freelance writer who has specialized in taxes and finance for the last 25 years. Battersby currently writes for publications in a variety of fields, syndicates two weekly columns that appear in over 65 publications, as well as writes regular columns in 10 fields. He has also written four books.



4 Ways to Protect Your Jobsite From Severe Weather

How to shield your business from rising repair costs

BY MICHAEL TENG

There's a good chance severe weather has impacted your construction site in the last few years. Events like tornadoes, hailstorms, flooding and wildfires are worsening and happening more often.

In fact, severe weather events exceeding \$1 billion in damages have more than doubled in the past five years, according to the National Oceanic and Atmospheric Administration. Compounding problems, material inflation and supply chain delays could lead to longer, costlier recovery periods.

Both trends could pose greater financial risk if your business — or jobsite — is damaged.

The good news: If you plan now, you can help protect your site. Below are four steps you can take to prepare your company for the unexpected.

1. Create an emergency response plan.

During severe weather, your priority should be keeping your employees safe. Assess your construction sites and identify which weather risks could affect

each location. Your emergency response plan should contain information on the following:

- *Emergency equipment and supplies* — Determine the type, quantity and placement of equipment like firefighting equipment, first-aid supplies and nonperishable food.
- *Severe weather drills* — Identify exits and conduct drills to ensure safe exits and sheltering.
- *Material storage* — Assess each site's hazardous materials and inventory. Develop a plan to secure and protect it.
- *Secondary operating locations* — Establish a safe space to manage your business remotely. Confirm that you back up and secure critical data off-site, with important paper records kept in a fire and flood-proof location.
- *Employee communications* — Share your emergency action plan with employees on a regular basis.

Get your employees engaged in the planning process. They'll know their job tasks best, which can lead to useful insights. You can also ask local first

responders to assess your drills. They might identify potential gaps to improve your plan.

2. Prepare your structures and equipment.

Whether it's heavy rainfall, high winds or fire, your structures and equipment are at risk. Here are a few ways to keep your assets protected:

- *Combat hail damage with overhead coverings* — When possible, make sure roofs are repaired immediately after damage. Recommend hail guards for rooftop HVAC systems and make sure the shingles are rated appropriately.
- *Protect against water damage by storing equipment and supplies on an elevated grade* — At each of your jobsites, flash flooding, heavy rain or snowmelt can cause unexpected water damage. Store equipment and materials on an elevated grade — or off-site. With supply chain delays still causing challenges, replacement timelines could throw your project schedule off.
- *Mitigate wildfire damage by clearing*

In fact, severe weather events exceeding \$1 billion in damages have more than doubled in the past five years, according to the National Oceanic and Atmospheric Administration. Compounding problems, material inflation and supply chain delays could lead to longer, costlier recovery periods.



surroundings — Make sure to clear vegetation and debris around your jobsite's structures and buildings. Work with local fire departments to ensure you assess your jobsites and the areas surrounding them.

- *Prepare for hurricane and tornado season* — Identify where equipment may be vulnerable to high winds and rising water. Create emergency checklists that include tasks like securing materials, unplugging electrical equipment and evacuating.

3. Create a business continuity plan.

A business continuity plan can serve as your road map if severe weather disrupts your business. It should include information — and steps — to help you resume your operations. The quicker you act, the sooner you can minimize downtime. If you don't have it already, consider adding business income coverage to your insurance policy. Historically, 25% of businesses don't

recover following a disaster, according to the Federal Emergency Management Agency.

Business income insurance acts like a form of disability insurance for your business. It can help you pay for overhead and employee wages while you rebuild and manage lost profits. Supply chain and labor issues in the manufacturing industry mean it could take months longer to replace your assets. Builder's risk insurance, contractor equipment coverage and installation insurance can also offer added protection. Speak to your insurance agent to see what makes sense based on your locations and risks.

4. Reassess your property valuations.

Due to inflation, your business could be underinsured. Much like inflation causes the cost of the goods we buy to increase, the properties you own — including equipment and materials — could cost more to replace if a severe weather event causes damage.

Talk with your agent and update your property valuations to cover possible gaps. You may also want to consider adding an inflation guard provision, which automatically increases the value of your insured property, at a percentage you set, to compensate for rising costs of materials throughout your policy term.

Don't Wait — Prepare

As supply chain constraints, inflation and labor trouble the construction industry, it's important to protect what you can control. The tips shared here are just a snapshot of how you can protect your business in the current environment.

Remember, severe weather is now less of an "if" and more of a "when." Talk to your agent and local experts to discuss a plan specific to your business. ▲

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How Surety Bonds Can Better Your Business

Peter Roth shares the ins & outs of bonding

BY CARMEN CAPOCCIA

Findings from a recent report from Ernst & Young (EY) titled “The Economic Value of Surety Bonds” found that both public and private construction projects protected by surety bonds had lower rates of contractor default, lower cost of completion in the case of default, and were finished faster than unbonded projects. This report, conducted in collaboration with the Surety & Fidelity Association of America (SFAA), included analysis that quantifies the benefits of surety bonding throughout the life cycle of a construction project. Below, get insight from SFAA’s Peter Roth, vice president of communications, marketing and research, on key report findings, advice for business owners regarding bonding and more.

What economic value do surety bonds offer?

They provide multiple benefits throughout the entire life cycle of a construction project. These benefits include the following:

- Bonded projects cost less than unbonded projects. Seventy-five percent of project owners report that surety bonding reduces contractor pricing by an average of 3.2%.
- Unbonded projects default 2.5 to 10 times more often than bonded projects.

- Bonded projects have a lower cost of completion. Unbonded projects cost 85% more upon default and take at least two times longer to complete.
- One hundred percent of construction default experts interviewed reported sureties have the expertise, tools and resources to complete a project after a default occurs, and owners do not.
- Five times as many project owners reported that bonded projects are more likely to be completed on time or ahead of schedule, and contractors prioritize bonded projects more than unbonded ones.
- Payment protections for workers, subcontractors and suppliers if the general contractor defaults.
- Bonds pay for themselves. The cost savings on bonded projects outweigh the costs of bonds.

Why should a contractor consider surety bonding?

Surety bonds can be the difference between getting a job or not. By obtaining a bond, a contractor demonstrates their ability to execute a contract with a high-quality standard due to the thorough prequalification process that comes with the surety. Surety bonds make larger, more lucrative projects attainable for contractors who demonstrate consistent performance.

But the partnership between surety companies and contractors goes beyond a single financial transaction. If contractors encounter difficulty completing projects, they can look to surety providers for expert assistance and resources to get projects back on track.

How do surety bonds impact public and private projects? Do the impacts differ for each sector?

Whether taxpayers or private owners foot the bill, surety bonds provide savings and risk management protections — default or no default.

Surety bonds are required by law for most federal and state projects across the country because of the protections and savings they provide, and many private developers require them for the same reasons. Private and public project owners alike understand the value in the risk management and cost-saving benefits surety bonds provide.

Recent findings from EY’s “The Economic Value of Surety Bonds” report show that unbonded projects are more likely to default than bonded projects. Can you explain the contributing factors?

Surety bonds ensure contractors are appropriately vetted in the prequalification process to confirm relevant work experience with similar projects; sufficient workforce and expertise to undertake the entire backlog of expected work; and the financial ability to manage a project through completion, paying all workers, subcontractors and suppliers.

Why do bonded portfolios generally outperform unbonded portfolios?

Three primary factors contribute to the strong performance of a bonded portfolio versus an unbonded portfolio:



1. Improved or lower contractor pricing.
2. Lower rate or likelihood of default by contractors.
3. Lower cost of completion upon default and necessary completion expertise.

Do certain types of projects benefit more from surety bonding? Why or why not?

Projects large and small, complex and straightforward, carry risks; therefore, all benefit from the protections and cost savings surety bonds provide. The more complex and costly a project is, the more risk it has, and the more it will benefit from a surety bond. That holds true for all construction types — roads, water systems, schools, hospitals, hotels, etc.

Has the Infrastructure Investment and Jobs Act (IIJA) impacted the surety industry? How could surety bonds affect contractors seeking infrastructure projects?

Undoubtedly, the IIJA will have an enormous impact on the construction and surety industries and infrastructure development across the country. The bill will distribute \$1.2 trillion of federal

funding into construction projects across the country, which will be matched by at least the same amount in state funds. Most, if not all, of these projects will require contractors to be bonded at either federal or state threshold levels and will provide substantial new opportunities for contractors to expand their businesses.

With so many new projects being approved and proceeding, large amounts of federal and state taxpayer money are on the line. Surety bonds can help contractors complete these projects responsibly and efficiently, so communities reap the benefits of public investments; taxpayer dollars are spent wisely; and there is protection for workers, subcontractors and suppliers in the case of default.

What advice do you have for construction business owners when it comes to surety bonding?

