

CONSTRUCTION SAFETY MANAGEMENT BEST PRACTICES

2026 CSEA



AGC
THE CONSTRUCTION
ASSOCIATION

wtw | Willis

STARR

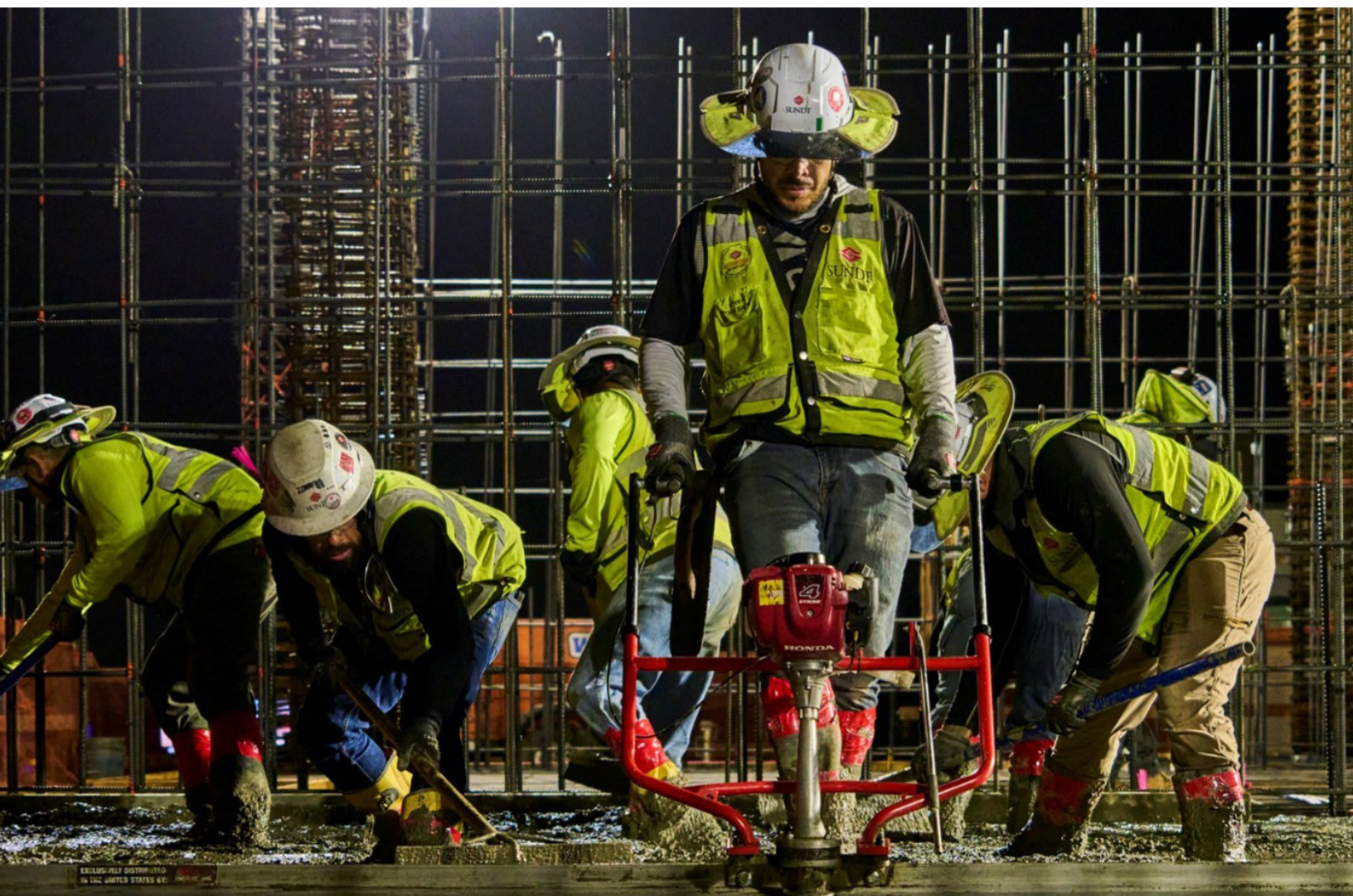


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INTRODUCTION

On March 26, 2026, around 900 contractors attended the AGC, WTW | Willis and Starr Construction Safety Excellence Awards (CSEA) breakfast that was held at the AGC National Convention in Orlando, Florida. Justine E. Sclafani, VP and Profit Center Manager Primary Construction, Starr, Trey Pebley, Vice President, AGC of America, and Jonathan Oppenheim, Head of Willis North America Global Construction Specialty and Certified Mental Health First Aider introduced the awards. Justine Sclafani noted “Your investment in safety may look different for each of you, but the end goal is the same, that everyone feels safe coming to work. We are all responsible for a piece of this equation. We must continue to do three things: educate, train, and protect the worker. To all the finalists this year, thank you for demonstrating that fundamental commitment to safety and for setting the construction industry safety bar a little higher once again this year”.



L-R Trey Pebley VP AGC of America, **Justine E. Sclafani**, VP and Profit Center Manager, Primary Construction - Starr, Reese Fortin, Sundt - District HS&E Manager, Paul Levin, Sundt Corporate HS&E Leader, Cade Rowley, Sundt President and CEO, Jonathan Oppenheim, Willis Head of North America Global Construction Specialty

Willis, a WTW business, and Starr continue an over three-decade partnership to support the CSEA program which helps facilitate the construction industry’s commitment to safety. Willis, AGC of America and Starr are proud to continue our longstanding partnership dedicated to advancing safety in the construction industry.

Through combined efforts in funding, technical guidance, marketing and knowledge sharing, we’ve built a national safety culture that spans decades and crosses all geographic borders. The AGC, Willis, and Starr CSEA program is the industry’s elite safety excellence awards program for companies of all sizes and occupational divisions. It is unique because finalist contractors make a 5-minute oral presentation to five judges and the judges ask each finalist a series of unknown questions for 10 minutes. The CSEA program recognizes companies that have developed and delivered premier safety and risk control strategies.

The CSEA showcases companies that have achieved continuous improvements and maintenance of their safety, health, and risk management systems. In 2026, there were 120 total award applicants and 65 total finalists among 6 divisions and 22 categories.

In 2026, the Grand Award for Construction Safety Excellence was presented to Sundt Construction. The first-place winner of each category was included in the evaluation that determined the “Best of the Best” of the 2026 Construction Safety Excellence Awards finalists.

PROFILE OF THE GRAND AWARD WINNER



For 2026, there were 120 contractors across the US that applied for the Construction Safety Excellence Awards (CSEA) competition. There were 65 contractors that advanced to the final judging selection process in Orlando Florida. All 65 finalists were winners. For over 30 years, the finalist judges have selected one contractor as the Best of the Best Grand Award Champion. Over the years, the CSEA Grand Award winners have come from every division and represent contractors of all sizes.

Sundt Construction, Inc. of Tempe, Arizona was recognized as the Grand Award winner by the AGC Construction Safety Excellence Award. Sundt competed in the Heavy Division, over 1 million work hours category, and was selected from among 21 first-place winners across the competition. The recognition marks Sundt's third AGC CSEA Grand Award, following previous wins in 2006 and 2016.



A BUILDER WITH SHARED OWNERSHIP AND SHARED RESPONSIBILITY

For Sundt, the award reflects more than one year of performance. It points to a culture built over decades, then reshaped in recent years as the company studied how a contractor with strong traditional safety performance could continue reducing the risk of serious injuries and fatalities across a larger, faster-growing and more diverse construction portfolio.

Sundt put forward Safety by Choice in 2010, choosing to aim above and beyond compliance, and achieved dramatic reduction in average annual RIR. Seeing industry fatalities hadn't fallen with RIR, Sundt strengthened their program with Stop The STCKY® in 2019, an energy-based safety framework designed to identify the highest-risk work, apply direct controls and safeguards, and measure whether those protections performed before someone is seriously hurt.

Sundt's safety story is closely tied to its business model. The company is 100% employee-owned,

with skilled craft professionals and administrative staff sharing a direct stake in the company's performance and reputation. That ownership structure gives Sundt a practical way to connect safety, quality, production and long-term value. The people planning the work, performing the work and leading the company are all invested in the same outcome: work done well, with everyone returning home safely at the end of the day.

That matters in a company with Sundt's scale and range. Founded in 1890, Sundt now operates across major markets that include transportation, water and wastewater, advanced facilities, heavy industrial and mining, building, concrete and renewable power. Its work ranges from civil infrastructure to complex manufacturing and advanced technology facilities, from water reclamation to renewable energy, from urban universities, airports and transit systems to rural factories and roadways. A lift plan on a water project, a trenching operation on a transportation job, a confined-space entry at an industrial facility and a high-production concrete placement all require different considerations, but they share a common safety principle: energy must be recognized, controlled and verified.

Sundt's recent growth has made that principle more important. As the company has expanded its workforce, geography and market presence, it has also needed a common safety language that travels across regions, delivery models, trades and scopes. Stop The STCKY® gives the organization that language. It helps employee-owners, trade partners and clients focus on the hazards most likely to change a life in an instant.

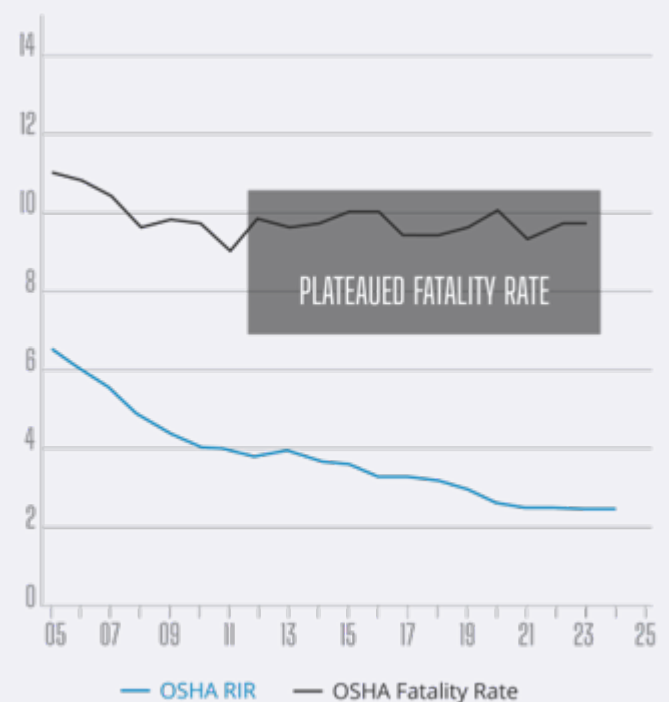
"EARNING THIS AWARD FOR THE THIRD TIME REFLECTS HOW WE CONTINUE TO LIVE OUT OUR CORE VALUE OF SAFETY TO ENSURE EVERYONE GOES HOME TO THEIR LOVED ONES, EVERY DAY."

CADE ROWLEY, PRESIDENT AND CEO, SUNDT CONSTRUCTION

WHY SUNDT CHANGED THE CONVERSATION

For many years, the construction industry used recordable incident rates, experience modification rates and other lagging indicators as the primary scorecard for safety. Those measures still matter, but Sundt's safety leaders recognized a critical gap. Across the industry, recordable injury rates have improved over time while fatality rates have remained stubbornly high. That gap suggested that the industry was getting better at reducing many injuries without fully addressing the high-energy hazards that cause the most severe outcomes.

Sundt began studying its own incidents through that lens. The company had strong traditional metrics, including what its internal materials describe as world-class RIR performance. At the same time, the company was still experiencing a





THE FATAL 8

1. S#! That Lifts
2. S#! That Moves or Crushes
3. S#! That's Built at Heights
4. S#! That's Built Underground
5. S#! That's Hazardous
6. S#! That's Energized
7. S#! That Stores Energy
8. S#! That's Built in Confined Spaces

high volume of total incidents, including near misses, property damage, equipment damage, utility strikes and other events that did not always show up as recordable injuries. Those events offered data that could help Sundt see risk earlier. The resulting shift was direct: stop relying on luck as an invisible part of safety performance. If an event had serious injury or fatality potential and no one was hurt only because the timing was fortunate, Sundt wanted to know that. If the right controls were in place and a high-energy event was contained, Sundt wanted to recognize and repeat that success.

That shift led to a focus on the STCKY®, short for the Sh*t That Can Kill You, and the development of a program to put a stop to those risks. The name is intentionally plainspoken because the hazards are plainspoken. They include the work that lifts, moves, crushes, stores energy, becomes energized, takes place underground, occurs at heights, involves hazardous conditions or requires entry into confined spaces. In Sundt's framework, these are the Fatal 8, the high-energy hazards most likely to produce serious injuries or fatalities.

SAFETY BY CHOICE: BELIEFS, ACTIONS AND RESULTS

Safety by Choice remains the foundation of Sundt's culture. The program emphasizes why people work safely, including family, friends, health and pride in the craft. It also emphasizes recognition. When workers make strong safety choices, Sundt wants those choices seen, reinforced and repeated. Stop The STCKY® adds a sharper operating system to that culture. It turns the company's belief in personal ownership into a field process: identify high-energy hazards, implement direct controls and safeguards, execute the controls with discipline, verify them through field engagement, and learn from every event.

The framework uses simple but important distinctions. Direct controls are the offensive moves that prevent energy from being released. Safeguards are the defensive protections that reduce exposure if energy is released. Both are planned, reviewed and verified. A crane outrigger set correctly on stable ground, an approved lifting point, a lockout device, an excavation protective system, a rated

anchor point, a controlled access zone, a spotter and a barricade are not paperwork. They are the protections that stand between high-energy work and a high-consequence event.

By focusing on direct controls and safeguards, Sundt gives crews a practical way to talk about safety during planning and while work is underway. The question becomes whether the energy has been identified and whether the protection is in place. That approach allows leaders and craft professionals to discuss risk without waiting for an injury to prove that the risk existed.

MEASURING PROTECTION AND OUTCOMES

A central reason Stop The STCKY® stood out is the way Sundt measures safety. The company still uses traditional metrics such as TIR and RIR, while adding context those metrics cannot provide on their own. Every incident, near miss or observation is reviewed for high-energy potential and classified through a STCKY lens.

A STCKY Success means a high-energy hazard was present and the controls or safeguards worked as intended. A STCKY Luck event means high-energy potential was present without adequate controls, but no one was injured. A STCKY Injury means energy was released and caused harm. This classification lets Sundt learn from the events that traditional systems may miss, especially near misses where no injury occurred.



The company’s internal STCKY materials show why this matters. In FY2019, Sundt recorded 684 STCKY incidents with a reported STCKY Success rate of 5% and a STCKY Luck rate of 94%. By FY2024, the materials show 1,069 STCKY incidents, a STCKY Success rate of 66% and a STCKY Luck rate of 34%. Sundt’s draft playbook describes that change as a 13-fold improvement in STCKY Success over five years. The trend shows a growing ability to identify the serious stuff, apply protection and document where protection performed.

YEAR	STCKY INCIDENTS	STCKY SUCCESS	STCKY LUCK	NOTES
FY2019	76	5%	94%	Baseline from STCKY materials
FY2025	248	73%	27%	15x improvement in STCKY Success

STCKY WALKS PUT THE SYSTEM IN THE FIELD

Stop The STCKY® is built around field verification. Sundt’s safety page describes a requirement for each on-site operations employee to conduct one STCKY Walk per week. The purpose is to proactively identify high-energy hazards and verify that needed controls are in place. The walk is a leadership behavior, a coaching opportunity and a data source.

The best STCKY Walks are conversations, not clipboard exercises. They bring leaders into the work

area to ask what energy is present, what controls are protecting the crew, what safeguards are in place if conditions change, and what support the crew needs before the work continues. That changes the tone of safety engagement. Instead of looking only for violations, the walk looks for protection and gaps in protection.

The data then returns to the organization through dashboards, weekly reviews and incident learning. Sundt tracks STCKY Success, STCKY Luck, STCKY versus non-STCKY incidents, STCKY Walks, stop work activity and energy-based indices. By reviewing those measures regularly, the company can identify patterns across jobsites and make adjustments before a pattern becomes a serious event.



WORKFORCE VOICES AS A SAFETY CONTROL

Sundt's culture also depends on workers having a real voice in the conditions of the jobsite. The company's Craft Voices in Safety program, or CVIS, is designed to maximize craftworker involvement and feedback while encouraging respect, collaboration, integrity and innovation. On Sundt jobsites, representatives from Sundt, clients and trade partners participate in recurring CVIS walks or meetings led by safety managers.

The structure matters because many of the best risk controls come from the people closest to the work. Crews understand the sequence, the pressure points, the handoffs and the places where the plan may not match the field. CVIS gives those observations a channel. It also creates a setting where workers can raise concerns about upcoming scopes before the task begins, rather than after an incident or near miss.

In Sundt's culture, engagement is not limited to supervisors or safety professionals. It is expected from everyone who can see a hazard, suggest a better control or stop work long enough to verify protection. That expectation fits employee ownership. When the company belongs to the people doing the work, safety accountability is shared across roles and reinforced by the pride of ownership.

INNOVATION THAT REDUCES EXPOSURE



Stop The STCKY® is the centerpiece of Sundt's safety program, but it sits inside a wider effort to use technology, process design, training and partnerships to reduce exposure before workers face uncontrolled energy in the field.

Autonomous and assisted equipment

Sundt's partnership with Bedrock Robotics points to one direction for future jobsite safety. Public reporting has

described Bedrock and Sundt automating excavators for heavy civil site preparation on a 130-acre manufacturing facility project in the Southwest. Where appropriate, supervised autonomy can help shift workers away from repetitive high-exposure tasks and give project teams new ways to coordinate heavy equipment operations.