Suppose you have never been bonded or want to understand how to expand your bonding capacity better. In that case, we offer the SFAA/NASBP Contractor Bonding Education & Mentoring Program

— a free program that helps small, new, emerging, minority-owned and disadvantaged contractors learn how to qualify for surety bonds. The program is 100% online and can be completed on your schedule in one to four hours. Upon completion, you can enroll in the program's mentoring phase, which provides one-on-one mentoring with leading surety industry experts.

In addition to this resource, we encourage contractors to contact a bond producer or surety company to discuss your specific business objectives and begin a relationship with these resources.

Is there anything else you'd like to share with our readers?

Readers can download the complete EY study and communications toolkit at surety.org/suretyprotects. ▲

Carmen Capoccia is associate editor of Construction Business Owner Magazine & Digital Media.

Quiet Returns: a Sign Employees Are Engaged

Employ flexibility & hone your soft skills to ensure a positive employee experience that leads to greater business success

BY KATHLEEN QUINN VOTAW

In a workforce rife with “quiet quitting,” the antidote could be “quiet returns” — a sign of an engaged culture. When disengaged employees show up at work, they undermine possibility and business potential. These are the people who quit quietly and stay, secretly protesting burnout, stress or other abuses of work-life balance. Add to that major concerns about worker safety for employees in the construction industry. Don’t ignore the desires and needs of these frustrated workers. Give them a better experience.

In one way or another, we are all returning to new forms of work. Change is a way of life. It’s up to leaders to develop environments newly focused on well-being. When people feel valued and cared for by their employer, they’ll quietly return to their jobs, fully engaged in creating success. Easily said, but it takes deep thought and well-crafted strategies to meet today’s worker expectations. According to a 2022 Gallup Global Workplace Report, “The relationship between well-being and engagement is vital because how people experience work influences their lives outside work, and overall well-being influences life at work.” This broad view of work and life has always been true, but somehow businesses are just waking up to it. We should be looking to innovative technologies and beyond them to evaluate how processes, decision-making, human-centered management and new market opportunities can help attract new talent and retain current

employees. People today demand to be seen as the whole person they are and bring their full, authentic selves to work. This means you, as a leader, must hone your soft skills and find new flexibility. You’ll need to trust employees to be productive from wherever they want to work and be willing to rehire people you told would never be reconsidered. Lack of trust and inflexibility are what lead to disengagement and its consequences.

Ensure that people of all levels look forward to a quiet return to work by minimizing the stressors and creating a humane and safe environment that welcomes them in. Start with two priorities: allowing remote/hybrid work options wherever possible and reconsidering your hiring practices.

Allow Remote/Hybrid Options

“Working from home is a future-looking technology,” Stanford economics professor and researcher Nicholas Bloom stated in a TED Talk five years ago. He was right! Bloom’s recent two-year study of 500 employees found that remote workers were 50% less likely to leave the company and achieved a 24% productivity boost as well.

We’re still analyzing the short- versus long-term productivity statistics filtering in on remote and hybrid work and debating the pros and cons depending on business models. However, LinkedIn cites research showing that 97% of remote workers would like to continue working remotely, at least some of the

time, for the rest of their careers. And Ladders research projected that 25% of professionals in North America would, indeed, be working remotely by the end of 2022.

All of this, coupled with the fact that Americans working from home save an estimated 60 million commuting hours a day, means remote is here to stay — and I don’t believe employers can easily take back those hours. Employees spend the newfound time sleeping an extra hour, making time for family or doing activities like working out, says new research by the Federal Reserve Bank of New York. This means happier, healthier workers and a benefit to companies they may not yet recognize.

Given that more flexibility is a top priority for workers today, it’s hard to understand why more employers aren’t creatively looking at remote options to see how they can make them fit. If work models prevent them, as they so often do in the construction industry, companies can advance the well-being of their people by offering other flexible options, like four-day weeks and shared jobs. When you dare to care, creativity follows.

Who Are You Not Hiring?

Boomerangs

Traditionally, if an employee quit for personal reasons of almost any kind, they would never be considered for rehire. They were labeled unreliable or disloyal. Reality has shown that these rehired “boomerangs” often



When disengaged employees show up at work, they undermine possibility and business potential. These are the people who quit quietly and stay, secretly protesting burnout, stress or other abuses of work-life balance.

become your most valuable employees. They know your culture and are a fit, so they need less training. And even if they worked for a competitor for a while, they bring new skills and innovation back with them.

Mothers & Other Caretakers

With the understanding that it's not just women who are caretakers, the 2022 Gallup Global Workplace Report states specifically that women in the United States and Canada were among the most stressed employees globally. As we return to various forms of work, employers would do well to find solutions to the things that are keeping millions of women at home.

Eliminate stressors like the cost and

limited availability of childcare with on-site daycare, at-home services or more flexible time off policies. Provide pleasant, private rooms to nurse. Ask women and others with family responsibilities outside work what you can do, specifically, to increase their well-being.

Older Workers

Don't let bias influence your perceptions of older employees. They offer knowledge and experience that can only be gained over time and a different perspective that adds diversity to your decisions. They can be excellent mentors.

Workers Without the Right Skills

Don't overlook upskilling current

employees who have the ability and interest to move into a new role. When evaluating candidates, hire for cultural fit first, knowing that for most roles you can teach the necessary skills, but you cannot change the attitude.

It's expected that construction companies will continue to have talent shortages over the long haul. There are compelling reasons to fund new talent strategies in 2023. Today, well-being and engagement combine to make a powerful force for recruitment. When you lead with them, it follows that your people will be highly productive and your business will thrive. No more quiet quitting — only quiet returns to a workplace where people choose to stay. ▲

Kathleen Quinn Votaw is the founder and CEO of TalenTrust, a strategic recruiting and human capital consulting firm that has helped companies nationwide address immediate needs and drive long-term growth since 2003. She is the author of the 2016 book "Solve the People Puzzle" and the 2021 book "Dare to Care in the Workplace." Visit talentrust.com.

CFMA 2023 Looks to the Future

New leadership & continuing market opportunities set the stage at this year's conference

BY CARMEN CAPOCCIA

Five days before the start of this year's Construction Financial Management Association (CFMA) 2023 Annual Conference & Exhibition, the association welcomed its new president, Neil Shah. This new appointment and a host of learning and peer-to-peer networking opportunities made for an action-packed event, held July 15-19 at the Gaylord Rockies Resort & Convention Center in Aurora, Colorado.

Each year, the conference offers attendees the opportunity to attend educational sessions, roundtable discussions and tech forums, as well as networking events. This year's record-breaking event featured 49 sessions, 12 mini-conferences, three general sessions and more than 75 vendors. The exhibition hall provided attendees the chance to visit with vendors and learn more about product at exhibitors' booths.

CFMA currently reaches 8,800 members and 99 chapters. These are substantial increases from five years ago. The association is also engaged in a number of initiatives and resource offerings, including an emerging leaders program, diversity, equity and inclusion (DEI) and Rising Stars discussions with committee leaders, the "Hey CFMA" video series on YouTube, which offers micro-learning opportunities, CFMA's Guide to State Tax Laws 2023, and the Association of Equipment Management Professionals (AEMP) and CFMA's Heavy Equipment Comparator report.

Award recipients at this year's conference included Aaron Dunn, CPA, CCIFP, who received the CCIFP of the Year award; Jen Haub, CPA, CCIFP, the Debra Hahn Memorial Chapter Award winner; and Jennifer Tindal, CPA, CCIFP, recipient of the Joe Quigley Memorial Chapter Award.

On July 10, Shah stepped into the role of CFMA's president and CEO. Outgoing President and CEO Stuart Binstock introduced Shah during a general session, and Binstock's and Shah's achievements were recognized. Cal Beyer, vice president of workforce risk and worker well-being at Holmes Murphy (and CBO Editorial Advisory Board member), said, "The 2023 conference was a chance to celebrate the accomplishments of the association under the 12-year leadership helm of retiring CEO and President Stuart Binstock and welcome incoming Neil Shah. The future of the association has never looked brighter!"

This year's theme, A Mountain of Opportunities, extended to

the plethora of informational sessions available to attendees. Beyer explained: "The expanded roundtable sessions this year offered even greater opportunity for peer-to-peer networking and exchange. I heard so many positive examples from contractors in various sectors how immediately useful and impactful these roundtable sessions were for them."

The educational sessions covered topics from risk management, cybersecurity, contract tips and technology. In the course "Real-World Cybersecurity in Construction," Kimberly Hullfish, director of accounting and compliance at C. Abbonizio Contractors Inc., shared reasons why construction companies are high targets for hackers — including the potential to access major companies through contractors' computers. Hullfish outlined ways to reduce banking fraud, the role of artificial intelligence (AI) in current financial scams, and the importance of familiarizing yourself with cyber insurance. Not all cybercrime is covered by cyber insurance policies; for example, equipment hacks may fall under inland marine insurance, and employee involvement may fall under theft insurance.





‘The 2023 conference was a chance to celebrate the accomplishments of the association under the 12-year leadership helm of retiring CEO and President Stuart Binstock and welcome incoming Neil Shah.’

“Contract Tips, Traps & the Horrible, Gaping Abyss” was presented by Rhonda Huismann (partner at Crowe LLP) and Eliot Wagonheim (principal at Wagonheim Law and founder of WagonheimU, Wagonheim Law/First Rule Contract Training). The course covered ways to read, write and abide by construction contracts. Wagonheim and Huismann gave tips to bridge the gap between what an attorney finds important and what the construction professional can communicate. From best practices to key provisions to clauses, this course left participants prepared to strengthen their contracts.

Beyer’s own session, “Protect Your People & Profits From Workplace Misconduct,” may seem familiar to CBO readers. “This year I spoke on a topic I wrote an article for CBO on workplace misconduct from bullying, harassment, discrimination and retaliation,” said Beyer. (His article was published in CBO’s December 2022 issue.) His course delved into the Equal Employment Opportunity Commission’s (EEOC) current focus on the construction industry due to misconduct reports. Beyer explained why leaders have a responsibility to maintain a safe work environment — and how to reduce your risk.

Beyer also highlighted the sessions he found most impactful:

“The three keynote sessions are always exceptional, and this year was no exception. The opening general session, ‘The Future of Work Is Now: Are you Ready?’ by Cheryl Cran reinforced how vital culture and leadership are to counter the workforce development challenges construction and other industries are facing. Creating workplaces and jobsites for today’s workforce requires intentionality from leaders to recognize the differing motivations of today’s multigenerational workforces. This underscores the need to understand how culture impacts the employee experience and fuels employee engagement, which impacts the company’s outcomes.”

Anirban Basu, chairman and CEO of Sage Policy Group Inc. and chief economist of Associated Builders and Contractors (ABC), updated attendees on the current state of the economy. He outlined the course of inflation from May 2020 to June 2023, including the massive rise in energy prices. He noted that the housing market is still performing well, and confidence is rising. However, nonresidential spending has not shown real growth since 2019. Furthermore, Basu warns of an impending recession. Though he acknowledged that he could be wrong, he explained that the signs point toward a recession this fall and cautioned attendees to be prepared.

Mark your calendar for next year’s conference — CFMA’s 2024 Annual Conference & Exhibition will be held May 18–22, 2024, at Gaylord Texan Resort & Convention Center in Grapevine, Texas. ▲

Carmen Capoccia is associate editor of Construction Business Owner Magazine & Digital Media.

Harness the Power of Estimating Data to Grow Your Business

How to analyze your estimate history & identify patterns to take your firm to the next level

BY AARON HENDERSON

Estimating is the foundation of every profitable construction business. Accurate takeoffs are important for getting the correct material and labor quantities for your project. But if you're submitting bids without analyzing past project data, you're missing out on valuable insights to prepare the most accurate estimate.

Leveraging your estimate history and its rich data gives you a clear view of projects yielding high-profit margins, high-performing estimators, well-performing geographic areas and trusted client relationships. So, how do you gain insight into this valuable information? By using estimating dashboards that are connected to your takeoff and estimating software, you'll be able to analyze data needed to make informed business decisions to drive growth.

How Can You Get the Most From Estimating Dashboards?

Identifying patterns and trends in your data will empower you to make sustainable growth decisions. Start by looking at:

1. *Data inputs* — Double-check that you finalize your estimates, enter information correctly and update statuses. Outputs are

only as good as your inputs, and if you're still using manual methods or outdated desktop software to do takeoffs and estimates, you're setting yourself up for a huge margin of error.

2. *Your best estimator* — Take a microscope to his or her processes: Why is it successful? What is the workflow? What is your best estimator focused on (or not)? By identifying top performers within your organization and mirroring their processes, you're building the strongest estimating team.
3. *Your top markets* — Better understanding your customers, regions and industries where you have the most success will help you make decisions about where to invest.
4. *Supplier relationships* — By identifying reliable suppliers, you can negotiate better deals, foster long-term partnerships and drive cost savings.
5. *Outside factors* — Accurate estimates and pricing are important, but they don't always consider things like customer relationships, approval processes, time constraints, uptime and downtime.

See Into the Future With Estimating Dashboards

Broader exploration into your data through estimating dashboards allows you to visualize information in a digestible



You can't properly analyze your estimating data without seamless integration of your systems. If your estimating platform isn't talking to your dashboards or budgeting software, you have no insight to make decisions for your future.

businesses to mitigate risks, optimize resource allocation, and deliver projects within budget and on time.

Connect the Dots: Success Through APIs

You can't properly analyze your estimating data without seamless integration of your systems. If your estimating platform isn't talking to your dashboards or budgeting software, you have no insight to make decisions for your future. Platforms with open application programming interfaces (APIs) create a shared informational ecosystem and allow you to connect your workflows and keep data flowing in and out automatically in the cloud.

APIs offer scalability and customization options for your business. As project complexities and requirements evolve, you can leverage APIs to integrate additional functionalities, such as regional cost data with material and labor productivity metrics or accounting software. The ability to tailor estimating software to specific project needs enhances accuracy, efficiency and the ability to adapt to changing industry trends.

Grow With Confidence

An accurate estimate should marry historical project data. And the easier that data is to consume, the more likely you and your team are to leverage it. Estimating dashboards will revolutionize the way you analyze estimating data. This approach allows for strategic decision-making and targeted business development.

By harnessing big data, you can fine-tune the estimating process and predict outcomes with greater clarity, discover relationships between seemingly disparate data sets, identify market and sales opportunities, and learn the larger hidden patterns that govern the fate of your business. ▲

As the strategic sales and product marketing manager for Stack Construction Technologies, Aaron Henderson is on a mission to help contracting organizations leverage technology to increase efficiency and minimize risk. Over his career, Henderson has worked with top architecture, engineering and construction (AEC) industry leaders to streamline systems and processes, as well as develop strategies for more effective growth. Visit stackct.com.



format to make quick decisions. Spending time focusing on the past to strategize for the future is vital for your success. Dashboards provide:

- *Data monitoring* — Reviewing actuals and comparing similar projects helps identify potential issues, find your geographic “sweet spot” and flag your best estimators. Dashboards are also helpful to see projects in real time so you can take proactive measures to adjust potential issues and keep projects on track.
- *Data visualization* — Customizable dashboards present estimating data in intuitive and interactive visuals. This allows you to quickly grasp complex information, spot trends and make data-driven decisions.
- *Drill-down capabilities* — Explore data at various levels of granularity, taking a deep dive into specific projects, tasks or cost categories. Identify improvement opportunities, address bottlenecks, and implement targeted strategies to boost efficiency and profitability.
- *Forecasting and predictive analytics* — Advanced dashboards incorporate forecasting and predictive analytics features. By leveraging historical data and machine learning algorithms, these tools can predict future costs, identify potential risks and provide insights for proactive decision-making. This empowers



3 Major Benefits of Preconstruction Planning

Better client collaboration & preplanning can ensure cost certainty & budget control

BY CHRIS HILLYER

The preconstruction process is a vital phase in the construction industry, laying the foundation for a seamless and efficient project. If a builder gets preconstruction right, they pave the way for a smoother building process.

Achieving excellence from the outset requires early client involvement, meticulous planning and collaborative decision-making. By engaging clients from the beginning, builders can ensure cost certainty, anticipate potential changes and seek the best value for their clients. The proactive and client-centric approach minimizes surprise, fosters transparency and ultimately enhances the overall project outcomes.

In fact, a collaborative approach to the preconstruction process can lead to more successful construction projects.

1. Take a More Client-Centric Approach

Setting expectations about the working relationship, transparent communication and anticipating clients' needs are some of the most important lessons learned in preconstruction. By actively involving clients and understanding their goals, preferences and constraints, builders can tailor the project to meet their specific requirements. The client-centric approach not only fosters a strong working relationship, but it also ensures that the project aligns with the clients' vision.

During the preconstruction phase, builders work closely with clients to identify project objectives, establish budgets and

define the scope of work. By engaging in open and transparent communication, teams can effectively address any concerns, clarify expectations, offer solution-oriented alternatives and build trust. Clients count on the builder to have a solution-oriented mindset, seamlessly manage every aspect of the build and minimize surprises.

Anticipating clients' needs comes from experience, but thoroughly thinking through the details, including the small things — like temporary fencing, safety railings and traffic control barriers — is vital because these are the “little” things that can impact budget if not planned properly. Working together to develop a strategy and an agreed-upon schedule is paramount. This collaborative process enables clients to actively participate in decision-making, so they feel invested in the success of the project.

A client-centric approach comes down to leadership. Every client wants good service, trust in the builder, a smooth project with minimal design compromises and a final building that meets their needs. Keeping a service mindset will make for a smoother building process and a more satisfied client.