Fleet safety technology

Sundt safety leadership is also rolling out AI-enabled dashcams across the vehicle fleet, paired with a safety score improvement incentive program. This is an important example because it extends Safety by Choice beyond the fence line and has already seen dramatic improvements in safe driving. Driving is one of the most common high-exposure activities in a large construction business, and coaching based on real driving behavior can help reduce preventable risk.



Heat safety leadership

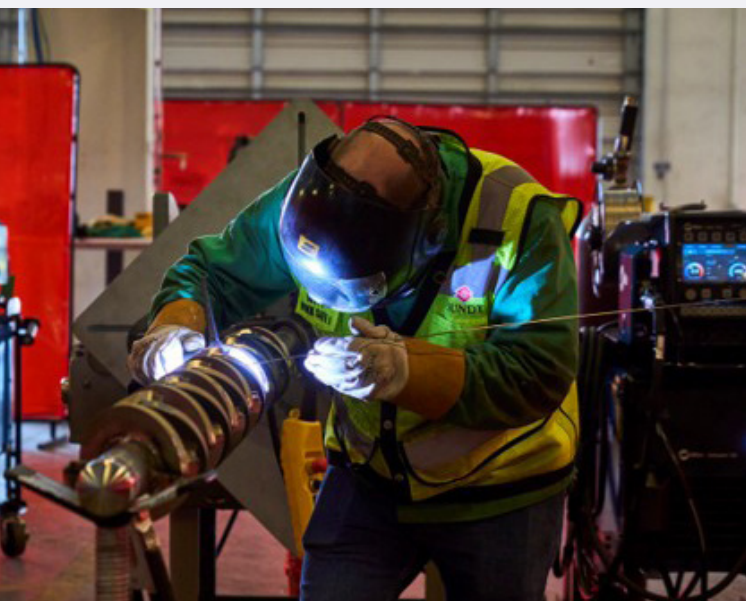
In Arizona, Sundt's safety leadership has contributed to statewide conversations about heat safety standards for construction and other industries. That work aligns with Sundt's broader approach to safety as an industry responsibility and a company performance measure.

DESIGNING SAFER WAYS TO BUILD

Offsite manufacturing

Sundt's investment in offsite manufacturing is another safety story. By shifting certain fabrication activities away from congested jobsites and into controlled environments, the company can improve planning, quality control and repeatability while reducing exposure to weather, congestion, access constraints and overlapping field operations. Sundt's offsite manufacturing capabilities include pipe

racks, skids and larger modular assemblies, allowing field teams to focus on safer, more predictable installation work.



Mental health and FIT 4 Duty | Ready 4 Work programs

Sundt's safety program also recognizes that readiness includes physical and mental health. The company's mental wellness resources include multiple levels of Mental Health First Aid training, resource kits, and a robust EAP. The newest addition to the program, Sundt's Fit 4 Duty | Ready 4 Work efforts, reinforce the connection between wellness,

attention, fatigue, decision-making and safe execution in the field.

Craft development and safety career pathways

Sundt's growth has increased the need for safety leaders who understand the work from the field up. Launched in 2025, Sundt's HSE&E Skill Builder program is a development pipeline connecting to craft

"THE STCKY PROGRAM HAS COMPLETELY CHANGED HOW WE VIEW AND MAKE DECISIONS ABOUT HAZARDOUS WORK."

PAUL LEVIN, SENIOR VICE PRESIDENT AND DIRECTOR OF HEALTH, SAFETY & ENVIRONMENT, SUNDT CONSTRUCTION

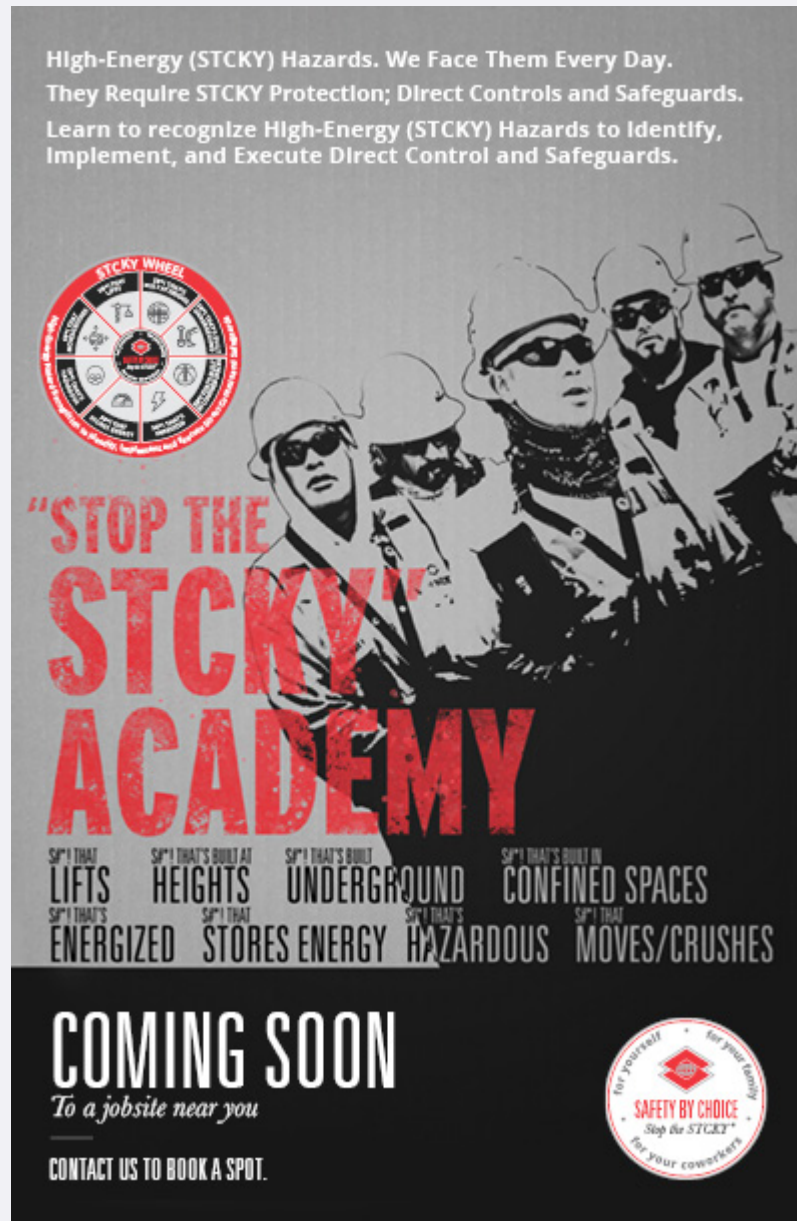
involvement in CVIS with opportunities to take on full-time roles as safety professionals.

SHARING THE FRAMEWORK BEYOND SUNDT

A defining feature of Sundt's safety program is its willingness to share. Sundt's public announcement states that the company has provided Stop The STCKY® training to more than 80 companies since introducing the program. That matters because serious injury and fatality prevention is an industry-wide challenge. A contractor can improve its own metrics, but a true safety vanguard helps shift the expectations of the market.

Stop The STCKY® gives other contractors a model they can understand and adapt. It does not require the industry to abandon established safety systems. It asks teams to add a more precise field test: identify the energy present, confirm which controls directly prevent release, confirm which safeguards prevent exposure, verify that protections are implemented and executed, and distinguish between work that ended safely because the system worked and work that ended safely because of fortunate timing.

Through STCKY Academy, Safety Week programming, the Stop The STCKY® website and direct training with other companies, Sundt has positioned the framework as both a company program and an industry contribution. That combination helps explain why the AGC recognition carries weight. The award honors performance, but it also points to a safety model that can influence how construction companies define excellence in the years ahead.



High-Energy (STCKY) Hazards. We Face Them Every Day. They Require STCKY Protection; Direct Controls and Safeguards. Learn to recognize High-Energy (STCKY) Hazards to Identify, Implement, and Execute Direct Control and Safeguards.

"STOP THE STCKY" ACADEMY

SPY THAT LIFTS SPY THAT'S BUILT AT HEIGHTS SPY THAT'S BUILT UNDERGROUND SPY THAT'S BUILT IN CONFINED SPACES
SPY THAT ENERGIZED SPY THAT STORES ENERGY SPY THAT HAZARDOUS SPY THAT MOVES/CRUSHES

COMING SOON
To a jobsite near you

CONTACT US TO BOOK A SPOT.

SAFETY BY CHOICE
Stop the STCKY
for yourself for your family for your coworkers

CSEA FINALS JUDGES

Jim Smoltz | Director, Google Center of Excellence, Environmental Health & Safety, Global Security & Resilience Services

Michael Carrancho | Smithsonian Deputy Director, OPDC Office of Planning, Design and Construction Engineering & Design Division

Kevin Cannon | AGC of America, Senior Director, Safety, Health & Risk Management

Brian Poliafico | Starr - Vice President, Profit Center Manager – Excess Construction

Mike Fredebeil | National Director of Construction Safety, Willis



CSEA INITIAL JUDGES

Arthur Chang, IMA Corporation
Brad Gassman, AGC Colorado
Carl Heinlein, ACIG
Dan Sztokowski, Walbec Group
Gradlin Franks, The Beck Group
Isaias Villa Galvan, GLY Construction
James Ramsey, Faith Technologies, Inc.
Jason Samz, Walbec Group
•Jerry Salgado, Haselden
John Holt, Southern Illinois Builders Association
John Olachea, AGC Colorado
John Rosas, Walker Engineering
Josh Campas, Sundt Construction
Josh Sheldon, TEXO Association
Julia Hope Lopez, Erickson Hall Construction
Julie Carter, Roy Anderson Construction Corp.
Kathy Freeman, Amphibious Medics
Kim Mason, AGC-Houston Chapter
Kirk Sanders, WTW | Willis
Marcus Reiter, Flint Group
Marisa Fortin, Sundt Construction

Matthew Murphy, Haugland Group
Michael Callison, Encore Electric
Nathan Taylor, AGC Oregon-Columbia Chapter
Preston Penninger, Choate Construction Company
Rick Zellen, Holder Construction
Robert Sahagun, BNBuilders
Robert Miles, Hensel Phelps
Rocky Rowlett, Faith Technologies, Inc.
Scott Allen, Crowder Constructors Inc
Scott Johnson, C.S. McCrossan
Scott Sears, Walker Engineering
Stephen Kinn, Kwest Group
Thomas Crouch, Sundt Construction
Tommy Hanson, Panhandle of Texas Chapter AGC
Tony Militello, WTW | Willis
Travis Masseegee, Jaynes Structures, Inc
Travis Stone, Perlo Construction
Troy Clark, MSC Safety Solutions
Woody Harwell, Jaynes Structures, Inc

FINAL JUDGING SUPPORT TEAM

Arthur Chang, IMA Corporation
Brad Gassman, AGC Colorado
Cesar Ramirez, POLK Mechanical Company
John Olachea, AGC Colorado
John Rosas, Walker Engineering
Kim Mason, AGC-Houston Chapter
Kirk Sanders, WTW | Willis
Lee Gream, Faith Technologies, Inc.
Luis Perez, POLK Mechanical Company

Radames Torres, POLK Mechanical Company
Marise Fortin, Sundt Construction
Rocky Rowlett, Faith Technologies, Inc.
Scott Sears, Walker Engineering
Tony Militello, WTW | Willis
Travis Masseegee, Jaynes Structures, Inc
Travis Stone, Perlo Construction
Travis Weber, Haselden Construction

On January 19 and 20, 2026 preliminary judging for the CSEA final competition took place 2 days before the AGC Winter Construction Safety & Health Conference in Phoenix Arizona . A total of 40 preliminary judges consisting of safety professionals from the construction industry, AGC Chapters, construction brokers and construction insurance carriers evaluated and scored the initial 120 CSEA applications from across the country.



CSEA SAFETY MANAGEMENT BEST PRACTICES: OVER 2,000 PRACTICES

During the CSEA final competition, many noteworthy Safety Management process elements have been memorialized from the written applications, from the finalists' oral presentations, and questions by the finalist judges. The noted elements fall into the following eight categories:

- Senior Management Ownership and Participation
- Risk Identification and Analysis
- Task Design - Engineering Controls & Design for Safety
- Safe Work Methods (planning and validation)
- Workforce Engagement, Involvement and Participation
- Safety Training and Validation of Training
- Subcontractor Management
- Emergency Response and Crisis Management

SENIOR MANAGEMENT OWNERSHIP AND PARTICIPATION

- Executive leadership leads or participates in executive leadership safety forums with industry peers.
- Senior Management publicizes changes made in response to employee feedback (i.e. "You Said, We Did").
- Executive/senior leadership personally outreach to employees impacted by workplace incidents.
- CEO/President visits projects at least at milestones – helps establish a "when" to visit.
- Senior operations management brings their own bagged lunch once per month to sit down and eat with a crew and discuss operations, quality, and safety
- The employee level team has the task of designing and delivering supervisory training for 1st and 2nd level management.
- The CEO sends a daily email to 500 employees outlining the previous day's safety results (incidents, observations, and near misses).
- Business Unit Leadership Incident Reviews. Group consists of a managing director, and the Executive GM's reviewing all Lost Time and near-miss incidents with the project leadership teams.
- President and CEO go through the same orientation and on-going safety training as all levels of management and employees.
- Owners conduct Safety training sessions for management and employees.
- Measuring leading indicators, using a new

software system at the executive level and can measure anyone's participation in the safety effort

- President gets a call of any reported incident.
- Superintendents are required to have 20 hours of continuing safety training each year.
- "Matrix of Responsibility"- Company developed a matrix with rows identifying various tasks that contribute to safety work (i.e. Annual plan, purchase PPE, training, tool-box talks, recognition, discipline, investigation, etc.) and columns that identify company members (management, employees, specific trades) and whether they have a lead role, contributory role, participatory role, or potentially no role.
- CEO Shane Giles always says, "If you're not growing, then you're shrinking. to me that means we are a revolving door, studying new concepts, learning from our mistakes, and making the correct changes to grow."
- To further develop leadership and communication skills, all supervisors were required to attend the LEAD program for leadership development skills conducted by the Houston Area Safety Council. The LEAD curriculum consists of three different parts including foundational leadership, insightful leadership and conquering public speaking.
- Project manager and superintendent bonuses impacted by 25% depending on safety performance.
- Company and subcontractor recordable incidents are investigated, then the project team makes presentation of findings, in-person to CEO and COO.
- 100% of field management has had the OSHA 30 within the last 3 years.
- Superintendents are required to have 20 hours of continuing safety training each year
- CEO "Stop Work" award letters to employees who take action to stop and correct an unsafe activity.
- Quarterly Presidents Safety Walk
- Supervisory employees are trained to be "Competent Persons" for all work activities on the project - Even for work they may not supervise directly.
- Supervisory employees receive annual Lift Director training by the ACRP Group and Rigging Inspector certification.
<https://acrpnet.org>
- Supervisory "Safety Resource Desk" – a resource and research desk with a computer and a library of safety references is maintained at the job trailer to help supervisors learn about safety issues on their own. When supervisors find the answer on their own rather than being told what to do, they learn and retain more.
- Foreman and supervisory "soft skills" training on how to handle common people issues.
- In House trainers complete Dale Carnegie training to improve speaking and team building skills.
- Division Operations managers investigate all incidents/accidents rather than safety department.
- After project completion contractor provides free OSHA 10-hour training to employees who will lose their job for goodwill, new job marketability, and prevention of fraudulent end of project workers' compensation claims.
- "No Crew Left Unsupervised" - program to make sure all crews get the planning and safety management they deserve.
- Senior Management's commitment to shake at least 10 workers' hands 3 times a month and talk about a specific safety item.
- Senior Management on-site in the excavation asking field works what they taught about excavation safety.

- Monthly safety audits by Executive Safety Task Force with a weighted score, highest scoring jobs win a safety BBQ each quarter.
- After the first 250 hours of work, new employees are brought back through the process to see how they feel about safety and what the company should do differently in terms of bringing on new employees entering or pursuing entry into OSHA VPP Program
- All supervisors are required to attend the Behavior Based Safety Course
- STS (Safety Trained Supervisor) Training and certifications for All
<https://www.bcsp.org/sts>
- Twice a year safety “Town Hall” meeting with CEO
- President and VP demonstrate ownership and participation by their commitment to the same level of safety training they require of the project management teams.
- Owners are retrained on OSHA 30 every two years and attend CPR training.
- Implemented a communications tool using mobile technology that compels our Foreman to be in daily contact with the Safety Department, ensuring that our supervisors are engaged and accountable for safety performance on every project, every day. The tool allows the Safety Director to “broadcast” critical messages, such as Heat Illness alerts, quickly and efficiently to the field.
- Owners send out personal video safety messages when concerns have arisen. They are shown on every job site, to all employees, as a personalized safety stand down. They are also shared on social media so other contractors may benefit as well.
- Ownership Thinking process teaches employees to think like an owner where ideas and thoughts can be expressed to make a better, safer and healthier company. Since the inception of ownership thinking of over 17 new ideas or programs have been implemented through our employees.
- “Readiness Review” is a process where the project team must review their safety plan with the Owner who signs off on the plan after detailed questioning.
- Every new employee learns in orientation about a “three-second decision” from a senior executive. For him, it’s personal, as he lost his own father when he was quite young, because his father did not make the three-second decision that could have saved his life. This conversation at orientation is the beginning of the leadership safety commitment to every employee.
- Executive leaders and senior managers attended a 2-day safety commitment workshop. Coaching sessions follow. 10 operational leaders are picked to lead a 4-hour “incident and injury free” orientation for all 550 employees and temporary workers.
- Every Friday, Senior Management conducts a mandatory companywide webcast where teams from eight offices discuss topics that range from daily reminders to near misses with potentially deadly consequences.
- Safety and Health Management System conforms to OHSAS 18001.
https://en.wikipedia.org/wiki/OHSAS_18001
- Anonymous complaint hotline. Information goes directly to our CEO and an outside board member. This allows the stewards of our brand to receive and handle issues that may arise with site or middle management, making sure issues are settled in an appropriate and sustainable way.
- Each division is charged their percentage of total company WC premium and are given 100% of what is not spent directly on injuries back to their bottom line thereby increasing their bonuses.
- Created a large electrical contractors’ network group that is focused on sharing

the best-known methods of safety across the world, shaping and enhancing each other's safety programs.