2. Proactively Control Your Budget

Value management is a key aspect of the preconstruction phase but is most effective when used in a proactive manner. Builders are charged with materializing the client's vision, but it is also



important to ask critical questions and examine the project from different angles to identify potential areas for improvement. This involves analyzing various construction methods, trends, materials and systems to identify cost-saving opportunities without compromising quality or functionality. By respectfully challenging design choices or suggesting alternative solutions, builders can optimize the project's efficiency and cost-effectiveness. In some cases, the value management process may lead to building system selections with higher costs, but it will ultimately provide the best value to the client.

While benchmarking is important, historical data alone is not enough to develop a complete picture of a project's cost. Consider current market trends, as well as the unique set of requirements, assumptions and values that make up the project. Collaborating with architects, engineers and subcontractors to brainstorm ideas and find strategic and innovative solutions that maximize client value is essential. The preconstruction team will analyze and synthesize all this data — both tangible and intangible — to produce a baseline cost model, which is used to set the foundation of the guaranteed maximum price.

After establishing the initial cost model, estimators should continue to develop, maintain and communicate the budget. The estimating never stops. Each scope is assigned accurate target values. Input from trade partners is an ongoing conversation. As decisions are made, there should be continuous estimating

and budgeting — not just at rigid design milestones. As the process moves on, it is important to rightsize contingencies and allowances that were put in place to cover the initial project scope.

3. Mitigate Risks

While budgeting and cost estimation are crucial aspects for the preconstruction process, looking beyond the numbers and considering potential risks is equally important. Preconstruction teams must practice risk mitigation and proactively plan to avoid unexpected delays and expenses during construction. By conducting thorough feasibility studies, evaluating site conditions and considering potential challenges, builders can anticipate and mitigate risks early on. Focusing on risks during the preconstruction phase allows flexibility in the planning.

Constructability reviews are important at major design milestones, and they help mitigate risks. This process allows for preconstruction and operations team members to focus on quality control, carefully review each major building component in the design, evaluate details to ensure components are buildable, schedule impacts, assess ease of maintenance and access, and other factors. Conducting constructability reviews throughout the design phase and at milestones reduces the number of requests for information, errors, change orders and delays. These frequent, sometimes informal reviews can be chances to identify and resolve any potential issues in design drawings that could lead to costly redesigns.

During the preconstruction phase, preparing the team for success by developing a project execution plan (PEP) is crucial. The PEP captures the strategic and carefully thought-out plans for construction and serves as a road map to define how the construction team will manage the project and potential risks in the field.

The preconstruction process plays a pivotal role in laying the groundwork for a successful construction project. By involving clients from the early stages, builders can ensure cost certainty, anticipate potential changes and proactively seek the best value for their clients. This collaborative approach fosters open communication, minimizes surprises and enhances overall project outcomes.

The preconstruction phase is not merely a technical requirement but a valuable opportunity to establish a solid foundation for success. By embracing collaboration and proactive planning, builders can ensure that final construction projects meet or exceed their clients' expectations, as well as finish on time and within budget. ▲

Chris Hillyer is regional director of preconstruction services at Skanska – San Antonio. Visit [skanska.com](https://www.skanska.com).





Replace Spreadsheets for Faster, More Accurate Estimating

2 contractors explain the advantages of switching to specialized estimating & field tracking software

BY GREG NORRIS

"Slow" and "clunky" are adjectives Jeff Sparkowich used to describe estimating with spreadsheets.

The estimator at New Hampshire dismantling and sitework contractor S.J. Cantwell says switching to specialized software cut his estimating time in half and increased estimating accuracy by 30%.

Travis Snow, project manager at Feller Enterprises, an excavation and site development specialist based in Utah, concurred. "Adding specialized estimating software allowed us to bid much more accurately and much faster than with Excel," he explained. "In the past, we would see profit fade due to missed costs on the bid. Now, profits stay very close to what we estimated."

Being able to pull in pre-populated cost items along with tasks and templates are keys to the speed and accuracy advantages, according to Sparkowich and Snow. With the specialized software, contractors set up databases with their costs for labor, materials and equipment in advance, and group these cost items into frequently used templates or cost structures.

With these building blocks already in place, estimators can pull information from these databases to match the bid specifications quickly and with confidence in their accuracy. This also eliminates risky spreadsheet liabilities like formula errors and miscalculations, and features like automated

auditing and error checking provide further safeguards against errors.

Sparkowich handles all the estimating at S.J. Cantwell. He sometimes completes multiple bids for smaller demolition jobs in a day, while bids for sitework projects with complex takeoff and subcontractor components can take several days. "I don't believe I'd be able to put out as much as I do without a junior estimator if I did not have the software," he said. "The amount of time it would take me to collect every little bit of information, get every crew correct, make sure all my formats were where I want them to be, would be substantial. Now, I can do my takeoff, throw it right into the estimating software and my items are already built, and then it is done."

Cohesive Estimating & Field Tracking Software

Feller and S.J. Cantwell also added field tracking software to complement estimating applications. The combination gives them the estimating advantage of easily reviewing actual past performance from field logs and using that information to fine-tune bids.

"It's huge for us to have both estimating and field tracking software, and the feature that's the biggest for me is the production history," said Sparkowich. The production rate actuals feature allows him to filter data from past jobs to zero



Travis Snow, project manager at Feller Enterprises, an excavation and site development specialist based in Utah



Jeff Sparkowich, estimator at New Hampshire dismantling and sitework contractor S.J. Cantwell

in on factors and conditions similar to the requirements of the upcoming job. “Over time, as it dials in, I can really determine what we can do in a certain amount of time, which just makes me more accurate and us more profitable,” he added.

“I can see the line-item detail on previous jobs,” Snow explained. “I get my foremen and superintendents involved with the bidding side to get their input on production rates and what machines and crews they want based on how they ran previous jobs.”

Feller Enterprises added field tracking software before estimating software to solve what it saw as its most critical challenge: assessing performance in the field in a timely manner and at a level of detail that would allow operational changes to be made while there was still time to impact the profitability of a job.

Snow previously retrieved production quantities from foremen, labor hours from a separate payroll system and equipment hours from a third system. He then entered this data into a custom spreadsheet he created, which could show him profitability for the whole job, but not for individual tracking accounts.

Field tracking software now captures all of that production, labor and equipment utilization data daily on electronic field logs. Importantly, a user can report on that data immediately. That provides a summary not only of how each job is performing, but also how each line item or production account is performing. Foremen at Feller use a mobile app to compare progress on tracking accounts against quantities that were bid. Snow said this inspires them to take more responsibility for profitability.

“They like to look at the summary reporting in the field tracking software and make sure they are staying at or as close as they can to estimated costs,” he explained. “We even set goals and award bonuses based on their actual in-field performance versus what we estimated.”

The situation is similar at S.J. Cantwell. Foremen and crews look at performance-versus-plan numbers daily and have established an informal competition to stay ahead of plan or to improve over time. Information from the estimating software also allows them to see more precisely how jobs were bid and to plan operations in the field accordingly.

“For us, it was very important to have software that communicates within itself at many different levels,” Sparkowich said. “With the estimating and field tracking software, they’re two different worlds, but they communicate very well.”

Construction logic and a user interface that “just makes sense” to estimators can make the transition from spreadsheets to specialized software easy.

“What’s nice is, it can be as simple or as complex as you want,” Sparkowich concluded. “We were able to start with the basics, walk our way into it and then progress to using more and more of the advanced features.” ▲

Greg Norris is director of marketing communications at B2W Software, a Trimble company. The B2W platform connects people, workflows and data, and includes unified applications to manage estimating, scheduling, performance tracking, equipment maintenance, data capture and business intelligence. Norris can be reached at gnorris@b2wsoftware.com. Visit b2wsoftware.com.





Why Keeping Up Appearances Helps Build Your Company's Reputation

6 benefits of maintaining a clean machine

BY JACOB SHERMAN

Construction sites are often bustling with a variety of equipment, such as crawler excavators, dozers and wheel loaders. These hardworking machines are exposed to the harshest environments, accumulating layers of dirt, mud and debris day after day. The nature of the environment they work in means you can't always keep your machines looking new, but you can keep them clean.

Regular cleaning of construction equipment offers numerous benefits. It

helps extend the performance and life span of the machinery and promotes jobsite safety. Clean machines are less likely to experience operational failures or accidents that obstructed vision or compromised functionality can cause. Moreover, maintaining cleanliness contributes to improving your company's image and reputation. Here are six benefits of keeping up the appearance of your construction equipment so you can be more successful on the job.

5 TIPS ON HOW TO GET A CLEAN MACHINE

Before you take on your next job, give your machines a thorough cleaning. Here are some tips to get you started based on the operation manual:

1. Remove dirt, grease and debris from the machine, including the engine compartment.
2. If you're using an excavator or dozer, inspect the undercarriage.
3. Ensure that all machine components are properly lubricated, and grease exposed cylinder rods.
4. Clean the machine's cab. Some manufacturers provide an optional onboard air compressor that makes it easy to remove dust and debris.
5. Replace any machine safety and warning decals that are scratched, illegible or missing. You can contact your local dealer to order new ones.

1. Increased Life Span

Dirt, debris and grime buildup can lead to corrosion and rust, which put a strain on moving parts, filters and ventilation systems, ultimately shortening the life span of your equipment. By prioritizing the cleanliness of your equipment and following a preventive maintenance schedule, you can ensure smooth, efficient and reliable operation, minimizing downtime and maximizing productivity. Allocate time at the end of each workday for cleaning out debris that can contribute to buildup. Removing materials promptly helps prevent damage to components and premature wear. For excavators and dozers, consider using shovels and pressure washers to effectively clean both the machine and undercarriage.

2. Enhanced Jobsite Safety

Safety is a top concern on the jobsite

because you and your equipment are constantly in motion. The simple act of keeping your equipment clean can significantly contribute to a safer working environment. For example, regularly cleaning equipment surfaces, such as steps, grab bars and handrails, enhances safety by ensuring a solid grip and footing when using three points of contact while entering and exiting the cab. Remember to clean equipment lights to help increase visibility. Some manufacturers offer additional lighting kits and rotating beacons for enhanced visibility.

Additionally, you should have clear visibility with clean windshields, windows and mirrors. Some brands provide floor-to-ceiling windows, making it easier for you to see other workers and equipment. You also have better visibility of attachments when you're working, particularly during material-loading tasks.

Advanced features on construction equipment play a crucial role in enhancing jobsite safety. Object detection significantly improves awareness of your work area, especially in machine blind spots. Equipped with sensors, this system emits a sound when the equipment is in danger of colliding with an object. The intensity or frequency of the sound may increase as the machine gets closer to the obstacle.

To further aid in safety, these sensors are often complemented by a standard camera that allows you to see what's behind you as you're reversing. Its purpose is to facilitate safe maneuvering around objects or persons within your line of sight. By pressing a button, you can activate the camera view, which is displayed on the cab's LCD monitor.

Don't overlook the importance of wearing proper clothing and personal

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Now, one estimator
accomplishes what
it took two people
to do before.”
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protective equipment (PPE). It can significantly help enhance safety protocols. Hard hats, safety glasses, high-visibility vests, gloves and steel-toed boots are essential tools to help protect against

potential risks and injuries.

3. Better Company Image & Reputation

Your company's reputation is everything

in the construction industry, and first impressions start with the appearance of your equipment when it arrives at the jobsite.

A consistently well-maintained appearance speaks volumes, conveying reliability, expertise and a steadfast commitment to quality. It can set your company apart from competitors. Take the time to make simple repairs to panels (or replace them if needed), as well as repair scratches or dents on the machines. It can go a long way toward impressing your customers.

4. Easier Maintenance & Inspection

You or your mechanic are much more efficient when working on clean machines. Every machine you own should have a maintenance schedule, which you can find in the operation and maintenance manual. Following this schedule is a highly

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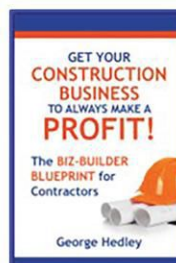
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effective way to get the performance you expect from your machines as they age. If you don't have the manual, ask your dealer for a copy of the maintenance schedule. Your dealer can also help with maintenance, as well as parts and service.

Many manufacturers offer telematics systems as standard features on equipment, making it easy for you and your dealer to remotely monitor and maintain your machines. You can see the health, location and productivity of your machine — all from a user-friendly mobile app and website.

The system also shows equipment status and can send notifications when it's time for service to minimize machine downtime. Some manufacturers offer a subscription-based monitoring service, in which a team of equipment specialists at a centralized location track your equipment, watching for critical machine fault codes,

upcoming and overdue service needs, and warranty expirations.

5. Better Resale Value

Regular cleaning can boost your equipment's resale value, making it more appealing to potential buyers. A clean machine signals that it has been well maintained throughout its life span.

6. Regulatory Compliance

Some industries regulate equipment cleanliness to meet compliance standards set by regulatory agencies such as the Occupational Safety and Health Administration (OSHA). These agencies require businesses operating heavy machinery in specific industries to maintain clean equipment — free from excessive dirt, dust, debris, oil and grease. This requirement aims to create safer working conditions for employees

and operators. Failure to comply with these appearance guidelines and safety regulations can lead to unexpected penalties, legal consequences and potential project delays.

When it comes to owning and operating construction equipment, appearance does matter. By recognizing its importance, you can improve your operations, enhance your efficiency and be more successful on your next jobsite. ▲

Jacob Sherman is the dealer and product marketing manager at Develon. Sherman has more than 20 years of experience in various aspects of the equipment industry, including sales, marketing and management. He holds a bachelor's degree in aerospace administration/business and an MBA with a secondary focus in economics and finance. Visit na.develon-ce.com.



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Fall Protection Strategies That Work

Key questions from project owners & the answers that will help all stakeholders defend against injury through the entire project life cycle

BY GURLAL SINGH



Fall protection is a highly important topic, yet it is often ignored. Falling from elevated work locations has been a leading cause of injuries and deaths in the construction industry. Falls can hurt an employee both physically and emotionally.

During construction, developing and implementing safety programs can help prevent accidents.

But what happens afterward?

After construction is complete, a building will require routine or nonroutine maintenance. This maintenance may include, but is not limited to, unclogging drains, cleaning windows and skylights, repairing and inspecting equipment installed at rooftops, etc.

As an employer, ask yourself this question: Have we provided a safe workplace for the workers performing these construction and maintenance activities? The Occupational Safety and Health Administration (OSHA) sets standards and regulations to protect workers. However, due to lack of

knowledge about these requirements, people don't always follow them. This puts both the employee and the employer at risk. You can avoid this risk by proactively putting enough fall protection in place.

The U.S. Bureau of Labor Statistics reported that during the period of 2014 to 2021, falls to lower levels accounted for 13% of all the fatalities in all industries. To improve the fall protection in workplaces, the U.S. Department of Labor announced a new national emphasis program. This will allow OSHA to initiate inspections whenever they observe someone working at heights.

According to OSHA, this will hold the employers accountable to provide safe working conditions for their employees. The program targets both construction and maintenance activities. To improve overall on-site safety, we all need to be more conscientious about the seriousness of fall hazards. We can all save lives. Below are answers to some common questions about fall hazards and ways to protect against them.

How does OSHA define a fall hazard?

According to OSHA, a fall hazard is a work location elevated at 4 feet in general industry workplaces, 5 feet in shipyards, 6 feet in the construction industry and 8 feet in longshoring operations. Note that some states have OSHA-approved state plans that may dictate different fall-hazard elevations. For example, in California, fall hazards start at 30 inches in general industry workplaces. Please review the state requirements along with federal requirements. Additionally, OSHA also requires fall protection when working over dangerous equipment and machinery, regardless of the fall distance.

What are the best ways to protect workers from falls?

Fall protection can be achieved by using one of the following methods:

- *Active fall protection* — This is a fall-protection system that workers need to actively engage with, such as safety tieback anchors, lifelines, safety tracks,

According to OSHA, a fall hazard is a work location elevated at 4 feet in general industry workplaces, 5 feet in shipyards, 6 feet in the construction industry and 8 feet in longshoring operations. Note that some states have OSHA-approved state plans that may dictate different fall-hazard elevations.

In addition to fall protection, what other safeguards can be built during construction that improve overall safety and add to the overall value of the building?

In addition to fall protection, you should consider access to all elevated work locations. While employees can use portable ladders to access those work locations, OSHA recommends providing fixed access ladders or roof hatches to eliminate user errors while setting up portable ladders. Some states that use the state's OSHA-approved requirements demand fixed ladders or roof hatches to provide access to elevated work locations. They will even have different criteria for each condition. In addition to access to work locations, you should also consider an exterior building maintenance system (EBM), or the "window cleaning system." Using ground-based equipment such as ladders, water-fed poles or aerial lifts to clean the windows are only safe to certain heights with certain safety precautions taken: Are there any high-voltage lines nearby? Is the ground stable enough to handle the loads required? Is the ground slope too great for certain ground-based equipment? Are there obstructions around that could impact the work area?

General contractors can play an important role in saving construction costs by considering and building these systems during construction and adding to the overall value of the building.

Let us collectively thrive for safer workplaces and remain mindful of hazardous working conditions. ▲

Gurlal Singh is the chief business officer at Lynn Safety Inc. He has worked on numerous projects designing and implementing solutions to the unique challenges clients face regarding exterior building maintenance and fall protection. Singh holds a bachelor's degree in civil engineering. He is motivated to spread education about fall protection. Visit lynnsafety.com.



etc. This is recommended when the work is not routine, since it involves competence of the worker, training and active certification of the system installed. One can also categorize these systems as "fall-arrest systems" (systems used to arrest a fall in case the fall occurs) or "fall-restraint systems" (systems that do not allow workers to fall and restrains them from falling).