- Leaders are required to share a "My Safety Feedback & Improvement Plan" with all employees each year.
- Every leader (from executive to foreman) participates in a My Safety Leadership Workshop, with goals focused on: Effectively applying safety leadership qualities/processes, empowering employees to take responsibility for their safety, Recognize and correct hazards, Conduct meaningful safety talks and planning meetings, Make projects safer by always doing what's right, Have personal plan for action that integrates safety values into all they do.
- Key leadership topics include Chronic Unease, Error Traps, Drift, and Attitude Charting. Over 20 workshops were held with more than 150 leaders participating.
- The President, Vice Presidents, Project Managers and Superintendents participate in Safety Challenge process while visiting jobsites. If the member of management observes a team member performing in full compliance, they ask the team member a question from the Field Safety Handbook. The Challenge is designed to get management and team members talking about safety in a positive, non-intimidating way. If the question is answered correctly, the team member receives a \$5.00 gift card, and their name appears as a winner in the newsletter.
- To facilitate good task planning and a safe work start, no meetings can be scheduled before 8am.
- Six craft workers, without their foreman present, have lunch with the President to exchange ideas and issues.
- President attends every new hire orientation to demonstrate safety commitment.
- If there is a sensed lack of team engagement, a "Rapid Response" team mobilizes to the project site to address team concerns.
- Owners not only support a Drug Free Workplace but require random testing – they also personally take part in the random testing.
- New equipment and tools suggested for the work are personally evaluated by the owner who assembles a vetting team to make sure the proposal increases safety and improves productivity. The owner is trying to link the two so safety is not viewed by the project teams as a productivity limiter.
- The owner chairs the "Continuous Development Team" where ideas help management and craft workers be more productive and complete their work safely. The team is focused on weaknesses and work to move weaknesses to strengths.
- Management developed a competition between projects where project management teams who submit the most "Near Miss" and potential "Near Miss" reports by field personnel are rewarded and it weighed 20% of the annual performance review. Management realized that near-miss events occur even on the best projects and that a no-fear environment would help make the process effective.
- The contractor developed a monthly "Safety Share" that has to begin EVERY meeting no matter what the meeting is about by whoever calls the meeting. The process keeps the "safety culture" in front of everybody no matter who you are in the company. The "Safety Share" must also start every pre-task planning meeting.
- Daily and weekly project self-inspections are completed. The regional "Safety Task Force" also completes monthly self-inspections with items scored from minor to severe based on their potential exposure. Formal exit meeting is shared with the project team and an action plan developed. There is a bonus score

- for housekeeping and organization that increases the overall score tracked by the task force. The project with the highest average score per quarter receives a jobsite BBQ.
- Heavy Civil contractors use the leading safety indicators of; reaching required scheduled training goals, managers attending field safety meetings, managers participating in field safety coaching activities, and documentation by managers of catching and recognizing people for doing things correctly.
 - The owner meets and spends time with a different crew each week to observe what they are doing and spend time with them to hear about their daily world and listen one-on-one to the challenges they face. Many time they sit and have lunch where the crafts have lunch to listen and discuss things.
 - The CEO attended the National Safety Council Congress. Came back, called a meeting, and reviewed key points with managers and craft workers. Also, brought back some innovative ideas from the vendors in the exhibition hall.
 - The CEO conducts weekly safety talks either in person or through PODCASTS. This system has allowed the CEO to consistently reach 85% of company employees at once every week.
 - The safety committee comprised of craft, supervision, and senior leadership ranks all superintendents monthly based on factors other than injury statistics. Leadership, participation, taking care of safety requirements, etc. They use 3 colors for the ranking: Green = top performer, Yellow = average, and Red = opportunity for improvement. Superintendents can move up and down the ranking system each month.
 - Utilize ISO 9000 and 14000 as the guiding basis for continuous improvement of environmental and safety policies and procedures.
 - Senior Management interviews all prospective employees.
 - Weekly safety calls every Monday led by operations management.
 - Safety Essentials Leadership Course for all supervisory personnel
 - President of company personally shares the results of the pre-employment drug screen with new employee after orientation. Hands new employee a business card with cell number and welcomes to the company. Has a 30-minute discussion about the orientation program and the importance of safety to the company.
 - Company president conducts regular project walks. If an unsafe item or method is noted, the president does not leave the area until it is corrected no matter how long it takes.
 - When negotiating for the company vision plan, it is mandatory that prescription safety glasses are included as an additional benefit.
 - Marketing department employees must have an OSHA 30 hour within 3 years so they understand project safety and can better explain in proposal the company safety culture.
 - Project managers are required to physically walk the project weekly for 1 hour with the expectation to answer the question “How many accidents did I prevent based on what I did on my walk today”? The answers are shared with other members of the project management team.
 - Bi-annual anonymous Culture Safety Opinion Surveys of every employee
 - Active at college and university level for recruiting young construction professionals.
 - \$2,000 charged to a project for safety (5 key measures.... failure to wear fall protection, trench inspections, safety glasses, etc.).

- Expected losses are allocated to the division and “refunded” if not realized.
- Executive management developed a Monthly Safety Scorecard that goes beyond injury rates.
- Monthly Foreman safety dinner “Open Forum” discusses safety scorecard, Lessons learned, Incident review, and needed safety training improvements.
- President sends out monthly direct e-mails to all employees with a specific safety emphasis and asks for direct feedback from individual employees.
- We participate in CSEA to afford ourselves the opportunity to grow and expand our understanding of ourselves and our culture.
- Built a Peer system of cross contractor safety audits completed by invited similar peer contractors. Help each other improve their safety processes.
- The Executive safety committee makes monthly project visits and interview workers regarding their perceptions of the safety climate on their project. These interviews are shared with the project team and summarized at the monthly executive meeting.
- Foreman training curriculum enhanced with leadership skills such as computer, time management, problem resolution, listening, writing, and negotiation.
- All recordable injuries to GC employees and subcontractors are reported directly to COO and CEO
- The Safety Culture Committee works beyond the safety committee by focusing on more of the “people” aspects of the project vs the compliance focus of the safety committee.
- Promote General Labor foremen to safety manager positions, about 50% currently of the safety management population. Their building experience combined with their relationships has been a huge improvement in the quality and effectiveness of our safety professionals.
- 3rd party Professional Coach is used for helping employees manage stress, dealing with conflict, and working with all types of personalities.
- President utilizes “pop quizzes” either in person or by sending a text to the superintendent with a limited time frame for their response. They are totally random safety issues and situations. Example: “OSHA just showed up, what are the first 3 things you should do as a Superintendent.
- Management established “book of the month” club to share leadership books and information.
- Establishment of an employee advocacy program to serve as intermediary between jobsite craft workers and senior management. Non-supervisory or authority position but has cooperative relationships with employees and management.
- Every employee is given a drawstring bag for their cellular device - “Safety in a bag” is intended to be a safe place for cellular devices while operating motor vehicles.
- President says safe practices yield high rewards: healthy and productive workers, quality construction work, lower insurance costs, and future business from customers who demand a safe workplace.
- Safety performance is part of every employee’s annual evaluation. Results of the 3rd party safety evaluation affect raises, bonuses, and continued employment.
- Senior management leads and is involved in all root cause analysis meetings to ensure consistency of the process and to efficiently manage any identified shortfalls relating to personnel, equipment, and employee direction.
- President and Senior Vice President have participated and completed ARTBA’s SCTPP (Safety Certification For

Transportation Project Professionals). This is a credentialed evaluation specific to road and bridge builders, the only current program of its kind. Executive management leads by example to emphasize the importance of safety credentialing amongst operations personnel

- We participate in AGC safety conferences and find they are a great tool for us to learn new safety trends and implement new safety practices. For instance, we have started implementing employee guided safety meetings that promote participation and help the safety education process.
- Leadership developed an annual “Safety Shindig” that allows employees to spend an entire day just focused on the safety program and how they will work safely while on site.
- Core value of “Builder Businessman.” This value means that all management employees will have a more thorough understanding of the business side of construction and how safe operations affect the business. Historically, field operations have a limited understanding of the business facet, and this training allows for a fully developed team who can apply both the field and business elements when making decisions.
- Our COO who is one of our owners enrolled in a Safety Management Course at a local University to better understand what drives good safety programs. All our owners have read books authored by Dan Peterson including “Safety by Objectives” and “Safety Supervision”.
- If there is a perceived lack of team engagement or clear deficiencies in performance on a project, a rapid response team is mobilized to the site to address the concerns. Nothing is off the table in these instances. One-on-one coaching sessions to significant restructuring or changes to site leadership not meeting expectation are all possibilities.
- “Developed a Management Involvement

and Commitment (MIC) procedure. The MIC procedure requires participation in various elements of our safety program from our management personnel. Elements that require participation from our management team include the following:

- Participation in a Pre-Task Planning Meeting - 4 per week
- Participation in safety inspection or safety committee meeting - 2 per month
- Completion of a Behavior Based Observation - 1 per week.
- Recognizing an employee for one of the following: Displaying HSE Leadership; Leading Stretch and Flex; Participation in Safety Committee; Recognizing/Reporting/Correcting a Hazard; Reporting a Near Miss - 2 per month. The frequency requirements are outlined, and participation/documentation is tracked in our Safety Operating System (SOS)”
- During business planning meetings each year, our top management team requires Division Management personnel to address how safety will be improved for the upcoming year. Safety initiatives are identified, and plans are outlined as to how those initiatives will be met. Before submission of the business plans, meetings are conducted that include various levels of management personnel to discuss the safety initiatives. Best practices, possible hurdles and timelines are discussed in detail and agreed upon.
- Currently participates in Federal OSHA VPP program (Georgia DGA) and North Carolina OSHA Building Star program. Both rewarding partnerships require annual self-evaluations; basically, identifying safety improvement opportunities. Top management is part of this self-evaluation process and participates in the project visits during program renewals.
- Our leadership team has undergone a personal analysis assessment to identify personality traits and characteristics to better communicate with each other and

improve teamwork effectiveness.
<https://personalanalysis.wiredtothrive.com/assessment/>

- Launched “Monthly Meetings with Mike,” a monthly meeting with our chief executive officer (CEO), Mike where our 3,000+ employees can dial into a 1-hour webinar. The call always starts with safety, which includes a review of any recent incidents or near misses, reminder of upcoming training, and the sharing of other announcements. It also offers time for questions and discussion and is a great way to catch the entire company that is spread out from coast-to-coast.
- The HiPo programs are designed to identify and develop top performing employees at all levels for future leadership roles and organizational growth. Two of our high potential programs are Next Generation Leaders, an elite development program for apprentices entering their final year, journeymen, and office employees who demonstrate high potential for becoming leaders; and Emerging Leaders, which is intended for individuals who show potential for becoming superintendents and project managers.
- Our COO and others are actively involved with Safebuild Alliance, a local non-profit that promotes the transformation of workplace cultures to achieve an incident free construction industry. We are engaged as a mentor in the Safebuild Alliance Mentoring Program. Over the last three years we have helped our mentee who have had a start-up construction business with developing safety and business practices, examples: onboarding process and training for personnel, audits, supplier network for PPE, and HR coaching.
<http://safebuildalliance.com/>
- We demonstrate leadership peer transparency. Top and sub-standard performers are conspicuously shared and discussed to a great extent in each meeting. Top performers are recognized for their value, and sub-standard performances are addressed to ensure accountability after the meeting adjourns. This is not a blame culture approach, but recognition for areas of leadership improvement with solid action plans to ensure success.
- To strengthen the foundation of safety knowledge and awareness of our field supervisors, we implemented the NCCER Field Safety and Safety Technology curriculum. Twenty-five superintendents have successfully completed the Field Safety modules and have graduated into the Safety Technology curriculum. Due to the success of this program, in 2020 the NCCER Field Safety curriculum is slated to be offered to an additional 16 foreman and general foreman. After successful completion, our field staff will become safety credentialed field supervisors, further strengthening our core safety foundation.
- President holds quarterly Taco Tuesdays to meet with craft employees and leadership, discussing what is occurring on projects as well as receiving direct feedback on improving programs and processes. This is a great way for the field to interact directly with the leadership and freely discuss any concerns or potential improvements that could make the building process safer.
- President developed a video about his expectations from all employees on Safety.
<https://www.youtube.com/watch?v=pJYxczyFt8I>
- The Safety Team is a group of field superintendents, project managers, project engineers, and VP's that meet monthly to discuss best practices, lessons learned, health and wellness for employees, and strategies to create a better safety culture.
- Established a Corporate Safety Leadership Group to help support and drive safety at the operations level across the company. The group is composed of influential, senior project leaders who were nominated by their regional vice presidents to represent each of our 10 offices. Through

formal monthly meetings and a consistent communication channel, this group has established regional networking to share lessons learned, best practices and improvements. These individuals also serve as chairs of the Regional Safety Committee in their respective offices.

- We didn't rest on our 2019 CSEA win, instead, we dove deeper and worked harder. We relentlessly took our processes apart in search of better execution and more effective ways to enhance our safety program across the board. Our committed senior management and engaged workforce are now addicted to improvement.
- Every employee is provided a hardhat sticker that lists company management cell phone numbers, and our Owner/President is the first one on that list, followed by VP of Human Resources, Safety Director, Maintenance Manager, and General Superintendent. No one in company management is ever too busy to discuss safety with a field supervisor or hourly worker.
- If an employee is injured, the president goes to their house and ensures that the employee has everything he/she needs to recover quickly. Whether it's childcare, a ramp for a wheelchair, or delivery of groceries. We take steps to take care of them.
- Projects are evaluated each month by firm ownership to gauge compliance with the safety initiatives of the jobsite. Monthly safety grading is built into our monthly financial reporting and evaluated with the same importance as the project's financial performance.
- Our COO has taken the new role of President for NECA and for his time in this position he has led the large contractor's safety group for electrical contractors, which meets twice a year to develop best-known safety practices for the electrical industry. He has seen the need to involve electrical contractors to build a safety foundation for future generations to come.
- Foreman Leadership Training program is a five-part leadership course designed to support and educate personnel on Safety leadership, planning and communication, the cost of doing business, estimating, lean construction, time management, the importance of mentorship, expectations for policy compliance, stress management, and public speaking.
- "Life Critical Rules" are a set of rules that if not followed has a high percentage of becoming a fatal accident. These rules apply to the following hazards: Fall-Protection, Lock-Out / Tag-Out, Confined Space, 15' rule around equipment, and Trench operations. Violation of these set of rules by any personnel will result in an immediate review for employee termination by the employee's manager. Banners are placed addressing these rules on specific jobs that have office trailers and/or posted on all project bulletin boards. This policy is not designed to terminate workers but an attempt to raise more awareness.
- For each project, we hold one monthly safety lunch where the PM or highest-ranking field leader will meet with three to five workers and have a candid, open discussion about safety.
- Top management knows that while industry RIRs are down, fatality rates are not. Therefore, we invented the STCKY messaging (Sh*t That Can Kill You) that we communicate in videos, meetings, and conversations. STCKY messaging is catchy and relays life and death information to prevent significant incidents by demonstrating that we can never let our guard down. We held our first STCKY video contest during National Safety Week and now have an established STCKY library available with many more lifesaving videos to come!
- Use a large public billboard safety message to ask traffic to drive safely ahead of their work zones.
- President of the company comes to jobsites towing a BBQ pit behind his truck, cook

the food onsite and then serve it to the employees.

- Management offer group or individual education classes to all employees. Any construction safety or construction management topic is acceptable, and these tuitions are paid by the company. Management believes that knowledge helps to provide a safer workplace.
- Our owner is dedicated to safety. He personally attends the required 5:00AM safety meeting every Monday morning for all field employees. All Project Managers and Field Supervisors must also attend the meeting.
- Company vision insurance plan covers prescription safety glasses 100%.
- President is a founding member and remains an active sponsor of the Construction Industry Safety Initiative (CISI).
- We have participated three times in the Construction Safety Excellence Awards - and three times we have taken the feedback we have gained to heart, learning from what we can do better. These comments, suggestions and criticisms have made our safety program stronger, and into what it is today.
- President every two weeks sends out a document called "Four Points" in which he communicates safety issues, gives accolades for safe working practices and mentions working safe.
- President "Burritos with Byron" is another example of president visiting job sites to meet with craft workers, sitting down to have breakfast with them and obtaining firsthand knowledge of how he can better support their needs.
- We are now getting more and more involved in industry associations to help other contractors see the value in safety and to improve their programs.
- President visited every project spanning over five weeks to present our State of the Company Kick-Off meeting. In the past it was a large group of all employee event at the corporate office. This year we wanted a more personal touch. By coming together in a smaller group setting, it created an environment of open communication where our employees were able to spend one-on-one time with our President and ask the questions that they may not have in a larger group.
- Developed an E-Catalog for Site Safety Professionals, Project Managers, and Superintendents to order PPE and safety equipment online. The E-Catalog is categorized with lists of approved equipment, including but not limited to PPE such as: embroidered high visibility vests, goggles, safety glasses, task specific safety gloves, fall protection harnesses, hydration supplements, safety signage, and barricades.
- A driver recommended changing the refueling station he used in our maintenance facility. He had been climbing the ladder on his tanker carrying the refueling hose, in all types of weather and in dim light. He recommended a stationery tower be constructed, believing it would mitigate slip and fall risk. Acting on his input, we designed and built a refueling tower, with wide steps and handrails, a platform and hose access at the top, a kill switch, lighting, and a moveable "gang plank" to access different trucks. These towers have since been built at all our refueling stations.
- Mixer drivers requested improvements to wash racks at our facility, and management responded by installing solar lighting and making other general rack improvements.
- Individual employees making suggestions which are adopted by the company are rewarded with a \$100 bonus, and crews which submit suggestions that are adopted by the company are rewarded with a lunch in which senior management.
- Corporate management hosts an annual

award ceremony for all employees. At this ceremony, top management recognizes and awards projects and teams on their dedication to safety and for outstanding safety performance.

- All employees have stop work authority.
- Working on achieving their ISO 45001
- Reworked the norm of having site safety people, foreman and superintendent trained in safety procedures to having the entire management team from estimating, PM's and staff management.
- Hold a safety dinner at the owner's home once a year.
- Belief drives behavior. Lead from the Heart. We recognize good behavior in our employees.
- Students from the local community spend 12 weeks paid interning with the safety department to increase interest in safety as a profession. Management also offers free safety training to family members, high school and college students (OSHA 10/30), wellness and health screenings. Project related outreach to Boys & Girls Club, Youth Programs, Career Fairs, etc.
- 86 full-time safety reps, 16 interns EVERY YEAR, and encourage BCSP certifications for all employees.
- Principals rotate participation leading the weekly conference call, along with the safety manager. If an incident occurs a principal is involved in the onsite investigation.
- Company President calls the president of subcontractor employees who receive recognition at the site - notifies them of the accomplishment and thanks them for his dedication, when he can he personally presents awards, if they coincide with site visits.
- The company president sits with every new hire during orientation to personally share his commitment to their safety and their family's wellbeing. Execs also participate in onsite training and testing with the craft workers.
- Annual Safety improvement plan part of the corporate strategic planning process
- Establishing an in-house team dedicated to researching, piloting, and deploying emerging AI and technology solutions elevates safety performance, construction efficiency, and overall quality — signaling senior management's commitment to continuous improvement and forward-thinking risk reduction.
- Senior leadership intentionally embeds safety into every preconstruction meeting — spanning estimating, finance, quality, operations, design, prequalification, scheduling, and stakeholder coordination. This cross-functional alignment ensures safe and predictable project delivery from the earliest planning stages.
- Leadership sends a morning message with pertinent project information every morning to demonstrate commitment and connection with craft workforce
- CEO/President lives & breathes safety. Sets, expects, and accepts only the highest of safety standards from all company personnel without compromise. One of the most important aspects of a distinguished and effective safety program.
- CEO, Operational Manager and Director of Safety meet monthly to discuss and measure the effectiveness of safety efforts.
- CEO/President visits projects at least at milestones – helps establish a “When” to visit.
- A “Safety Week” for the company's 4,000 employees is planned each year at the peak of the construction season, not during slow parts of the season, and includes significant CEO support and emphasis on safe production.
- Senior operations management brings their own bagged lunch once per month to sit down and eat with a crew and discuss

- operations, quality, and safety
- Senior Superintendent designated as “Safety Lead” for safety performance.
- “No Budget for Safety” policy. Pay for whatever it takes.
- Employee level team has the task of designing and delivering supervisory training for 1st and 2nd level management.
- CEO sends a daily email to 500 employees outlining the previous day’s safety results (incidents, observations, and near misses).
- Weekly all field staff safety call conducted by the CEO every Tuesday at 2pm for 20 minutes
- Business Unit Leadership Incident Reviews. Group consists of Managing Director, and the Executive GM’s reviewing all Lost Time and Near-miss incidents with the project leadership teams.
- President and CEO go through the same orientation and on-going safety training as all levels of management and employees.
- Owners conduct Safety training sessions for management and employees
- Supervisors sign an acknowledgement that they will set a safe example for others and sign a banner at the project entrance for all to see.
- Quarterly safety Summit planned and facilitated by the Owner and President for all operations management
- Measuring leading indicators, using a new software system, at the executive level and can measure anyone’s participation in the safety effort
- President is also the chief safety advocate for the company...it’s in his title
- President gets a call of any reported incident
- Job as CEO is to hire the right senior people who understand safety
- Anonymous safety hotline system that goes through our legal team and management
- Superintendents are required to have 20 hours of continuing safety training each year
- Ethics Awareness program for field level employees and supervision.
- Annual Safety improvement plan part of the corporate strategic planning process
- “Matrix of Responsibility”- Company developed a matrix with rows identifying various tasks that contribute to safety work (i.e. Annual plan, purchase PPE, training, tool-box talks, recognition, discipline, investigation, etc.) and columns that identify company members (management, employees, specific trades,) and whether they have a lead role, contributory role, participatory role, or potentially no role.
- CEO Shane Giles always says, “If you’re not growing, then you’re shrinking”, to me that means we are a revolving door, studying new concepts, learning from our mistakes, and making the correct changes to grow.
- At N.S. Giles Foundations, we say that “Safety is our Foundation” a play on words that suits us well. The concrete industry is one of the most inherently dangerous professions, we take pride in being tough, smart, and efficient.
- Hurricane Harvey hit the Texas Gulf coast with massive amounts of rain and flooding. Several projects were closed during this catastrophic event for up to 2 weeks and employees were not be able to work. Top management made a decision to pay all its employees for wages lost during this down time.
- To further develop leadership and communication skills, all supervisors were required to attend the LEAD program for leadership development skills conducted by the Houston Area Safety Council. The LEAD curriculum consists of three different parts including Foundational Leadership, Insightful Leadership and Conquering Public Speaking.
- Project Manager and Superintendent bonuses impacted by 25% depending on

safety performance

- Company and Subcontractor recordable incidents are investigated, then the project team makes presentation of findings, in-person, to CEO and COO
- 100% of field management has had the OSHA 30 within the last 3 years
- Weekly companywide safety conference calls for all project management personnel led by the CEO
- From Foremen all the way to the Owner of the company are OSHA 30 hour trained
- Superintendent presents the site specific new hire orientation using a PowerPoint presentation with pictures
- Safety Committee with a 4:1 ratio of field employees to management
- Regional VP committed to a project safety visit at least once per month
- Subcontractor Safety Summit conducted by Company Presidents and Operations Managers without safety professionals attending. Demonstrates safety standards come from the top
- “Brown Bag” safety video conferences conducted by CEO - Recorded for later viewing
- Superintendent(s) teach an 8 hour class “Effective Safety Dialog With Crews”
- CEO “Stop Work” award letters to employees who take action to stop and correct an unsafe activity
- Quarterly Presidents Safety Walk
- Field Managers must log in a minimum of 16 hours of continuing safety education each year
- Supervisory employees are trained to be “Competent Persons” for all work activities on the project - Even for work they may not supervise directly
- Supervisory employees receive annual Lift Director training by the ACRP Group and also Rigging Inspector certification. <http://acrp.net/>
- Supervisory “Safety Resource Desk” – a resource and research desk with a computer and a library of safety references is maintained at the job trailer to help supervisors learn about safety issues on their own. When supervisors find the answer on their own rather than being told what to do, they learn and retain more
- Foreman and supervisory “Soft Skills” training on how to handle common people issues
- In House trainers sent to Dale Carnegie training to improve speaking and team building skills
- Division Operations managers investigate all incidents/accidents rather than safety department
- After project completion contractor free OSHA 10 hour training to employees who will lose their job for goodwill, new job marketability, and prevention of fraudulent end of project Workers Compensation claims
- Jobsite Safety roundtable discussions each month hosted and led by the Superintendent
- Any incident on the project has to be called in to the CEO and the Safety Director the same day
- “No Crew Left Unsupervised” - program to make sure all crews get the planning and safety management they deserve
- Senior Management commitment to shake at least 10 workers hands 3 times a month and talk about a specific safety item
- Senior Management on site, in the excavation, asking field works what they taught you about excavation safety
- “Improve It” cards – cards employees have access to that follow the company safety improvement philosophy of “You said it, We did it”

- Employees carry “Stop Work” cards in their wallet that are signed by the CEO
- Monthly safety audits by Executive Safety Task Force with a weighted score, highest scoring jobs win a safety BBQ each quarter
- Have a motto: “left of zero” to focus on prevention and planning
- After the first 250 hours of work, new employees are brought back through the process to see how they feel about safety and what the company should do differently in terms of bringing on new employees
- Supervisor’s annual safety retreat
- Surprise mock OSHA inspections
- Entering or pursuing entry into OSHA VPP Program
- All supervisors required to attend Behavior Based Safety Course
- Unannounced job tours by management
- Safety in the job Title of all Supervisors
- ACE Program - Accountability/Commitment/Engagement
- Visit employees home if injured on the Job
- STS (Safety Trained Supervisor) Training and certifications for All <http://www.bccsp.org/sts>
- Twice a year safety stand downs to develop a strategic plan
- Twice a year safety “Town Hall” meetings with CEO
- R4 People Process – Review, Recognize, Recommend, Reinforce
- Safety starts at the top: our COO is our Safety Officer and is involved in all aspects of operations.
- President and VP demonstrate ownership and participation by their commitment to the same level of safety training they require of the project management teams.
- Owners are retrained on OSHA 30 every two years and attend CPR training.
- Annually, project managers and superintendents have performance evaluations based on safety management participation and performance.
- Implemented a communications tool using mobile technology that compels our Foreman to be in daily contact with the Safety Department, ensuring that our supervisors are engaged and accountable for safety performance on every project, every day. The tool allows the Safety Director to “broadcast” critical messages, such as Heat Illness alerts, quickly and efficiently to the field.
- Hired 3 additional Safety Supervisors lowering our employee to Safety Supervisor ratio.
- Owners send out personal video safety messages when concerns have arisen. They are shown on every job site, to all employees, as a personalized safety stand down. They are also shared on social media so other contractors may benefit as well.
- Safety Crew Lunch where Owners, site management and the safety team lead the lunch meeting that encourages involvement from the employees. They review the project’s safety procedures and the status of the project.
- Ownership Thinking process teaches employees to think like an owner where ideas and thoughts can be expressed to make a better, safer and healthier company. Since the inception of Ownership Thinking over 17 new ideas or programs have been implemented through our employees.
- Monthly joint project visits by president/owner and the safety director to perform safety audits. Gives the president an opportunity to visit with the team to find out what they need to make them and their projects safer.
- The safety department budget is >\$1.9 MM dollars. This includes labor, materials, training and equipment, as well as,

- subcontracted costs for specialty items related to industrial hygiene monitoring.
- “Readiness Review” is a process where the project team must review their safety plan with the Owner who signs off on the plan after detailed questioning.
- Owners communicate weekly to all project via Go-to Meeting. The Safety Manager shares information from the week posted in “Basecamp”, a collaborative and innovative application that makes information sharing and team work easier than ever before. This technology allows all of our remote project locations to be able to see and hear the same information as our main office sees. Use of the Basecamp application provides all Superintendents and Project Managers up to date safety information right to their phone or project iPad. - <https://basecamp.com/>
- “LIFE CRITICAL RULES” and employee handbook document and support that violation of these rules are grounds for termination. Apply to following hazards: Falls, Electrical, Lockout-Tagout, Confined Space, 15’ safe zone around equipment.
- Every new employee learns in orientation about a “three-second decision” from a senior executive. For him, it’s personal, as he lost his own father when he was quite young, because his father did not make the three-second decision that could have saved his life. This conversation at orientation is the beginning of the leadership safety commitment to every employee.
- Turned our “compliance” based safety program into an innovative safety “performance” culture.
- Every Monday project managers and superintendents share safety information with all of our crews. They are tracked for participation.
- Executive leaders and senior managers attended a 2-day safety commitment workshop. Coaching sessions follow. 10 operational leaders are picked to lead a 4-hour “incident and injury free” orientation for all 550 employees and temporary workers.
- Every Friday, Senior Management conducts a mandatory companywide webcast where teams from eight offices discuss topics that range from daily reminders to near misses with potentially deadly consequences.
- All safety professionals and managers are included in all management meetings. Have a national and area office safety committee comprised of both safety and operations personnel
- Safety and Health Management System conforms to OHSAS 18001..... https://en.wikipedia.org/wiki/OHSAS_18001
- Core Safety Participation Report measures our efforts. We record attendance for each safety meeting or inspection and track participation for field supervisors and management, against set criteria, consistently achieving over 85% participation across the company.
- Anonymous complaint hotline. Information goes directly to our CEO and an outside board member. This allows the stewards of our brand to receive and handle issues that may arise with site or middle management, making sure issues are settled in an appropriate and sustainable way.
- CEO mandated all of our field employees receive an OSHA 10-hour and all supervision receive an OSHA 30-hour course. Spent 14 weekends training approximately 600 workers. More than 7,500 work hours were spent in just OSHA training in 2017.
- Each division is charged their percentage of total company WC premium and are given 100% of what is not spent directly on injuries back to their bottom line thereby increasing their bonuses.
- Created a large electrical contractors network group that is focused on sharing the best known methods of safety across the world, shaping and enhancing each

- others safety programs.
- All new hires are required to view a professionally produced safety commitment video from the president.
- Senior VP, shares his personal experience with an arc flash accident earlier in his career where he was severely burned.
- Executives, regional managers, and the safety staff come together quarterly to discuss corporate safety performance and share lessons learned and Best Known Methods.
- Leaders are required to and share a “My Safety Feedback & Improvement Plan” with all employees each year.
- Every leader (from Executive to Foreman) participates in a My Safety Leadership Workshop, with goals focused on: Effectively apply safety leadership qualities/processes, Empower employees to take responsibility for their safety, Recognize and correct hazards, Conduct meaningful safety talks and planning meetings, Make projects safer by always doing what’s right, Have personal plan for action that integrates safety values into all they do.
- Key leadership topics include: Chronic Unease, Error Traps, Drift, and Attitude Charting. Over 20 workshops having been held with more than 150 leaders participating.
- The President, Vice Presidents, Project Managers and Superintendents participate in Safety Challenge process while visiting jobsites. If the member of Management observes a team member performing in full compliance, they ask the team member a question from the Field Safety Hand Book. The Challenge is designed to get management and team members talking about safety in a positive, non-intimidating way. If the question is answered correctly, the team member receives a \$5.00 gift card and their name appears as a winner in the newsletter.
- To facilitate good task planning and a safe work start, no meetings can be scheduled before 8am
- 6 worker craft lunch with President, no foremen present. Exchange ideas and issues.
- 2 hour leadership training for all employers craft to leadership. Theme is it is not about safety on the job, but rather safety in our lives
- Separate performance evaluation for foremen with no OSHA Focus 4 at-risk observations receive recognition, gift card, and salary bonus.
- President attends every new hire orientation to demonstrate safety commitment.
- If there is a sensed lack of team engagement, a “Rapid Response” team mobilizes to project site to address team concerns.
- Owners not only support a Drug Free Workplace, but require random testing – they also personally take part in the random testing.
- Owner receives copies of every incident and job site inspection. Reviews weekly with Project Managers
- Safety director attends all project manager meetings. Company has seen project managers improve their knowledge of safe work management
- New equipment and tools suggested for the work are personally evaluated by the owner who assembles a vetting team to make sure the proposal increases safety and improves productivity. The owner is trying to link the 2 so safety is not viewed by the project teams as a productivity limiter.
- Developed the 15 expectations for leadership and all Superintendents, Project Mangers, craft foreman, and owners are trained and expected to demonstrate the expectations daily. The program has helped

validate the need for training that was not known before.