- **Passive fall protection** — This is a fall-protection system that workers don't need to actively engage with, such as parapets and guardrails. The preference is to use these in routine maintenance work locations. This eliminates the user errors or malfunctioning of a fall-protection system.

When is permanent fall protection the best option?

The ideal time to consider a permanent fall-protection system is during the design phase of the project. That way, you can budget and implement fall protection during construction. Not considering fall protection is a common mistake that owners/developers make early during projects. Fall-protection systems don't just save lives — they save money as well.

We have approved permits from the city department. If they did not require fall-protection systems in our plans, why do we need to design and install them?

You may have received permits from city, state or government personnel who may not have full knowledge of OSHA's requirements. But OSHA doesn't

hold other government personnel responsible for knowing OSHA requirements — they hold you responsible. Designing and installing these systems upfront does cost money, but not installing fall protection is risky, and there can be an unfortunate accident if fall protection is not in place. When that accident occurs, OSHA investigates it. That investigation goes back to the start of construction to determine liabilities. It's better to be proactive and stay compliant rather than pay hefty fines or experience the injury or death of someone while working at the building you built. Per the National Council on Compensation Insurance's (NCCI) data, the average workers' compensation claim for falls/slips is more than \$48,000. City departments don't often call out missing fall-protection systems since they fall under OSHA's jurisdiction, but that doesn't mean the projects don't require fall protection. If you are a general contractor, your proactive approach to fall protection can save you and your clients from future liabilities.

The architect doesn't know the requirements. What are my options?

You can hire a safety consultant who will work alongside the project architect and provide design drawings for fall-protection systems. Doing this upfront may save you a lot of money and last-minute coordination that can push the project schedule back, cause headaches and cost a lot more money.

The 3 P's of Project Management

People, projects & processes: how these factors can improve outcomes for your business

BY JON ISAACSON



Project management is an essential function of any organization offering services in the skilled trades. Project managers feel they are overutilized and underappreciated by owners, managers, subcontractors and customers. Meanwhile, owners and managers wonder why their teams cannot consistently produce profitable projects with happy customers. Digging further into the three P's of project management can help all parties improve their processes and outcomes.

1. PM = People Management

First and foremost, project management is people management. While there are many people involved in the life cycle of a project, the people management at the focus of this article is the customer. The customer is not always right, but it is critical for the project manager to understand that the grading of the business experience has as much to do with how they feel about the process as it does with the project outcome.

People management means intentionally creating a consistent customer experience that reflects the organization's stated values. Intentional teams and project managers want the customer to be pleased with the unique way they approach a project. The key element of people management — and

improved customer experience as a result — is communication.

How many skilled trades professionals have heard a customer say, "I wish you would communicate with me less"?

Businesspeople hear it all the time: "Communication is key." Those skilled trade organizations that practice communication in a clear, consistent and functional way will set themselves apart. Because the project manager manages projects every day, they should be keenly familiar with the most common questions that customers ask. If the project manager wants to reduce unnecessary calls, questions and complaints from their customers, they can use their functional wisdom to develop proactive communication. Experienced professionals in the organization can create a process that helps project managers address and answer questions before the customer asks them.

- *Need* — Customer satisfaction
- *Skill* — People management
- *Key resource* — Communication
- *Level up* — Proactive communication

2. PM = Project Management

By capturing and acting upon these frequently asked questions, the intentional project manager will be empowered to be proactive rather

than reactive in their communication.

To be proactive and ensure that they are sharing quality, functional information, the project manager should use one of the most important tools in their toolbox: the schedule.

A good schedule shows that the project manager has control of their process, knows what they need to do to achieve the goal, operates a well-oiled machine for the customer and is able to adapt to new information. A good project manager is not a superhuman who never makes mistakes; they manage obstacles with skill and calm whenever they become a part of the equation.

A proper schedule is broken into three phases:

1. *Phase 1: Preproduction scheduling* — The first phase is creating a predictive process that helps the project manager, production team and customer understand what the sequence of the project will be.
2. *Phase 2: Post-acquisition scheduling* — Once materials have been selected, ordered and acquired, there is an update to the production schedule with the anticipated timelines for key items.
3. *Phase 3: Adaptive scheduling* — The role is called project management because everyone involved in the process must adapt to real-world conditions, which include constant changes.

How many skilled trades professionals have heard a customer say, "I wish you would not give me a schedule or update me in advance when something changes"?

A schedule should always be presented with the understanding that everything is subject to change at any moment. This does not mean that a schedule should not be provided for every job regardless of scope or size. Failure to plan is planning to fail. While many customers have unrealistic expectations, most don't expect the project manager to be perfect. Through the three phases of scheduling, the project manager can educate, explain and guide the customer through the process.

People and project management intersect whenever there is a delay or change to the schedule. Bad news does not get better with time, so the project manager should address changes sooner rather than later. Intentional project managers learn to speak in terms of solutions. For example, one might say, "We have an obstacle, but do not fear; I already have a contingency plan in the works, and here is what we are going to do to keep things moving forward."

- *Need* – Timely project completion (cycle times)
- *Skill* – Project coordination
- *Key resource* – Scheduling
- *Level up* – Adaptation

3. PM = Process Management

Process management refers to all the compliance tools and requirements that an organization incorporates into creating their unique outcomes. Internal communications and documentation are essential to equipping all members of the team with the same project information in real time. These include contracts, change orders, communication logs, jobsite photos, etc. One way to ensure the project manager is clearly and consistently communicating with the customer is

through a weekly job progress update. A simple, weekly job progress update is good discipline for keeping project managers on top of their process and informing the customer of job updates.

The following list is a job progress update format:

- What is the current percentage of job completion based on the existing contract?
- What is the estimated date of completion?
- What work has been completed this week?
- What work are we planning to complete next week?
- Are there any anticipated delays affecting the schedule?
- Have we updated all parties involved with the project on this information?

Project management requires external communication (customer) as well as internal communication (documentation). At the organizational level, it is essential to provide training for team members to set clear expectations for the communication process. Owners and managers can help their teams achieve their communication goals by allocating people and product resources to this essential function.

- What is the customer communication standard operating procedure?
- How often does the team train in the art of customer communication?

At the project manager level, communication should be clear, consistent and proactive. The customer should receive updates via an in-person meeting or phone call at least once a week, followed up by text and email verification. The test of whether communication has been successful is not whether the project manager has completed the function, but whether the customer has understood the communication.

- Have you provided the customer with a schedule and updated him

or her at least weekly on the job progress?

- Can anyone call the customer at any time, and would they say communication is good and that they comprehend the project life cycle?

Communication, adaptation and documentation are all key skills that must develop and evolve over time. Building out a clear, consistent and accountable operational system is what helps organizations to produce consistently positive outcomes.

- *Need* – Consistent outcomes
- *Skill* – Operations
- *Key resource* – Documentation
- *Level up* – Consistency and accountability

Developing the 3 P's

The organization and the individual project manager share the responsibility to develop these three P's. Too often the focus is on one element, which results in the others lagging. Organizations that want to elevate their customer experience, reduce their cycle time and produce consistent outcomes will understand the benefits of investing in these areas.

How the customer feels about the project is the measure by which they grade the team's performance. As professionals, we often focus on the project-related skills, but if any of these three elements deserves more of a focus, it would be people management. Organizations that learn with their team members how to develop and evolve these three skills will continue to set themselves apart from their competition. ▲

Jon Isaacson is a general contractor based in Tacoma, Washington. He is the author of several books and host of The DYOJO Podcast. Content from The DYOJO aims to help contractors shorten their DANG learning curve. Visit youtube.com/thedyojo.





Should You Rent or Buy?

A 3-question guide for business growth & success

BY PETE CUNNINGHAM

You have a good problem on your hands: You have several lucrative jobs running and won a bid for another that would last five to six months. While assessing your equipment needs, you realize the new job requires a mini excavator — but your unit is already in use. To complete the job, you must make a critical business decision: rent or buy?

Renting equipment has many benefits. It can increase the capabilities of your business and help it grow without the commitment that comes with purchasing equipment. Depending on the situation, renting can be a smarter long-term business decision, leading to greater

profitability. And it can maximize labor power and help address skills gaps, improving jobsite productivity.

While renting can be advantageous, sometimes it's hard to determine when it's better to rent or purchase equipment. To remain competitive, it's important to choose the option that is most profitable in the long run and ensures the job is done efficiently and successfully.

The following guide can help you decide between the two options.

1. Will the cost of the equipment outweigh its long-term value?

One of the biggest factors when deciding

whether to rent or buy is the financial impact over the life of a machine. By nature, purchasing has a larger upfront cost than renting. If the machine will see a lot of use and generate income that's greater than its monthly payment, the investment will likely be worth it. If the utilization won't generate return on investment, renting is more viable.