- Owner chairs the “Continuous Development Team” where ideas to help management and craft workers be more productive and complete their work safely. The team is focused on weaknesses and work to move weaknesses to strengths.
- Management developed a competition between projects where project management teams who submit the most “Near Miss” and potential “Near Miss” reports by field personnel are rewarded and is weighted 20% of the annual performance review. Management realized that near miss events occur even on the best projects and that a no fear environment would help make the process effective.
- At least 1, but most of the time 3 Regional VP’s attend and participate in the project “All Hands” meeting each month to support the safety managers and craft workers.
- The COO visits each project once per year to lead and conduct a safety performance review. Division managers complete and lead monthly safety performance reviews.
- Each division is charged their percentage of Workers Compensation premium and given back 100% of what is not spent.
- Contractor developed a monthly “Safety Share” that has to begin EVERY meeting no matter what the meeting is about by whoever calls the meeting. The process keeps the “safety culture” in front of everybody no matter who you are in the company. The “Safety Share” must also start every pre-task planning meeting.
- Daily and weekly project self-inspections are completed. The regional “Safety Task Force” also completes monthly self-inspections with items scored from minor to severe based on their potential exposure. Formal exit meeting is shared with the project team and an action plan developed. There is a bonus score for housekeeping and organization that increases the overall score tracked by the task force. The project with the highest average score per quarter receives a jobsite BBQ.
- Heavy Civil contractor uses the leading safety indicators of; reaching required scheduled training goals, managers attending field safety meetings, managers participating in field safety coaching activities, and documentation by managers of catching and recognizing people for doing things correctly.
- All management staff are tracked for their Monday morning sharing of safety information with all crews
- The owner meets and spends time with a different crew each week to observe what they are doing and spend time with them to hear about their daily world and listen one-on-one to the challenges they face. Many time they sit and have lunch where the crafts have lunch to listen and discuss things.
- President makes joint visits for a full day with safety manager every month, unannounced to gain first hand knowledge of project issues and challenges.
- CEO attended the National Safety Council Congress. Came back, called a meeting, and reviewed key points with managers and craft workers. Also, brought back some innovative ideas from the vendors in the exhibition hall
- CEO conducts weekly safety talks either in person or through PODCASTS. This system has allowed the CEO to consistently reach 85% of company employees at once every week.
- Safety Supervisor of the year competition. 6 finalist supervisors are selected based on feedback from senior management, the safety group, and owners of projects where they have managed work. A best of the best supervisor is picked from the 6 finalists.
- Senior executives all have iPad tablets which contain streaming access to

- JSA's, weekly safety meetings, safety inspections, written warnings, and accident investigations. All forms are fillable and can be forwarded from the projects.
- Safety committee comprised of craft, supervision, and senior leadership ranks all superintendents on a monthly basis based on factors other than injury statistics. Leadership, participation, taking care of safety requirements, etc. They use 3 colors for the ranking; Green = top performer, Yellow = average, and Red = opportunity for improvement. Superintendents have the opportunity to go up and down the ranking system each month.
 - Utilize ISO 9000 and 14000 as the guiding basis for continuous improvement of environmental and safety policies and procedures.
 - Worked with researchers from the Center for Construction Research and Training, a University of School of Business and the Center for Health, Work and Environment at the state School of Public Health to train all of our foremen and superintendents on "Foundations for Safety Leadership". The five key elements of this training included 1. Lead by Example, 2. Engage Team Members, 3. Actively Listen and Practice 3-Way Communication, 4. Develop Team Members Through Teaching, Coaching and Feedback and 5. Recognize Team Members for a Job Well Done. The effectiveness of this training was validated with pre-training surveys of all team members and their supervisors and repeating these surveys twice after the training to measure its impact.
 - Each month, each project submits its training matrix to the Home Office. The Safety Director and President discuss the training matrix and develop direction for that project for the following month.
 - Management appraisals measure results and the effectiveness of participation, hazard recognition, and training interest
 - Executive Management and Safety partnership - monthly executive meeting
- and project walks
- Toll free anonymous hotline to CEO and a board member to communicate a safety concern
 - Senior Management interviews all prospective employees
 - Weekly safety call every Monday led by operations management
 - Safety Essentials Leadership Course for all supervisory personnel
 - President of company personally shares the results of the pre-employment drug screen with new employee after orientation. Hands new employee a business card with cell number and welcomes to the company. Has a 30 minute discussion about the orientation program and the importance of safety to the company.
 - Company president conducts regular project walks. If an unsafe item or method is noted, the president does not leave the area until it is corrected no matter how long it takes.
 - Monthly company wide safety meetings are held using "GoTo Meeting" This allows all safety and project team members to regularly communicate and do it more efficiently rather than driving to a certain location for a face to face meeting.
 - When negotiating for the company vision plan it is mandatory that prescription safety glasses are included as an additional benefit.
 - Marketing department employees must have an OSHA 30 hour within 3 years so they understand project safety and can better explain in proposal the company safety culture.
 - All identified future leaders must attend a 40 hour project supervision course for leadership behavior consistency.
 - Project managers are required to physically walk the project weekly for 1 hour with the expectation to answer the question "How many accidents did I prevent based on

- what I did on my walk today”? The answers are shared with other members of the project management team.
- Focus on a culture of completely participating and influencing vs a culture of compliance
 - 100% self perform contractor uses a 3 safety violations and you are suspended for 90 days policy. After 90 days upon return you are on probation for a period of 60 days. The goal is not to punish the employee, but to reevaluate their commitment to safety.
 - CEO and senior management team receives every incident report and alert
 - CEO makes quarterly job walks on every project with safety Director
 - Bi-annual anonymous Culture Safety Opinion Surveys of every employee
 - Active at college and university level for recruiting young construction professionals
 - \$2,000 charged to a project for safety (5 key measures....failure to wear fall protection, trench inspections, safety glasses, etc.
 - Expected losses are allocated to the division and “refunded” if not realized.
 - Have the view that if they get to the point of 3rd strike disciplinary action, management has failed the worker in some way.
 - Executive management team participates in safety pre-planning meetings, attends in-house training, and conducts a monthly tail-gate safety tool box talk
 - Monthly management one-on-one conversations with employees based on a planned schedule and specific topic (leading)
 - Executive management developed a Monthly Safety Scorecard that goes beyond injury rates
 - Monthly Foreman safety dinner “Open Forum” discuss safety scorecard, Lessons learned, Incident review, and needed safety training improvements
 - President sends out monthly direct e-mails to all employees with a specific safety emphasis and asks for direct feedback from individual employees.
 - President conducts unannounced project safety inspections without safety manager and reviews results with Superintendent and all workers.
 - Orientation video by the President which communicates total commitment for the “Stop Work” program
 - Bi-annual Safety Stand Down lunches facilitated by the president
 - We participate in CSEA to afford ourselves the opportunity to grow and expand our understanding of ourselves and our culture
 - Internal monthly 30 minute “all call” with CEO to discuss safety focus and trends; 2,000+ employees are invited to call in. Includes Q&A with CEO
 - HiPo program that uses tools to identify and develop top performing employees at all levels for future leadership roles and to fuel organizational growth.
 - Senior leadership participation each incident review and personally talks to affected employee(s) with specific questioning as to what leadership can do to prevent a similar incident.
 - Project Managers required to do documented project safety walks and must answer the question.... What have you done this week to improve the safety culture on your project”? Answer sent to President
 - Owners and senior managers cook BBQ for field crews to recognize their safety performance
 - Built a Peer system of cross contractor safety audits done by invited similar contractors. Help each other improve their safety processes.
 - Monthly company wide safety topic and “Safety Share” starts every meeting

- Executive safety committee makes monthly project visits and interview workers regarding their perceptions of the safety climate on their project. These interviews are shared with the project team and summarized at the monthly executive meeting.
- Foreman training curriculum enhanced with leadership skills such as computer, time management, problem resolution, listening, writing, and negotiation.
- All recordable injuries to GC employees and subcontractors are reported directly to COO and CEO
- Executive team completes “Safety Only” project reviews
- Safety Culture Committee works beyond the safety committee by focusing on more of the “people” aspects of the projects vs the compliance focus of the safety committee
- Promote General Labor foremen to safety manager positions. About 50% currently of the safety management population. Their building experience combined with their relationships has been a huge improvement in the quality and effectiveness of our safety professionals
- Serious Near-Misses are completely investigated and the project team has to do a formal in-person presentation to the COO and CEO about why and the lessons learned
- 3rd party Professional Coach is used for helping employees manage stress, dealing with conflict, and working with all types of personalities
- President utilizes “pop quizzes” either in person or by sending a text to the superintendent with a limited time frame for their response. They are totally random safety issues and situations. Example: “OSHA just showed up, what are the first 3 things you should do as a Superintendent.
- Management established “book of the month” club to share leadership books and information
- Company leveraged web conference/ FaceTime technology to connect every company jobsite for morning huddles
- Management used climate survey of all employees to assess company and jobsite safety culture.
- Establishment of an employee advocacy program to serve as intermediary between jobsite craft workers and senior management. Non-supervisory or authority position, but has cooperative relationship with employees and management.
- Every employee given a drawstring bag for their cellular device - “Safety in a bag” is intended to be safe place for cellular device while operating motor vehicles.
- Company president sits in often on site meetings (to support, not guide)
- Small companies have company president leading safety meetings
- Safety Pays - we self-perform 90+% of our work - Workers Compensation Incurred Costs are less than \$0.01 per work hour
- President says safe practices yield high rewards: healthy and productive workers, quality construction work, lower insurance costs, and future business from customers who demand a safe workplace
- Safety performance is part of every employee’s annual evaluation. Results of the 3rd party safety evaluation affect raises, bonuses, and continued employment.
- Senior management leads and participates in scheduled monthly, quarterly, and annual safety training. Executive level visibility is also evidenced in the intentional attendance of 2 weekly project safety training sessions per month
- Senior management leads and is involved in all root cause analysis meetings to ensure consistency of the process and to efficiently manage any identified shortfalls relating to personnel, equipment, and

- employee direction.
- 20% of all annual merit reviews directly relate to results and participation in the safety program. This includes all executive management under the President's supervision.
- "President and Senior Vice President have participated and completed ARTBA's SCTPP (Safety Certification for Transportation Project Professionals). This is a credentialed evaluation specific to road and bridge builders, the only current program of its kind. Executive management leads by example to emphasize the importance of safety credentialing amongst operations personnel (https://www.artba.org/wp-content/uploads/SCTPP/policy_manual_2016.pdf)"
- Weekly Project Manager meeting that includes executive management is hosted each Friday to effectively communicate and reproduce the safety message amongst all projects.
- Provide extra benefits such as 401K, bonuses, health insurance, life insurance, paid vacation & holidays, transportation allowances, and others, we promote a safety mentality and a healthy lifestyle.
- We participate in AGC safety conferences and find they are a great tool for us to learn new safety trends and implement new safety practices. For instance, we have started implementing employee guided safety meetings that promote participation and help the safety education process.
- "Our management philosophy is based on principles that guide our business strategy and influence our ways of operating.
 1. Do not sacrifice safety for progress
 2. Hire the right people for the right job
 3. Be honest and truthful to your employees
 4. Be open and truthful to your customers to gain trust
 5. Reward good behavior and hard work and recognize employee's ideas and input
 6. Grow through improving construction techniques
- 7. Identify opportunities and act on them in a timely manner
- 8. Keep lines of communication open with employees as well as customers
- 9. Instill values, beliefs, and norms that contribute to ethical behavior
- 10. Instill a sense of pride and belonging among employees to be able to grow as a whole"
- The managerial staff is required to obtain an additional 8 hours per year of continuing safety education that involves areas outside of the required OSHA training.
- Moto is "Powered by Safety" the success of our business and our employees must be powered by safety to continue our growth and success.
- Leadership developed an annual "Safety Shindig" that allows employees to spend an entire day just focused on the safety program and how they will work safely while on site.
- Senior management accompanies a safety team representative at least once a month for a full day of visiting projects and also makes non-scheduled job site visits to gain firsthand knowledge of project issues and challenges.
- Core value of "Builder Businessman." This value means that all management employees will have a more thorough understanding of the business side of construction and how safe operations affect the business. Historically, field operations have a limited understanding of the business facet and this training allows for a fully developed team who can apply both the field and business elements when making decisions.
- Ownership group established 4 core values for management to filter throughout the company. Those core values are Safety Commitment, Professionalism, Teamwork, and Continuous Improvement.
- Our COO who is one of our owners enrolled in a Safety Management Course at a local University to better understand what drives good safety programs. All of our owners

- have read books authored by Dan Peterson including “Safety by Objectives” and “Safety Supervision”.
- On project if there is a perceived lack of team engagement or clear deficiencies in performance, a rapid response team is mobilized to the site to address the concerns. Nothing is off the table in these instances. One-on-one coaching sessions to significant restructuring or changes to site leadership not meeting expectation are all possibilities.
 - The company president and vice president attend all incident reviews regardless of the significance of the situation. These are typically performed at our main office with the entire crew involved. We feel that having this meeting away from the project increases the opportunity for impact to the employee.
 - “Developed a Management Involvement and Commitment (MIC) procedure. The MIC procedure requires participation in various elements of our safety program from our management personnel. Elements that require participation from our management team include the following:
 - * Participation in a Pre-Task Planning Meeting - 4 per week
 - * Participation in safety inspection or safety committee meeting - 2 per month
 - * Completion of a Behavior Based Observation - 1 per week
 - * Recognizing an employee for one of the following: Displaying HSE Leadership; Leading Stretch and Flex; Participation in Safety Committee; Recognizing/Reporting/Correcting a Hazard; Reporting a Near Miss - 2 per month. The frequency requirements are outlined and participation/documentation is tracked in our Safety Operating System (SOS)”
 - Our management team expresses that safety is top priority, every meeting, regardless of the assigned agenda, starts with a safety topic. The safety topic may be brief, but safety is always discussed first; regardless if the meeting only includes estimators, company board members, etc., the tone is always set with safety.
 - During business planning meetings each year, our top management team requires Division Management personnel to address how safety will be improved for the upcoming year. Safety initiatives are identified and plans are outlined as to how those initiatives will be met. Before submission of the business plans, meetings are conducted that includes various levels of management personnel to discuss the safety initiatives. Best practices, possible hurdles and timelines are discussed in detail and agreed upon.
 - Currently participates in Federal OSHA VPP program (Georgia DGA) and North Carolina OSHA Building Star program. Both of these rewarding partnerships require annual self-evaluations; basically, identifying safety improvement opportunities. Top management is part of this self-evaluation process and also participates in the project visits during program renewals.
 - Our leadership team has undergone a Personalysis assessment to identify personality traits and characteristics in an effort to better communicate with each other and improve teamwork effectiveness. <https://personalysis.wiredtothrive.com/assessment/>
 - Monthly superintendent meetings, led by CEO and/or COO, combined with competent person training during each monthly meeting.
 - Our first core value is an “Uncompromised Focus on Keeping People Safe”. This is demonstrated by daily Operational Risk Management (ORM) meetings, and through the 15,000+ site safety audits done each year. Our partners and employees know our commitment is to their safety.
 - CSEA is part of our effort to continue toward zero incidents
 - Launched “Monthly Meetings with Mike,” a monthly meeting with our chief executive officer (CEO), Mike where our 3,000+ employees can dial into a 1-hour

webinar. The call always starts with safety, which includes a review of any recent incidents or near misses, reminder of upcoming training, and the sharing of other announcements. It also offers time for questions and discussion and is a great way to catch the entire company that is spread out from coast-to-coast.

- The HiPo programs are designed to identify and develop top performing employees at all levels for future leadership roles and organizational growth. Two of our high potential programs are Next Generation Leaders, an elite development program for apprentices entering their final year, journeymen, and office employees who demonstrate high potential for becoming leaders; and Emerging Leaders, which is intended for individuals who show potential for becoming superintendents and project managers.
- Our COO and others are actively involved with Safebuild Alliance, a local non-profit that promotes the transformation of workplace cultures to achieve an incident free construction industry. We are engaged as a mentor in the Safebuild Alliance Mentoring Program. Over the last three years we have helped our mentee who had a start-up construction business with developing safety and business practices, examples: onboarding process and training for personnel, audits, supplier network for PPE, and HR coaching. <http://safebuildalliance.com/>
- We demonstrate leadership peer transparency. Top and sub-standard performers are conspicuously shared and discussed to a great extent in each meeting. Top performers are recognized for their value, and sub-standard performances are addressed to ensure accountability after the meeting adjourns. This is not a blame culture approach, but recognition for areas of leadership improvement with solid action plans to ensure success.
- We are undertaking great efforts to get most of our front line supervisors STSC (Safety Trained Supervisor Construction) certified before the end of 2020.
- Examples of sharing information with our peers include things like our silica training videos on YouTube (English and Spanish) which we encourage other companies to use in their training programs (now at 21,000+ views and 11,000+ view, respectively); a blog post with instructions on how companies can create their own hard hat QR code sticker program; and downloadable Safety Flashes and recall announcements on our website
- To strengthen the safety knowledge foundation and awareness of our field supervisors, we implemented the NCCER Field Safety and Safety Technology curriculum. Twenty-five superintendents have successfully completed the Field Safety modules and have graduated into the Safety Technology curriculum. Due to the success of this program, In 2020 the NCCER Field Safety curriculum is slated to be offered to an additional 16 foreman and general foreman. After successful completion, our field staff will become safety credentialed field supervisors, further strengthening our core safety foundation.
- Conduct monthly Executive leadership Team (ELT) job walks which are critical to our ownership/management involvement. ELT members are paired with EH&S personnel to conduct monthly safety inspections on our projects.
- Senior leadership requires that a senior superintendent safety committee meeting is conducted monthly.
- President holds quarterly Taco Tuesdays to meet with craft employees and leadership, discussing what is occurring on projects as well as receiving direct feedback on improving programs and processes. This is a great way for the field to interact directly with the leadership and freely discuss any concerns or potential improvements that could make the building process safer.
- President developed a video about his expectations from all employees

on Safety. <https://www.youtube.com/watch?v=pJYxczyFt8I>

- Safety Team is a group of field superintendents, project managers, project engineers, and VP's that meet monthly to discuss best practices, lessons learned, health and wellness for employees, and strategies to create a better safety culture.
- Established a Corporate Safety Leadership Group to help support and drive safety at the operations level across the company. The group is composed of influential, senior project leaders who were nominated by their regional vice presidents to represent each of our 10 offices. Through formal monthly meetings and a consistent communication channel, this group has established regional networking to share lessons learned, best practices and improvements. These individuals also serve as the chair of the Regional Safety Committee in their respective office.
- We didn't rest on our 2019 CSEA win, instead, we dove deeper and worked harder. We relentlessly took apart our processes in search of better execution and more effective ways to enhance our safety program across the board. Our committed senior management and engaged workforce are now addicted to improvement.
- Every employee is provided a hardhat sticker that lists company management cell phone numbers and our Owner/President is the first one on that list, followed by VP of Human Resources, Safety Director, Maintenance Manager, and General Superintendent. No one in company management is ever too busy to discuss safety with a field supervisor or hourly worker.
- If an employee is injured, the president goes to their house and ensures that the employee has everything he/she needs to recover quickly. Whether it's childcare, a ramp for a wheelchair, or delivery of groceries. We take the steps in to take care of them.
- Projects are evaluated each month by firm ownership to gauge compliance with the safety initiatives of the jobsite. Monthly safety grading is built into our monthly financial reporting and evaluated with the same importance as the project's financial performance.
- Our COO has taken the new role of President for NECA and for his time in this position he has led the large contractor's safety group for electrical contractors, which meets twice a year to develop best-known safety practices for the electrical industry. He has seen the need to involve electrical contractors to build a safety foundation for future generations to come.
- Foreman Leadership Training program is a five-part leadership course designed to support and educate personnel on Safety leadership, planning and communication, the cost of doing business, estimating, lean construction, time management, the importance of mentorship, expectations for policy compliance, stress management, and public speaking.
- Every week, the CEO of the company issues a safety newsletter to all employees.
- "Life Critical Rules" are a set of rules that if not followed has a high percentage of becoming a fatal accident. These rules apply to the following hazards: Fall-Protection, Lock-Out / Tag-Out, Confined Space, 15' rule around equipment, and Trench operations. Violation of these set of rules by any personnel will result in a immediate review for employee termination by the employee's manager. Banners are placed addressing these rules on specific jobs that have office trailers and/or posted on all project bulletin boards. This policy is not designed to terminate workers but an attempt of raise more awareness.
- Our safety managers are integrated into project teams. There is a constant cycle of mentoring – safety to field staff, and field staff to safety – so safety awareness becomes ingrained in builders and construction procedures become second nature to safety personnel.

- For each project, we hold one monthly safety lunch where the PM or highest-ranking field leader will meet with three to five workers and have a candid, open discussion about safety.
- Entire senior leadership team read a revealing book titled “7 Insights into Safety Leadership”. The insight inside this book was influential in the company moving its core safety focus from failure-based metrics to a proactive, innovative ZERO Harm vision.
- Core Values: Accountability & Responsibility, Honesty & Integrity, Always Do the Right Thing, Firm & Fair, Lead by Example, Team Loyalty, and Empower People to Succeed, directly relate to our safety program. Our staff regularly shares stories of where these values have guided their decision process and how it directly results in a natural process of continual improvement.
- Management continues to support our safety programs through our Project Execution Plan (PEP). We create a PEP for each project that establishes roles and responsibilities for all the deliverables including safety performance. Project teams break down the scope of work and identify the individual work events allowing us to identify the resources (personnel, equipment, training) necessary to complete them.
- Top management knows that while industry RIRs are down, fatality rates are not. Therefore, we invented the STCKY messaging (Sh*t That Can Kill You) that we communicate in videos, meetings, and conversations. STCKY messaging is catchy and relays life and death information to prevent significant incidents by demonstrating that we can never let our guard down. We held our first STCKY video contest during National Safety Week and now have an established STCKY library available with many more lifesaving videos to come!
- Performing energized work takes a personal signature from a senior manager.
- Developed a gain share bonus program which is based on leading indicators
- Use a large public billboard safety message to ask traffic to drive safe ahead of their work zones.
- President of the company comes to jobsites towing a BBQ pit behind his truck, cook the food onsite and then serve it to the employees.
- Every person from the CEO to the field labor team participating in training, JHA, Tool Box Talks, PPE use, safety audits, and accident/near miss investigations
- Management offer group or individual education classes to all employees. Any construction safety or construction management topic is acceptable, and these tuitions are paid by the company. Management believes that knowledge helps to provide a safer work place.
- Our owner is dedicated to safety. He personally attends the required 5:00AM safety meeting every Monday morning for all field employees. All Project Managers and Field Supervisors must also attend the meeting.
- COO is Safety Officer and is involved in all aspects of operations.
- Steel-toe boots are not a reward. If an employee needs steel-toe boots, it's simple, they are reimbursed for them.
- Company vision insurance plan, covers prescription safety glasses 100%
- New employees go through a three day on boarding process with a major focus on safety culture vs. rules and regulations
- Motto “Company XYZ, Safe Focused, Aware, Empowered” carries the understanding that to continue our business success, we consistently and effectively emphasize that safety is central to our business and employees. Safety is always mission-critical—a total commitment and core value of the organization.
- 20% of company president's direct reports'

- performance review is based on safety performance and metrics of their projects or business units
- Monthly superintendent conference to share safety lessons learned and safety initiatives
- Project managers and superintendents are required to walk the job site at least once a week and note a specified number of observations in Predictive Solutions SafetyNet and iScout. If an unsafe observation is logged, a follow-up observation is required by the project manager or superintendent to ensure proper corrective action(s) have been taken.
- President is a founding member and remains an active sponsor of the Construction Industry Safety Initiative (CISI)
- Created an Executive Safety Team (EST) which includes the CEO, President, Corporate Safety Director, and at least two Operations Managers, as well as Project Managers, Superintendents, and Project Craft. Quarterly, the EST travels to different projects to openly discuss safety stats, trends, issues, and future needs. The fourth quarterly meeting occurs at the home office as part of our annual training for all employees.
- The Vice President of Safety, Health, and Environmental is part of our executive leadership team
- The President - "I want every husband, wife, son and daughter to know I am committed to making sure their loved one comes home safe and sound to them every night".
- Sr. Leadership makes frequent project visits. These visits are not only operational issues such as budget and schedule but place an emphasis on the overall engagement of the teams.
- All staff meetings from senior management planning sessions to tool box talks start with a Safety Moment – we call them OneLife Moments.
- We have participated three times in the Construction Safety Excellence Awards - and three times we have taken the feedback we have gained to heart, learning from what we can do better. These comments, suggestions and criticisms have made our safety program stronger, and into what it is today.
- President every two weeks sends out a document called "Four Points" in which he communicates safety issues, gives accolades for safe working practices and mentions working safe.
- Vice President of Operations leads monthly foremen meetings on incident prevention, employee safety, and education.
- When significant incidents occur, the owners call for an immediate site stand down and attend the group meeting.
- Core Safety Participation Report. This report tracks participation with field-level and management, versus simply setting criteria for every employee. We consistently achieve over 85% participation across the company. we not only require participation, we track it and hold each other accountable for enforcing and implementing safe work practices every day.
- Being the "Best of the Best" means conceptualizing and implementing innovative ideas that contribute not only to the betterment of your own company, but to the advancement of safety in the construction industry as a whole.
- President "Burritos with Byron" is another example of president visiting job sites to meet with craft workers, sitting down to have breakfast with them and obtaining firsthand knowledge of how he can better support their needs.
- Executive Leadership Team meets weekly to discuss a myriad of safety considerations from multiple angles including production, employee morale, training, etc.
- We are now getting more and more involved in industry associations to help other contractors see the value in safety and to improve their programs.

- President visited every project spanning over five weeks to present our State of the Company Kick-Off meeting. In the past it was a large group all employee event at the corp[orate office. This year we wanted a more personal touch. By coming together in a smaller group setting, it created an environment of open communication where our employees were able to spend one-on-one time with our President and ask the questions that they may not have in a larger group.
- The 3 T's - management is responsible for ensuring that their teams have the required Tools, Training and Time to safely perform their duties.
- Developed an E-Catalog for Site Safety Professionals, Project Managers, and Superintendents to order PPE and safety equipment online. The E-Catalog is categorized with lists of approved equipment, including but not limited to PPE such as: embroidered high visibility vests, goggles, safety glasses, task specific safety gloves, fall protection harnesses, hydration supplements, safety signage, and barricades.
- A driver recommended changing a refueling station he used in our maintenance facility. He had been climbing the ladder on his tanker carrying the refueling hose, in all types of weather and in dim light. He recommended a stationery tower be constructed, believing it would mitigate slip and fall risk. Acting on his input, we designed and built a refueling tower, with wide steps and handrails, a platform and hose access at the top, a kill switch, lighting, and a moveable "gang plank" to access different trucks. These towers have since been built at all our refueling stations.
- Mixer drivers requested improvements to wash racks at our facility, and management responded by installing solar lighting and making other general rack improvements.
- President participates in monthly jobsite safety training classes alongside workers, even taking the validation tests with them
- Individual employees making suggestions which are adopted by the company are rewarded with a \$100 bonus, and crews which submit suggestions that are adopted by the company are rewarded with a lunch in which senior management.
- We believe by sharing what makes our safety culture successful, our best-known methods, and our safety innovations with other companies, we can change the industry.
- COO created a large contractors group that is focused on sharing the best known methods of safety across the world, shaping and enhancing other safety programs outside of ours.
- CEO, reaches out to all newly hired employees and encourages them to contact him personally if they have any concerns related to safety.
- Corporate management hosts an annual award ceremony for all employees. At this ceremony, top management recognizes and awards projects and teams on their dedication to safety and for outstanding safety performance.
- Safety Steering Committee: we maintain a Safety Steering Committee that meets quarterly to develop and monitor specific safety goals. The committee's focus is on strengthening the company's safety culture while emphasizing leadership, communication and consistency.
- Instituted a Safety Co-Op Program, in which students spend 12 weeks (paid) working with our safety department to help them grow into valuable experts in the field. The Co-Ops are then eligible to receive a scholarship from our company. These scholarships range from 500 dollars to 1500 dollars.
- All employees have stop work authority.
- Do not have a stop work authority program...they have a stop work RESPONSIBILITY program.
- President requires 7 lessons learned

from each project each year as a leading continuous improvement indicator

- Working on achieving their ISO 45001
- Reworked the norm of having site safety people, foreman and superintendent trained in safety procedures to having the entire management team from estimating, PM's and staff management.
- Eight hours of leadership training each year for managers to acquire skills to manage people.
- Hold a safety dinner at the owner's home once a year
- Employee involvement is key. They are VPP certified and have been for years
- A safety person assigned to the business development team to understand potential hazards
- Superintendents/Supervisors receive OSHA 30 & First Aid training every 3-years.
- In 2019 was named again one of the worlds' most ethical companies-10 years in a row.
- Belief drives behavior. Lead from the Heart. We recognize good behavior in our employees
- "Am I lucky or am I good?" A project leadership measurement tool to evaluate projects with 0 TRIR's. This helps us measure the prevention tools we use.
- Students from local community spend 12 weeks paid interning with the safety department to increase interest in safety as a profession. Management also offers free safety training to family members, high school and college students (OSHA 10/30), wellness and health screenings. Project related outreach to Boys & Girls Club, Youth Programs, Career Fairs, etc.
- 86 full time safety reps, 16 interns EVERY YEAR, and encourage BCSP certifications for all employees.
- Principals rotate participation leading the weekly conference call, along with the safety manager. If an incident occurs

a principal is involved in the onsite investigation

- "Burritos with Byron" (Company CEO/ President) - when he visits the job he sits down with crews of craft workers to obtain firsthand knowledge of how the Exec Leadership team can better support their needs.
- Company President calls the president of subcontractor employees who receive recognition at the site - notifies them of the accomplishment and thanks them for his dedication, when he can he personally presents awards, if they coincide with site visits.
- Sharing safety initiatives on company LinkedIn Safety page in hopes of other firms will adopt them, making the industry safer overall
- The company president sits with every new hire during orientation to personally share his commitment to their safety and their family's wellbeing. Execs also participate in onsite training and testing with the craft workers.
- Company owners and workers love trying and evaluating new processes together by leveraging the wealth of tribal knowledge shared by all, exemplified by Safety Advisory Council (SAC), made up exclusively of craft workers who meet with the safety director for candid discussions about observations and to share their ideas. These volunteer leaders pledge to coach new workers and speak up on safety issues. SAC has been testing ground for advancement in the field - all workers promoted to foremen last year came from SAC. Being part of the SAC is a source of pride for members, the team growing from 5 to 32 in a year.
- The company retains a licensed counselor/ chaplain to assist with personal issues and help their team achieve emotional and spiritual wellness.
- Pursuit and achievement of Ethisphere Institute's Most Ethical Companies in the World

- Corporate Safety Manager helps set performance goals for all office and field staff.
- Company has pursued and achieved OSHA VPP Star Mobile Workforce recognition for several years.

RISK IDENTIFICATION AND ANALYSIS

- Incident investigations categories contributing factors (e.g. unsafe acts, preconditions to unsafe acts, ineffective leadership/supervision, organizational pressures) for refined incident analysis
- Incident, injury and illness precursor scorecard is used to identify project risks and required corrective actions to mitigate risks based on data-evidenced precursors
- Use of AutoLOTO technology to map the flow of power throughout the site to reduce human error and associated risks while controlling hazardous energy.
<https://autoloto.co/>
- Leveraging insurance carrier expertise to identify project risks (e.g. casualty, auto, Builders Risk) and recommended controls based on industry best practices
- Addition of hand drawn pictures to Job Hazard Analysis to facilitate better understanding of work to be performed, especially in a multi-lingual work environment
- Cross functional teams meet to discuss all aspects of the business. Members are those who manage and perform the work, those who sell the work, and those that design the projects.
- Use of Enablon, a global on-line reporting system for key safety reportable events and incidents. Program helps identify major risk areas across all business units.
<https://www.wolterskluwer.com/en/solutions/enablon>
- Executive leadership “SafeRing” program
 - Planning - Communicating - Observing
 - Improving. Subcontractors are also involved in the SafeRing process.
- SSE “Short Service Employee” employees with less than 30 days on the project. Special emphasis and observation process for these employees.
- Change job assignment during day to avoid repetitive injuries – but be sure employee is oriented properly for new job assignment to ensure employee is proper safety trained possesses adequate skills to accomplish task safely.
- Cross functional teams that go through a “Learn After Doing” post project learning process. Documented and used in pre-job planning meetings down the road.
- Use of the “Charrette” team analysis process to quickly come up with solutions for risks using a cross functional team including subcontractors. The structure of a charrette varies, depending on the problem and the individuals in the group, charrettes often take place in multiple sessions in which the group divides into sub-groups. Each sub-group then presents its work to the full group as material for further dialogue. Such charrettes serve as a way of quickly generating a solution while integrating the aptitudes and interests of a diverse group of people.
- Our Safety Professionals must obtain an ARM (associate in risk management) within 2 years of hire, so they understand and have a wider view of Risk Management
- Process to Identify Project risks then a further analysis to determine how risky it is on a scale from Less Risky to highly risky
- “Mining the Diamond” process to focus on target injury types vs incident rate
- “Extend the pyramid” – safety related data is investigated down to the audit level in effort to be as predictive as possible using data that is already being collected.
- Have found that having Foreman and Superintendents perform Safety Inspections on each other has drastically improved our Safety Culture, general knowledge, and overall morale.
- Utilize engineered and manufactured fall protection systems, we also design and test our own fall protection systems by

performing drop tests with dynameters to understand the forces to the anchorages and fall distances an employee may be subjected to during a fall. We test engineered components to understand how they react during a fall to ensure our employees are protected in the event of a fall. The drop tests are videoed and documented for sharing with our employees during our fall protection training.

- Using web based ConstructSecure, and PICS to learn more about what peers are doing to manage and improve safety
<https://www.constructsecure.com/>
- Predictive Solutions “Safety Net” to help ID risks and track resolution of identified risks
- Root cause analysis is presented to Owner/ Client to show visible management commitment to safety and to demonstrate a client “no surprise” philosophy
- Members of a Peer Group where other contractors come into their company and do Safety performance audits with report back to senior management
- Use of ISNetworld to see what other contractors are doing in Safety
- Expanding Root Cause Analysis to focus more on the “choices” that management and employees made leading up to the incident
- Smith System of Defensive driving for all employees who drive company vehicles
<https://drivedifferent.com/>
- Use of RFID chips to record crane and rigging inspections and inventory equipment
<http://www.cranestodaymagazine.com/features/track-and-trace/>
- Use of “Earthcam video recording equipment to enhance jobsite security and for monitoring of safety awareness and work practices by project management - Real time
<http://www.earthcam.net/>
- “What Do You Think I am Looking At?” audit process - Project management takes supervisors through their own work area and if a hazard is identified, they ask the question, take a picture, and the supervisor explains the hazard, and how to correct the situation. The supervisor later presents pictures and findings in a staff meeting.
- AutoDesk VELA Field Management: Safety audits with iPads
<http://usa.autodesk.com/architecture-engineering-construction/>
- Measuring Cost Per Work Hour (total incurred insurance cost per work hour) as an additional performance indicator and subcontractor pre-qualification measure. Also track for jobsites, divisions, locations, superintendents, PMs, and foremen.
- Safety Pyramid Metric using own data to show when more significant things may happen
- Cell Phone Use Policy – You must be at least 50 feet from mobile equipment to help prevent Run Over Back Over accidents
- Meet with competitors 2x per year to share best safety practices and learn from each other
- Kaizen brainstorming
- Monthly specific safety plan for each project
- Use an online motoring service to track Motor Vehicle Records for those who drive on company business (Negligent Entrustment)
- SafetyNet is used to document behaviors and conditions. These observations, in conjunction with historical event data, are used to predict where challenges and where the next event may arise in the future.
- Incidents including Near Miss events are thoroughly investigated with a root cause analysis and a formal report, followed by a presentation and Lessons Learned.
- Every week the jobsite Foreman writes a formal executive summary document in regard to safety and health. The frequency

is required due to ongoing changes in the work environment and equipment.