A standard rule for most equipment, like compact track loaders, excavators and skid steers, is that if you will need the equipment for longer than a year, purchasing makes more financial sense than renting. If it's a year or less, a rental is likely a smarter decision.

Consider the mini excavator situation. Normally, you would use your purchased mini excavator for the entire length of the job, but your unit is already in use on another jobsite. Since the second job is only five to six months long, it's probably advantageous to rent a mini excavator for the new job and return it when you complete the job.

However, there are exceptions. If the required machine is a very high-dollar piece of equipment — like a boom lift — and the project it's needed for is finite, it may be more financially sound to rent for a year or longer. It's also important to consider any potential tax deductions for rental costs.

If you decide to purchase new equipment rather than rent, it's important to hang on to it long enough to maximize the financial benefit. You can depreciate it over a few years to gain tax advantages. But once it's completely depreciated, it no longer has a tax advantage. It's important to depreciate it enough so the fair market value or sale price of the asset is higher than the residual value to make a profit when it's sold. There are a few ways to do this, and if you need help or have questions, you should consult your accountant.

2. How do maintenance labor, cost and downtime affect the job?

Maintenance is a part of the long-term financial impact of owning equipment. As you know, when you own your equipment, you're fully responsible for its service and care. If this equipment has an issue, you must pay someone to service it, either on your payroll or from another company. This maintenance can result in extended downtime and extra costs.

On the other hand, if you rent a piece of equipment, you are not fully responsible for maintenance and care. If an issue arises, the rental company will send someone to fix it. You're not stuck paying for this repair or maintenance, and you can shorten your downtime.

3. What does the job need and what challenges does it present?

Every jobsite has unique requirements



and obstacles. Do you have a limited labor pool? Are there skills gaps? Does your company have equipment that can do the job you're being asked to do? Renting

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equipment makes it possible to address these needs and challenges without long-term commitments.

Most rental companies renew their fleet

every 36 to 42 months, and they usually bring in new models regularly with the latest technology. Premium rental equipment often has the highest

efficiency, greatest operator comfort and ergonomics, best machine control and most intuitive operation.

With current talent retiring and newer operators running machines with less time in the seat, you might have operators with limited skills or experience. Renting equipment with automated modes and intuitive operation can ease skill-set pressures, as the machine control can do some of the work automatically. For example, some equipment allows an operator to set an exact grade or dig a hole to a precise depth.

You might also be short-staffed and have more work than you can handle. It's important that you consider renting versatile equipment that maximizes your manpower. In the past, you may have rented several pieces of equipment, such as an excavator, a compact track loader or a skid steer. But today, that's too many

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A standard rule for most equipment, like compact track loaders, excavators and skid steers, is that if you will need the equipment for longer than a year, purchasing makes more financial sense than renting.

operators. Instead you might want to consider renting a piece of equipment that performs two jobs with one operator, such as a backhoe.

To get more work done with one machine, you may also consider renting different attachments. Attachments provide flexibility on the jobsite and maximize the work one machine — and one operator — can do. It's important to note rental companies may only rent out attachments with a machine and not by themselves to prevent fluid cross-contamination.

Another situation that makes renting a

better option is when you're asked to do work outside the normal scope of your services. For example, a landscaper might be asked to put in a retaining wall. Since it's not something they normally do, they may not own the right machine for the job, so renting is a profitable solution.

Making Decisions That Drive Growth & Success

To remain profitable, satisfy your customers and grow your business, knowing when to rent and when to purchase equipment is critical. It's equally

important to build a strong relationship with your rental salesperson. Building a partnership of trust can be mutually beneficial, and depending on the reach of the rental company, their support can follow you wherever you work.

By considering cost differences, ease of serviceability and the job's needs and challenges, you can make solid rental decisions to empower your construction operators, win more jobs and move your business ahead. ▲

Pete Cunningham has been in the equipment rental and original equipment manufacturer (OEM) business for more than 30 years. He currently leads remarketing and rental strategies for Case Construction Equipment. Previously, he was a regional vice president and director of operations for one of the largest equipment rental companies in the nation. Cunningham has extensive management and profit-and-loss (P&L) experience. Visit casece.com.



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How Tech Can Help Contractors Improve Safety & Project Performance

Explore the latest tools to minimize delays, reduce mistakes & increase productivity

BY KEN NAUGHTON & JAMES FRANKLIN



Some of today's toughest challenges for construction owners and general contractors (GCs) involve keeping workers safe on the job and ensuring the overall health of their projects. Balancing safety and productivity are critical to any construction business's ongoing success.

Whether your work involves commercial projects, water/sewer, pipeline excavation or demolition, you never want to be hit with a costly Occupational Safety and Health Administration (OSHA) violation, which can range from \$15,625 per violation to a maximum of \$156,259.

Barely scraping by on razor-thin profit margins is also not a business model most contractors want to run. But this is often the result when construction firms don't standardize their data or use digital tools that integrate with their other tech solutions.

The solution? Adopt the right digital technology and automation tools to eliminate safety blind spots and improve overall project delivery for a stronger return on investment.

Firms that implement the right digital automation-based tools can transform how they handle emergencies and embed digitization and automation strategies for efficiency. Adopting emerging tech

— including cloud-based software and wearables — is essential for firms to stay competitive.

Construction Industry Obstacles

First, let's look at the pressures most GCs face on any project.

Construction is known as a high-volume, low-margin industry. Of late, it has been experiencing an even greater squeeze due to labor shortages, fluctuating material costs and the lingering impacts of war and the pandemic.

According to McKinsey's "Construction Productivity Imperative" report, 98% of commercial contractors reported that their projects experience delays or cost overruns. Complicating matters further, these projects go 80% over budget, on average.

Today's construction companies are capital-intensive, involving fixed assets like tools, heavy equipment and vehicles. Many construction businesses scrape by from project to project with little room for errors or OSHA fines.

Eliminating Safety Blind Spots

Like productivity and profitability, safety can be a struggle because of the very

nature of the projects themselves.

Many activities on the construction jobsite expose workers to serious hazards, such as falling from rooftops, being struck by heavy equipment, unguarded machinery, electrocution, silica dust and asbestos. The cost of workplace injuries can add up quickly. The average workers' compensation claim is more than \$42,000.

What if you could see at a glance whether contractors coming onto a jobsite have been trained on the proper safety protocols? Do they have the appropriate personal protective equipment (PPE)? What if you could drill in to whether workers were waiting for a safety inspection or permit?

Automation-based tools like cloud-based software and wearables can deliver real-time visibility. Even better, in an emergency, automation-based tools can provide additional support at the worker level, unlocking critical data.

For example, industrial Internet of Things (IIoT) wearables provide sensors that collect and transmit data into cloud-based software across a standalone network independent of your internal IT infrastructure. You can then easily access real-time data about the work happening on the jobsite.

This elevates jobsite visibility, safety and security, and connects workers, equipment and operations through a scalable, minimal infrastructure network. With this, you have real-time, data-driven visibility into site access, worker and equipment location, manpower, safety incidents, and evacuation and muster procedures. It provides actionable insights to streamline processes and improve safety and productivity.

With the right tools, GCs can know the location of all workers to reduce muster time and ensure OSHA compliance. This provides real-time visibility into who has mustered and where during an emergency. First responders can appropriately prioritize search-and-rescue efforts based on real-time location data. Seconds can mean the difference between a positive outcome and a fatal one.

By digitally tracking contractors and equipment utilization, project owners and managers can identify and eliminate safety blind spots to decrease time to safety.

Real-Time Data Is a Game Changer

In a manual environment involving spreadsheets and phone calls, accounting for where all workers are on a jobsite can be challenging. When emergencies arise, manually collecting and consolidating muster rosters can cost valuable time.

Companies that leverage IoT digital solutions have seen up to 70% faster muster times.

With digital automation, project owners can see who is on-site and have insight into contractor fatigue and equipment usage. Using this data, contractors can make informed decisions on how to schedule and utilize workers experiencing higher fatigue rates than others, reducing the risk of an incident.

In this case, software tools provide fatigue dashboards and an alerting system so contractors know who is nearing or reaching their limit for hours worked. You

can set alerts for daily thresholds (such as 14 consecutive hours on the job) and consecutive-day thresholds where you receive alerts (such as on the 14th day).

Monitoring fatigue can be critical on a construction site where 40% of all construction workers in the U.S. are 45 years or older. According to the Mechanical Contractors Association of America, something as simple as wasting motion climbing a ladder can set construction companies back more than \$5,500 per worker per year. The more you move, the easier it is for your muscles to tire out. Fatigued muscles slow your output down and increase the potential for injury.

You can also use digital tools to keep up with equipment. Equipment utilization software can track and provide insight into equipment usage. Analyzing the amount of time equipment is idle or being used can mean better decision-making.