- All drivers who drive on company business receive a 6-hour defensive driving course (NSC). Driver MVR's are checked every 6 months.
- Safety Stratus safety software utilized to document safety observations.
<https://www.safetystatus.com/>
- Every 30 days, a rolling 5-year loss history analysis is prepared for our projects and the whole company and is reviewed at Safety Meetings.
- A two-week look-ahead schedule is posted at jobsite trailers to forecast what is coming up to trigger plans for addressing safety issues.
- Supervisory behavior observation program where audits are a critical part of a manager's performance evaluation. These observations are reviewed during the employees' review and are heavily considered for promotion.
- Each position has a job description and is reviewed closely with physicians during physical, range of motion exams, and fitness for duty exams.
- Prior to project beginning an intensive risk analysis is completed and is evaluated and adjusted through the life cycle of the project. Sequentially, pre-bid plan reviews are completed utilizing Virtual Construction technologies
- Projects use a proprietary mobile app to document safety. The app documents both positive and unsafe behaviors in real time. Images and reinforcement are sent directly to subcontractor foremen and their teams. In 2017 more than 600,000 observations were made using this system.
- Project estimators meet with safety personnel/project team during the pre-bid and pre-construction planning phase to budget people, project controls, and PPE.
- Smartphone apps allow employees to report safety observations from their mobile devices. This safety data is trended across the business. With the trended data specific inspections, communications and training are tailored to help focus efforts and drive specific injury numbers down that are currently occurring in the field. For example, shoulder strains and tears by 33% and strains and strains overall by 40% this year through this process.
- Measure crew participation with perception surveys conducted weekly by the safety department. The survey questions include "when was the last time your boss spoke to you about safety" and "what was the last training class you went to", as examples. Crewmember perceptions are trended and shared with supervision and management on a quarterly basis.
- Employee engagement is measured in weekly affirmations. These include the acknowledgement that the company maintains an anonymous hotline to report employee complaints and also include whether safety meetings are being conducted properly, whether pay is being handled properly, and whether breaks are being given.
- Developed in-house app "Safety Mojo" to track all safety communications from the field to the office, and from the office to the field. Incident reporting, hazard identification, inspections and meetings are all communicated electronically and trended.
- Projects awarded that are over \$250,000 require storyboards with all GC and subcontractor personnel along with a safety representative tasked with identifying risk throughout project completion.
- BIM 360 computer-based auditing program collects safety data from all job sites. The safety hazards and corrective actions identified on projects are entered into the program for analysis. The data can then be trended to proactively identify areas of concern before an injury or incident.
- Overexertion injuries are difficult to

- and to become familiar with the demands of the tasks for more efficient and effective return to work placements
- Planning for new projects include an occupational health assessment by a qualified healthcare professional
- IndustrySafe software is used to validate training and for making safe behavior observations
<https://www.industrysafe.com/>
- Use iAuditor to perform and track in-house safety performance
<http://www.safetyculture.io/iauditor/>
- Use of 3-D Lift Planning Software has helped ratchet up the safety planning for critical lifts
<http://www.3dliftplan.com/>
- Highway contractor includes their attorney on their work zone crisis management team. Who mobilizes to the crash scene with company officials
- Monthly “Project Safety Executive Summary” is completed outlying positive trends in behavior and conditions along with specific issues that need executive focus and attention
- Use of LEAN to map and pinpoint where safety concerns are more frequent, so the right managers are involved and more detailed planned completed
- Require all employees who may be on sites with known or unknown Asbestos potential to maintain an annual 2-hour Asbestos Awareness certification card
- Safety Means and Methods strategy meetings are held as each new scope begins, these are also peer reviewed
- “At Risk” physical tagging procedure. When issues are found a tag is placed on the item, photographed, and sent to the Superintendent for correction
- Use “Workplace Aware: software for identification of hazards and communicating remediation and lessons learned.
- All JSA’s are electronically uploaded to corporate website within 1 hour of completion so anyone in the company can review and comment on them.
- Company safety professionals log their time and what activities they are doing at the project level. A leading indicator of performance for the safety professionals is that they spend 80% of their time outdoors on the project managing safety by walking around and observing the people element of the project along with identifying hazards and assisting in solutions. Prior to this measurement we our safety team spent 80% of their time in the trailer doing paperwork
- “Crane Verification Process” where every crane, even those delivered by rental companies, is fully evaluated before use on project. This process also applies to all subcontractor cranes. Since putting process in place, a year ago 12+ cranes delivered by rental companies have been shut down and returned for safe equipment.
- “Fatigue Management Plan” has helped take a closer look at how fatigue negatively affects our employees and their decision-making process. We have learned that managing fatigue has helped improve productivity, safety, and rework.
- All heavy equipment operators must pass a TPE (Task Proficiency Evaluation) by a dedicated heavy equipment evaluator and trainer before being allowed to operate equipment on the project. This includes subcontractors.
- The “RED Book” process is for helping field workers ID and Control Risks. RED stands for Recognize, Eliminate, and Discuss. Each RED Book is carried by each craft worker and the master RED Book is kept by the crew leader for daily signoff for the Pre-Task meeting.
- Developed a monthly “Safety Dashboard” that contains leading and lagging indicators and issues identified on projects for the month. The dashboard also contains prevention measures and next

control and often end up being identified during the first aid process. Have become very vigilant with regards to follow up treatment. Overexertion 1st aids/Med only/Lost time injuries are monitored very closely throughout the healing process. This is extremely important with a soft tissue injury because very minor incidents can elevate the medical status very quickly if not managed well.

- Use eCompliance program to audit, capture, and communicate experiences containing elaboration and discussion of near misses and reports and investigations by the safety committee.
<https://www.ecompliance.com/>
- Safety observation documentation uses an inhouse developed app called “Improve It” that helps with reporting and capturing data for analysis. The data is presented in a series of models that allow for the drawing of conclusions about future risk and take the necessary precautions to avert it.
- Root Cause Analysis (RCA) using Sologic Software is required for any OSHA recordable injury and above.
- “What’s wrong with this picture” monthly safety quiz competition.
- “Craft Ride Along” a craft worker is randomly selected to conduct a safe ride along with one of the owners.
- An accident review committee is in place for the root cause analysis of all vehicle crashes.
- Have a dedicated QC manager and all sites must comply with ISO QC criteria.
- Use multi-tiered inspection process. Weekly by supervisors, safety personnel, and engineers. Monthly for project managers and Superintendents. Periodic inspections are conducted by superintendents from other sites (cross walks).
- Safety 5 – Blocks (project safety performance flash reports) are shared with ownership and leaders on a quarterly basis during Executive Project Reviews.
- Safety 5 – Blocks are an integral part of this review and provide a detailed look at leading & lagging indicators (safe & at-risk behaviors, safety training, safety audits, AHA schedules, injury rates, and insurance savings).
- Annual Cross Business Safety Audit (CBA) – A detailed 3rd party safety compliance assessment is conducted at client sites to identify strengths and weaknesses of our project safety efforts. CBA findings and corrective actions are shared with ownership and leaders.
- Safety Snapshot (BBS) is a tool used to engage employees/subcontractors by recognizing safe behavior while pointing out those needing improvement. Snapshots encourage discussion of safe and at-risk behaviors and help identify trends and whether additional safety training may be needed. Weekly Snapshots assist supervisors in recognizing and managing safe and at-risk employee/subcontractor behavior, while safety audits verify processes are in place and work conditions are safe.
- Vice Presidents and Project Managers conduct iAuditor audits each time they visit a job site. Superintendents and Foreman also conduct audits weekly. The audits enable leadership to gather data from observations that are used in a matrix to calculate risk and probability. When this data is calculated, it is presented to Management weekly.
<https://safetyculture.com/>
- Use Hazard Scout a cloud based mobile friendly safety management system designed to foresee and control hazards associated with safety and performance.
<https://www.hazardscout.com/>
- Use the DISC behavior assessment tool which is a personality assessment tool that focuses on four different behavioral traits: dominance, inducement, submission, and compliance. This has allowed leadership to understand what type of approach needs to be taken when dealing with one another

- based on personality.
- Fatigue monitoring and fatigue messaging to home and family
- Complete full Root Cause Analysis on all Near Misses
- Implemented +SafetyReports to track jobsite safety inspections, using comprehensive analytics to predict potential safety hazards.
<http://www.safety-reports.com/>
- Schedule is looked from a safety standpoint as a whole rather than parts. Management thinking is that just because a task can be completed it may not justify being completed out of sequence due to potential safety implications. Ex. Installation of a high voltage line in an area where substantial underground work and grading operations have yet to be completed.
- All identified hazards are tracked through the National safety Council Safety Management Navigator System. All issues are tracked until they closed. The company has set a leading indicator goal for an average closure rate of 30 days or less. Some items require administrative changes that take longer than putting the guardrail back up.
- The Safety department works with the Sales team to ensure a detailed site-specific safety walk and plan are developed for every project. This helps the Sales team better understand the unique safety requirements of the project so the instructions to bidders have fewer safety requirement surprises.
- Implemented a driver telematics system using EROAD Inc. The “Drive Buddy” function provides management with driver behavior and analysis. The system also provides information to coach drivers on their habits and identifies areas to improve performance. This system reduced violations, and complaint calls by 25% in the first six months of implementation.
- Developed a safety peer group with 7 other companies across the US for continuous improvement of their company and to help improve the other peer group companies.
- Estimators, pre-construction, project management, and superintendents must attend 2 mandatory Operational Development Seminars per month. The seminars are designed to improve communication, share of information, provide continuous and frequent learning opportunities, how to recognize common and complex safety system hazards, and foster process improvements.
- Trade Contractors Safety Alliance (TCSA) consists of 12 member companies that work collaboratively with all trade contractors to eliminate hazards and prevent incidents. The group meets quarterly hosted by guest speakers, sharing the best practices, and sharing lessons learned
- Utilize “IndustrySafe” software for recording safety observations. Reports generated from the software result in PI’s (process improvements) along with a before and after photo illustrating the change.
<https://www.industrysafe.com/>
- Developed a policy for all workers to address fatigue. Employees can decline work assignments without reprimand.
- Project site delineation through Job Hazard Analysis by cordoning, with designated rope and signage, based on low (yellow) and high (red) level hazards vs. standard plastic caution tape method (proven to be inefficient).
- Compliance Wise software is used for safety self-inspection management. Tracks issues, allows for date stamped photos, and has a follow up system that ensures corrective action has been completed.
<https://www.compliancewise.net/>
- Use of drones to view high-hazard activities
- 3rd party Industrial Hygienists monitor for both silica and noise levels 3-4 times every year.
- Company used a “Daily Foreman Check

- In” smartphone app. Foreman list what went well on their project and note what challenges they faced and how they dealt with them. Goes to President and Safety Manager. Has the ability to be rolled up for a month and year summary.
- Use of “Posers” to reenact and assist in the visual steps leading up to - Accident Investigation
- Safety Mojo - Electronic system to notify executive team of incident, track involvement, and FU - Report card graded weekly
- Electronic JSA Safety plan builder. Cannot load a task without a hard or a control example:
<https://www.jsabuilder.com/>
- Weekly Safety audits completed with Site Audit Pro which incorporates photographs with positive and negative observations. The audit results with pictures are reviewed each week in the subcontractor meetings
<http://www.veamstudios.com/company.html>
- Monthly job site audits are scored from 1-10. If the project receives a 10 P1 buys lunch for everyone. If the audit scores 6 or lower the project manager and foreman must meet with the president to explain why.
- Use and application of CII’s 8 Zero Injury fundamentals to determine safety leading indicators and formulate safety business plans
- Leading Indicators are tracked using Autodesk BIM/360 safety inspection program
- Loss history analysis showed employees with 3 months or less experience were having 40% of the injuries. Developed a strengthened new employee training program where a mentor is assigned and special training for a 3-month period is given until sign off by mentor.
- 2-week Look Ahead schedules are posted on a “LEAN Board”. This gives all a pictorial view of what’s coming up and fosters thinking and discussion around what safety issues will need to be addressed.
- Vehicle accidents are a huge source of risk for contractors. The company decided to go way above and beyond to help prevent vehicle accidents by incorporating the “Smith System” of driver training.
<http://www.smith-system.com/>
- Changed procedures due to safety committee input and now embrace ALL field workers being certified riggers.
- Estimating Team “Hand Off” safety meeting comprised of VP Field Ops, PM, Superintendent, Foreman, Engineer, Purchasing Manager, and Safety Manager
- Use Integrated Process design techniques in the bid process to bring safety and risk considerations into the picture much earlier.
- Use of Smart Bid for project selection with additional questions for Owner and GC related to safety to make sure clients and customers have aligned safety cultures
<http://smartbidnet.com/>
- Formal post-project “lessons learned” meeting with all levels of project management including employees. Safety is 1/3 of the discussion. Lessons are inventoried and used on the next project.
- Project management team has special focus on “unusual or non-routine work” during the project planning stage to identify potential risks and develop planning around those potential risks that are outside of the normal routine.
- Pre-hire Isokinetic physical evaluations to match the physical capabilities of the applicant to the demands of the task.
- Hazard ID team building game where employees take photos of project hazards and submit them to the Superintendent. Superintendent vote on the best hazard catch and the employee receives a prize.
- Use company Physicians to accompany site inspection team to review health hazards

month's activities to address and control the identified issues.

- Workers are required to take a 20 second pause every 20 minutes to conduct a risk analysis and hazard mitigation validation
- Outfitted company vehicles with GPS devices to track employee location; reduced amount of non-work-related vehicle use
- Use of unmanned aerial vehicle (UAV) to conduct jobsite overview and hazard assessment to avoid congestion, impact zones, etc.
- Installation of "deer horn" on company vehicles reduced wildlife traffic mishaps 100%.
- Critical lift crane software
- Use of modern HR hiring analytic tools to understand personality traits of applicants
- Pre-Hire Cost Reduction Technology (CRT) tool which measures dynamic strength and the physical ability to do a job
- Annual 3rd party safety program review, evaluation and summary
- Executive and project-based leadership, participate in a thorough risk identification and reduction program. This includes weekly documentation of safety audits and provides the basis for the company safety trends, as developed from a field level.
- HCSS Inspection/observation results, as well as near miss reports and incident trend analytics and are shared at weekly project meetings. HCSS.com
- Safety starts at bid time. Risk reviews are conducted during the bidding process to understand all aspects of contractual and project risk along with their potential exposures. To identify risk and understand proper controls training is a must, we provide regular training in risk identification and exposure control for management teams well as field teams.
- During estimating, we build a risk register

that highlights what we view as the most critical safety risks on the project. This document is reviewed regularly and updated accordingly until the project is completed.

- Hazard Alert Learning Opportunity Program (HALO) was transformed into a near miss and safety observation program. The remodeling of the program has yielded over a 1000% improvement in the number of near misses and observations submitted.
- Each Regional Manager is provided with a weekly "dashboard", that details incident and observation data from the previous week, month, and year as well as identifying trends in that data. This information is used to customize a plan to aggressively mitigate hazards and reverse any negative trends. Dashboards and analytical data are also used at the project level to compare statistical data across regions and job sites. Amazingly, the program can provide predictive data that will alert us where challenges are likely to arise which allows us to focus on additional resources in that area.
- Developed a "Property Damage Incident Rate" that utilizes an "old formula" in a new manner, that allows us to compare the safety performance of our job sites (different sizes and types), based on the number of property damage events. as compared to equipment operation hours.
- Our program is not minimum standard based but is extensive and addresses OSHA regulations, NFPA requirements, ANSI standards, local codes and standards, and industry best practices including the CSEA Best Management Practices.
- Estimators are looking at bid packages and contractor requirements for possible safety issues and addressing these concerns during the bid stage. Project Managers are looking at contracts and partnering with general contractors during the pre-construction meetings to ensure everyone is on the same page and safety issues are identified in the early stages of the job.

- Online employee training tracking software helps us analyze data related to training to draw correlations between training frequency and accidents/incidents.
- To manage fleet and driving hazards we utilize a comprehensive GPS tracking system that sends alerts on all company vehicles that involve speeding, fast braking, idling, disconnection, and low battery. These alerts are received by management and concerns are promptly investigated and followed up with the appropriate corrective action. Depending on the situation employees may lose driving privileges and/or could result in termination.
- We learn from our near misses. Recently we had one of our delivery trucks back into one of our employee's personal vehicles in a loading zone causing minor damage to the employee's vehicle. We realized we had a risk gap in the way our delivery trucks operate. We took immediately action by adding back-up cameras to all our delivery vehicles and we implemented a process to have our drivers identify a spotter when they are onsite.
- We have continued to refine our business dashboards to report metrics related to fatigue, incidents and compliance. The four objectives of our strategic plan are to reduce new hire injuries by 50%, reduce safety related scheduling delays and unplanned costs, increase near miss reporting and achieve a positive to negative observation ratio of 4 to 1
- We have built a risk registry, which houses all our risk assessments for each cost type, for all construction and plant operations. These risk assessments are the starting point of our safety planning processes.
- We saw an increase in injuries and incidents that directly correlated to employees with less than 90-days experience. The leadership team shifted their priorities to include a heavier focus on safety education and skills training. This included a complete overhaul of the new hire safety orientation program, switching from dated OSHA 10 to a unique 3-day National Center for Construction Education and Research (NCCER) Safety Orientation curriculum taught in English and Spanish.
- We utilize ComplianceWISE, a safety management and inspection program to generate data to communicate assessments of potential risks to a specific project. Hazard findings and mitigation are tracked, to ensure risks are fully mitigated and never ignored.
<https://www.compliancewise.net>
- Recently implemented Procore's Observation Tool which allows the superintendent to document and time stamp a recorded hazard. The supervisor can then assign it to the responsible subcontractor to remedy the hazard and is notified when the hazard is resolved. The inspection data is also used during annual reviews, bonus pay outs, individual performance promotions, and program or policy improvements.
<https://support.procore.com/products/online/user-guide/project-level/observations>
- We implemented a program that has external evaluations of each project at least twice a year to a set of 25 leading indicators. A score and formal report are issued and sent to our President and the Regional / Project Leadership. Our Company President responds to every report. In addition, he sends personalized thank you notes and special recognition to people that stand out in safety.
- Utilize Safesite Inc. App technology, every visit is documented, and trend analysis is generated. We also use past incidents to observe both lagging and leading trends to demonstrate areas of success and improvement simultaneously. With the use of today's technology, statistical information is wonderfully illustrated in a clear and succinct matter.
<https://safesitehq.com>
- Organize a network of regional safety professionals for a group sharing meeting. We saw the need to connect safety professionals in our local area more often.