For example, software tools can reveal patterns of extended idle time during specific hours or days, indicating opportunities for scheduling adjustments or resource reallocation. It may also highlight equipment that consistently experiences high idle time, indicating the need for maintenance or replacement.

Knowing all machinery used for construction is up to date and meets safety standards also means you bake informed decision-making into your business process. Better monitoring of contractors and equipment means better safety, value and productivity.

Automating for Productivity

Many GCs use complex digital systems, generating a vast amount of data. Integrating and consolidating the data into a centralized platform can be challenging, especially with legacy systems.

Leaning into powerful, new automation tools allows contractors to access the insights and capabilities to keep workers safe and mitigate emergencies. Plus,

automating safety frees up project management to focus on project timelines and productivity to ensure the overall health of a construction project.

When contractors and project owners lean into contractor data management tools, it is a win-win for both sides. All aspects of the owner-contractor relationship are brought into one real-time view. For example, spend management software can match actual hours worked with scheduled hours, rates and other details, and actively control all on-site aspects of project spend.

Increased transparency and accountability mean payment accuracy for contractors and fewer conflicts. With a single shared source of truth, owners and contractors get real-time visibility into work site productivity and progress, ensuring everyone is on the same page.

You can also identify resourcing issues such as the availability of skilled labor, equipment and materials earlier, allowing for proactive resolutions. This helps to minimize delays and costly mistakes, as well as increase productivity. ▲

Ken Naughton is currently the president of Management Controls, where he is leading and growing the company toward continued success and expansion. He has been with MCI since April of 2011, previously holding the positions of vice president of consulting services and chief operating officer. In his experience, Naughton has gained expertise in executive level relationship management, project execution, business development, project management and staff development. Visit managementcontrols.com.



James Franklin is the CEO at Triax Technologies. Dedicated to making work sites safer and more productive, Franklin brings more than 20 years in technology leadership with market leaders such as Oracle, HP and Accenture. His success with wearable solutions at Omnilink, where he started and led their commercial location-based services business, is well aligned with the Triax products and innovations. Visit triaxtec.com.



New Products to Watch

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KEEN UTILITY Camden work boots

Released: 7/27/23

Availability: U.S. market

What's new? Keen Utility's Camden work boots have full-grain, barnyard-resistant leather uppers; dry, waterproof, breathable membranes; and 360-degree Goodyear welt and air-infused Luftcell midsoles to give ultra-stable and all-day comfortable work platforms.

Specs: Safety features include asymmetrical carbon-fiber safety toes that are unobtrusive and 15% lighter than steel, EH-rated oil- and slip-resistant rubber outsoles, and 90-degree heels to provide secure footing and stability while doing work on ladders, poles and other structures.

CURB ROLLER MANUFACTURING ▶

Lynx Screenshot

Released: 7/25/23

Availability: U.S. market

What's new? Curb Roller Manufacturing developed its first modular screed system, the patented Lynx Screenshot. This versatile alternative to completing flatwork provides a series of linkable screed pipes to accommodate concrete pours in varying widths from 3 feet to 22 feet. Unlike traditional roller screeds, the Lynx modular system eliminates the need for purchasing dedicated pipe lengths to offer easy adaptability for a multitude of pours. Its aluminum design decreases strenuous setup, shipping costs and transportation requirements for jobs that call for longer pipes.

Specs: The Lynx modular screed system, compatible with the manufacturer's Eel and Batt screeds, offers six pipe lengths that range from 3 feet to 9 feet. Package options are available, and you can customize the system to include pipe combinations that total up to 22 feet in length. In addition to more versatility over standard roller screeds, the Lynx Screenshot offers greater ease of use and reliability compared to other modular systems on the market through its quick and secure field assembly design.



TOPCON Aptix integration platform

Released: 7/11/23

Availability: U.S. market

What's new? Aptix

is a new integration platform as a service (iPaaS) to optimize how construction professionals manage heavy civil construction projects. Aptix integrates Topcon solutions with multiple third-party

applications to automate and orchestrate data connections between the office and jobsite on machine control files, constructible models, project schedules and reports on actuals. It shows, in near real-time, the location of machines with the ability to aggregate as-built data from mixed fleet telematics. It provides real-time reports on people, materials, machines and carbon dioxide emissions, creating greater visibility for carbon footprint and sustainability initiatives.

Specs: One of the key differentiating features of Aptix is its ability to automate the distribution of constructible models and scheduled task changes. Aptix integrates with industry-standard applications. Through these integrations and others, Aptix actively monitors file updates within Autodesk Build, Autodesk Docs, BIM 360 and Microsoft OneDrive. As soon as a constructible model or schedule change occurs, it automatically distributes these updates to all key stakeholders, ensuring that operators have access to the most up-to-date models and scheduled tasks and that project managers have up-to-date reports.

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- ☐ 02 \$500,001 – \$1,000,000
- ☐ 03 \$1,000,001 – \$2,500,000
- ☐ 04 \$2,500,001 – \$5,000,000
- ☐ 05 \$5,000,001 – \$10,000,000
- ☐ 06 \$10,000,001 – \$20,000,000
- ☐ 07 \$20,000,001 – \$50,000,000
- ☐ 08 More than \$50,000,000

4. Which of the following products/services are you planning to buy during the next 12 months?

(Check all that apply)

- ☐ 01 Earthmoving Equipment
- ☐ 02 Trucks, Trailers and Accessories
- ☐ 03 Compact Equipment
- ☐ 04 Lifting and Hoisting Equipment
- ☐ 05 Safety Equipment and Apparel
- ☐ 06 Attachments
- ☐ 07 Concrete and Paving Equipment
- ☐ 08 Survey and Site Prep
- ☐ 09 Compressors, Generators and Pumps
- ☐ 10 Financing and Accounting Services
- ☐ 11 Software and Technology
- ☐ 12 Insurance and Bonding
- ☐ 13 Training and Education
- ☐ 14 Telecommunications
- ☐ 16 Greases, Lubricants and Filters
- ☐ 17 Jobsite Lighting
- ☐ 18 Building Supplies
- ☐ 19 Rental Equipment
- ☐ 21 GPS Equipment and Security

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Annual Value of Construction Put in Place

June 2021/2022/2023 Annual Rate Comparison

This chart compares the two previous years' total value of construction put in place to an annual forecast based on June 2023 figures. (Millions of dollars. Totals may not add up perfectly due to rounding.)

	2021	2022	2023
Total Private Construction	1,215,214	1,416,405	1,516,910
Residential	763,403	923,721	856,302
Nonresidential	451,811	492,684	660,607
Total Public Construction	336,986	345,912	421,447
Residential	8,942	9,190	10,106
Nonresidential	328,044	336,722	411,342
TOTAL Construction	1,552,200	1,762,317	1,938,357

*Seasonally Adjusted Annual Rates. Source: U.S. Census Bureau

\$1,938,357

JUNE 2023 TOTAL ANNUAL VALUE OF
CONSTRUCTION PUT IN PLACE

“It is encouraging to see **two consecutive months of stability in billings** after a couple quarters of weakness due to high inflation, rising interest rates and increased construction costs,” said AIA Chief Economist Kermit Baker, Ph.D., Hon. AIA. “We are **still facing some headwinds in the broader economy**, but this respite suggests that **market conditions may be finding firmer ground.**”

AIA Architectural Billings Index (ABI)

National			*Regional - Billings				*Sectors - Billings			
Month	Billings	Inquiries	Northeast	Midwest	South	West	Multifamily Residential	Commercial/Industrial	Institutional	Mixed
Jan-23	49.3	55.2	50.9	51.6	46.9	51.3	45.9	46.8	48.6	56.0
Feb-23	48.0	55.0	48.4	48.8	47.3	50.4	46.2	45.8	46.9	57.0
Mar-23	50.4	53.1	49.1	51.4	47.4	47.2	44.2	49.7	48.8	53.9
Apr-23	48.5	53.9	47.2	51.2	48.7	49.3	41.5	51.8	50.6	52.1
May-23	51.0	57.2	48.7	49.6	52.3	47.7	43.0	47.5	53.4	52.7
Jun-23	50.1	56.7	50.6	52.4	50.5	48.6	47.4	47.8	55.4	48.8

For more information on the index or to subscribe to the complete historical data going back to 1995 for your internal analysis, **please contact economics@aia.org**. The ABI presents monthly construction billings data, using a base score of 50. A score of more than 50 indicates a growth from the previous month, and a score of less than 50 indicates a contraction from the previous month. A score of 50 indicates no change. Source: The American Institute of Architects (AIA), Architecture Billings Index (ABI).

*Regional and Sectoral indexes are three-month moving averages, due to small sample size. All data is seasonally adjusted.

**Every January, the AIA research department updates the seasonal factors used to calculate the ABI, resulting in a revision of recent ABI values.

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