- This commitment also extends to our involvement with the local community colleges and high school programs in outreach presentation promoting safe and rewarding career opportunities in the construction field.
- Even the smallest tasks are analyzed for hazards and controls are established. Our collaborative incident and close call log on Smartsheet are yielding even greater data since we improved our incident investigation processes this year. New workers are now trained in recognizing serious injury or fatality (SIF) incidents before they ever step on site based on our own real data.
 - In addition to the standard KPI's like incident rates, we monitor loss cost per workhour and target a goal of less than ten cents/man-hour in loss cost
 - Use claim tracking in Viewpoint (a construction management software) along with SafetyNet in our monthly Project Status Summary (PSS) meetings that has furthered the line of communication between the project management team and senior management.
<https://www.viewpoint.com/solutions/construction-management>
 - eCompliance is a cloud-based system that allows users to provide real time information to the project team as well as aggregating statistics to allow trends to be tracked. The trending allows our team to take preemptive measures to educate our teams about areas where we are seeing challenges. eCompliance allows a two-way conversation between front-line supervisors and management, including instantly reporting hazards and giving the management team systems that enable a prompt response.
<https://www.ecompliance.com/>
 - Require all subs to fill out the jobsite JHA poster (dry erase) each Monday morning. Company field staff take pictures for documentation and send with a Toolbox Talk report on Monday to VP via iScout.
<https://www.iscout.com/>
 - Back-Up Spotters training and policy were set in place to improve safety when backing up vehicles. "Circle of Safety" reinforces survey of surrounding area to look for obstructions and to guide the driver in.
 - The company began implementing with great success a Key Activity Review on specific project activities companywide. A Key Activity Review is an informal, sit-down review with the crew to see if the execution of the work activity can be improved for Safety, Quality and Production; it has served as a method to validate that our planning procedures are effective. These reviews are performed at the 10 percent completion stage of the activity.
 - Electronic third-party jobsite audits are performed weekly. The project manager and safety review them, any issues are abated.
 - To raise more awareness of Overhead Power lines, we created awareness signs by utilizing traffic control Vertical Panels. The VPs are easy to transport and stored in foreman's tool trailers. All crews are now allowed to place a sign in the area that has an overhead power line hazard.
 - The first approach is bringing employees together from different facets of the business to discuss current trends, issues, and safety survey results. The objective of this team, which is called the Safety Steering Team, is to find areas of concern, propose different approaches to solving them, and pass these intentions off to a second team, called a Continuous Improvement Team. This team is comprised of field-level employees that meet once a month until the subject at hand is mitigated.
 - Our last layer of defense is our Last-Minute Risk Assessment (LMRA) process. We teach our Team Members to do a quick mental check before they begin any task - what could go wrong with what I am going to do? When we identify a potential hazard, we can then figure out how to control that hazard.
 - Every month the Branch General Manager

and Job Site Project Manager conduct a Quick SHOT (Safety Habits Observed Together) on the job site utilizing I-auditor our inspection system. The findings of the Quick SHOT are discussed during the Job Site Weekly Safety Meeting with the job site employees.

- When a new project is awarded to us, the project manager sends out a PM Checklist to the safety department. The checklist includes the scope of work and if the project will require any equipment that we may need our guys to train on. Job-site risks are identified by the Superintendent when he walks the project for the first time before any work commences.
- Our safety process starts before we even bid on a job. Our estimators walk each job prior to bidding and look for possible pitfalls in the project. During this process a document we know as the risk log is generated. This document contains any item that may pose a risk to the company. Each risk is discussed amongst the management team (owner, operations director, safety director, estimator, project manager, etc.) in detail and plans/contingencies are developed to mitigate each item.
- Using 360 degree on site project cameras to document installation and quality. Used during the entire course of construction.
- Utilize SMARTDRIVE is a video-based program that uses cell phone technology to capture driver performance.
<https://www.smartdrive.net/>
- Use Nex Traq vehicle telematics system to coach driver performance. When they started, they averaged 10,000 violations each month and now they are at 3,800 each month. They expect to see continued improvement as they embrace more coaching.
<https://www.nextraq.com/>
- Used OSHA consultation service on all jobsites in the past year. It helped them understand what worked well in their systems and what needed to be changed.
- Implemented a 10-member safety/risk

oversite council. Their purpose is to review safety policies for feasibility. It consists of all levels of employees.

- Using fleet telematics from Verizon - Telogis and check MVR's.
<https://www.verizonconnect.com/company/telogis/>
- For JSA's they use a severity/probability matrix to identify hazards in need of control. This effort results in a pre-control and post-control Risk Matrix Score.
- Use Matterport software and a 3D camera. A software program to show a jobsite walkthrough. It is a product that started in the real estate broker industry. It offers a 3D tour of a worksite.
<https://matterport.com/>
- Obtained a grant to design fall protection harnesses for women.
- Created a safety task force team made up of field managers and that completes a peer review audit. 35 peer audits were made last year. These are not simple audits, there are 327 questions. Many innovative safety ideas have come out of this process.
- Mobile app called SAFEPLAN that captures and allows data analytics. The has greatly improved near miss tracking.
<https://navigate360.com/safeplans/>
- Collaborate with Steel Erectors of America – they share fall protection ideas, etc.
<https://www.seaa.net/>
- Use “Slack” which is an interactive messaging medium that works well with cell phones and tablets. Employees find it to be consumer friendly and thus using it more, thus creating a more efficient and safer project.
<https://slack.com/>
- Pre-Bid safety planning. Before a Project Manager bids on the project there are meetings with the General Contractor & their Safety staff, engineers, when necessary, Operators that will be performing the work and the GC Management staff. Plans are developed

specifically for each project. Copies of these plans and any special instructions are discussed and a hard copy given to the workers that will be doing the work

- Project safety evaluations around a leadership checklist that measures collaboration, housekeeping, material storage / handling, pre-planning efforts, data collection (iScout / SafetyNet) and subcontractor engagement.
- A national contractor with 6 regions requires each region to drill down into their own safety performance and unique jurisdictional issues and develop specific safety business plans to raise the level of their games. The regional plans are combined to form a written annual business safety plan for company safety improvement. Reviewed and measured quarterly.
- Identified 12 behaviors that are our “Critical Safe Behaviors”. from a CCSI 5-year study of claims in the CCSI database. The study found that there are 12 behaviors associated with our most frequent and severe injuries.
- Use an online monitoring service to track Motor Vehicle Records for those who drive a company truck or their truck on company business (Negligent Entrustment Prevention) - Samba Safety is the vendor we use for this service.
<https://www.sambasafety.com/>
- Root Cause Analysis (RCA) using Sologic Software is required for any OSHA recordable injury.
<https://www.sologic.com/en-us>
- Use the DISC behavior assessment tool, a personality assessment tool that focuses on four different behavioral traits, dominance, influence, steadiness, and conscientiousness. This has allowed leadership to understand what type of approach needs to be taken when dealing with one another based on personality.
<https://www.discprofile.com/what-is-disc/overview/>
- Have aligned lean / safe / sustainable programs that are reducing fall hazards, creating better ergonomics, reducing material handling touches, creating cleaner jobs, reducing slips, trips and falls, reducing soft tissue injuries, increasing productivity and quality, reducing labor costs, and last but certainly not least, we are having fewer serious injuries.
- Developed “Property Damage Incident Rate” utilizes an “old formula” in a new manner, that allows us to compare the safety performance of our job sites (different sizes and types), based on the number of property damage events as compared to equipment operation hours. We began with OSHA’s RIR calculation and replaced injury with property damage data. The formula is as follows; $\text{Total Property Damage Incidents} \times 16,000 / \text{Total Equipment Hours} = \text{Incident Rate}$. $(1 \times 16,000) / (16,038)$ represents equipment hours per site.
- Utilize an electronic Risk Management Information System (RMIS) to show live dashboards with divisional metrics. The dashboards contain both leading and lagging indicators and incorporate not only our employees, but all our subcontractors’ data as well.
- Senior Management participates in incident investigations that had, or could have had, potential for Serious Injury or Fatality (SIFS). This has led to several key safety initiatives; one example is the training course “Leadership the OnLife Way” which is a 4.5 hour course designed to help first-line supervisors to become better safety leaders.
- Leadership is dedicated to seven areas revolving around safety in the workplace. These areas include awareness, training, communication, documentation, proper equipment, supervision, and innovation.
- Drones - have developed our UAV utilization for much deeper benefit than project photos. Our new primary application is bridge work critical lift planning. We combine the use of three different software platforms and drone imagery. This helps us

achieve high levels of accuracy on crane set locations and reaching the exact calculated radius on every lift, minimizing risk. We use drones to perform inspections on bridge structures and even malfunctioning crane booms, removing the need to place employees in high-risk situations when not necessary, thus removing the hazard. Our drone program also performs traffic control inspections, from regular maintenance flights to traffic switch planning and quality control prior to opening.

- Use drones to assist with 3rd party auto accident documentation that occur within our work zones, documenting the road conditions and traffic control compliance during the time of the accident which helps with capturing the conditions of the road before we receive a lawsuit two years later after the job is complete.
- Built a risk registry, which houses all our risk assessments for each cost type, for all construction and plant operations. These risk assessments are the starting point of our safety planning processes.
- Provide Safety Leadership support by equipping them with the newest electronic technology to include applications such as OSHA Safety Heat tool, light and decibel meters, flashlights, cameras, QR reader, severe weather/lightning strike tools,
- ComplianceWise safety auditing process is an electronic, photo time-stamped process that is fully integrated into Company protocols. New hires are trained in the software, as are Executive team members who review audit data and must respond to identified issues or concerns. The cumulative data is reviewed daily, weekly, and monthly to ensure timeliness of corrective actions, and once an item is identified, mandatory corrective action must happen in a certain amount of time or an email to management is triggered if there is an issue of non-compliance. <https://www.compliancewise.net/>
- Project Execution Plan (PEP). We create a PEP for each project that establishes roles and responsibilities for all the deliverables including safety performance. Project teams break down the scope of work and identify the individual work events allowing us to identify the resources (personnel, equipment, and training) necessary to complete them.
- Developed new leading indicator protocol and processes to capture near-misses using Procore cloud software. Procore provides field teams with a way to report near-misses in real time online from their smart phone or iPad making the reporting process as easy as possible. Definition of a near-miss to encompass anything from unsafe behavior or conditions to machine failure or faulty processes.
- Each month the operations team sponsors a Skype teleconference that focuses exclusively on safety issues and performance; incident review with lessons learned and corrective actions; ESH training; program developments and updates; project safety audits and “celebrating our successes.” These meetings are hosted by our company president and attended by all District leaders and their key operations personnel.
- Use SmartDrive systems in every DOT over-the-road vehicle. Drivers and union buy-in are very strong. Any g-force event triggers the system’s video capture. Drivers can also activate the system. Since 2016, with SmartDrive, OSHA recordables were reduced from 12 to 6, restricted days from 120 to 42, and total lost days from 193 to 0. <https://www.smartdrive.net/>
- Smartsheet log - a web-based collaborative log broadcasts a message immediately to field leaders and senior managers when an incident or near miss has occurred so hazards can be shared between jobsites. Reported events are then disseminated to workers during the next morning’s huddle or immediately if they pertain to a serious injury or SIF hazard.
- Utilize Go-pro cameras for confined space evaluation
- Craft Safety Empowerment Program

(CSEP). Members of the CSEP are working field employees identified by wearing a different color vest. Each member is a mentor, available to answer questions regarding safety, quality, production, quality of life on the project, etc. Every two weeks members of the CSEP meet with the project manager and discuss what they have seen and heard from our craft employees.

- Company Cross Site Safety Visits: Top Management, senior managers and supervisors are designated to conduct cross-site safety visits on each of our projects bi-annually. The visiting team then develop a written report based on their observations and give recommendations for improvement to the project team.
- HCSS Safety software is used on all our new projects in order to improve our efficiency and effectiveness for both the safety staff and our field supervisors. The safety management system includes a web application and mobile app on the iPad that enables the paperless documentation and monitoring of training, meetings, JHAs, observations, inspections, near misses, incidents while reducing paperwork with fillable forms and having the ability to run reports to spot trends. www.hcss.com
- Fatigue Management - overtime hours limited program for employees with the goal of preventing fatigue or stress through internally developed software to easily identify those with high amounts of overtime and provide coaching and schedule adjustments.
- Preconstruction MISOP meetings (Mentally Installed Systems on Paper) have a safety component which covers emergency-response procedures specific to the working location, chemical inventory for known chemicals to be onsite, work scope hazards and mitigation planning. These plans are reviewed and modified as needed during the project to maintain effectiveness.
- Implemented a 10% progress shutdown review for individual activities. When 10% of the activity has been conducted on the project, work activity will be suspended to allow a meeting to occur with crew members and management. The review meeting is comprised of personnel directly involved with the task. The purpose of the meeting is to review associated hazards, and the means and methods established to abate these identified hazards.
- Use seismographs on all blast jobs and use the square distance formula to design blasting jobs.
- Walked away from a CCIP project due to concerns about the GC handling any blasting claims.
- JHA's have added a severity matrix to gauge high loss potential. Prepared in the office by project team and modified in the field
- Engineered a lift attachment where the crane pick software detected and lift problem that was solved by the engineered solution.
- Use AIC safety software program for site safety inspections. This has resulted in immediate notification of jobsite safety issues.
<http://www.applicationsinternational.com/>
- Rotate assigned safety people to projects to keep things fresh.
- Project was 12 weeks in duration, 7-days a week. Recognizing and preventing fatigue was a key risk factor. Developed a Fatigue Management System dashboard and transferred it to a manageable 1-page spreadsheet. Factors such as incident rate vs. hours worked were measured. If a supervisor is going to work over 70 hours, then changes in shift schedule are made. You can't be productive, safe, and manage jobs if you are working too many hours a week
- All weekly staff and production and operations meetings lead off with a presentation of data from the risk management department with results of the previous week's observations, incidents

etc., with an opportunity for Q&A and employee feedback at that time. Great transparency and communications with the entire workforce!

- The percentage of new employees per trade and job risk classification is tracked and logged as well as the number of new hazards found on the projects and new hazard corrections, along with people impacted by both.
- Conducting blood pressure testing for workers who routinely work at height and other high-risk activities, and worksite analysis beginning with a baseline of all potential hazards on site including an occupational health assessment by company physician
- Safety alerts for observations go out via text message to all foremen
- There's a technology committee where workers suggest new types of technologies to help eliminate/reduce risk
- 3-day Safety Boot camp for hands on training for non-construction personnel entering the industry
- Web based SmartSheet Log - broadcasts messages to field leaders and management when an incident occurs. Data from SIF's is constantly tracked, which has helped pinpoint RED ZONE - the days and times incidents are most likely to occur.
- Utilizing pre-hire risk tolerance stress response assessments
- Video communication between handheld mobile devices and home offices to obtain the most accurate site information, problem resolution, and technical expertise.
- Safety swaps of safety and occupational health staff between projects for rotational assignments allow for a fresh set of eyes on every project.
- Active participation in the AGC-OSHA partnership with the Construction Health and Safety Excellence (CHASE) program to reduce barriers and improve communication between field operations and federal regulators
- Observation program includes structured questions that force employees to look beyond basic level hazards. The program provided more risk ID balance from just the identification of basic items (i.e... missing PPE, improper use of tools).
- Safety observation card linked to timecard - the two must be submitted simultaneously.
- Standardizing project risk registers using scope-specific templates ensures consistent identification, tracking, and mitigation of hazards across all work packages. This structured approach enables teams to proactively manage risks and maintain predictable project outcomes throughout the project lifecycle.
- A weighted field-audit system drives more impactful safety observations, encourages deeper critical thinking, and demands thorough corrective actions. Safety scores derived from these audits are reviewed monthly and directly influence performance evaluations, raises, and bonuses — reinforcing that safety performance is a leadership priority (e.g., PPE = Level 1; Fall Hazards = Level 5).
- Using thermal drones to inspect construction projects enhances quality control by quickly identifying air and water infiltration issues invisible to the naked eye. Earlier detection enables more accurate repairs, reduces rework exposure, and improves overall building performance.
- Implementing telematics and camera systems that deliver real-time, behavior-based in-cab coaching is a fleet safety best practice. Immediate feedback corrects unsafe driving actions as they occur, strengthens driver awareness, and measurably improves overall fleet safety performance (e.g., Motive, Samsara, Lytx, Geotab).
- ISO 9001 internal and external audits helps evaluate project quality and safety
- Reporting, recording, monitoring and

trending of property damage incidents and incident rate helps reduce costly incidents. Root causes are often similar to personal injuries, thereby having a broader view of mishap prevention, which translates into cost savings and increased productivity.

- Judgement Index (<https://judgmentindex.com/>) is used to assess employee decision making, and aids in recruitment, retention, leadership and development, health and wellness and safety and risk management
- Addition of hand drawn pictures to Job Hazard Analysis to facilitate better understanding of work to be performed, especially in a multi-lingual work environment
- Cross functional teams meet to discuss all aspects of the business. Members are those who manage and perform the work, those who sell the work, and those that design the projects.
- Use of Enablon, a global on-line reporting system for key safety reportable events and incidents. Program helps identify major risk areas across all business units. Link: <http://enablon.com/solutions/ehs-management> and <http://enablon.com/applications/audit-compliance>
- Executive leadership “SafeRing” program - Planning - Communicating - Observing - Improving. Subcontractors are also involved in the SafeRing process.
- SSE “Short Service Employee” employees with less than 30 days on the project. Special emphasis and observation process for these employees.
- Change job assignment during day to avoid repetitive injuries – but be sure employee is oriented properly for new job assignment to ensure employee is proper safety trained possesses adequate skills to accomplish task safely.
- Cross functional teams that go through a “Learn After Doing” post project learning process. Documented and used in pre-job planning meetings down the road.
- “Unplanned Events” and “near misses” are investigated with the Superintendent to integrate Safety, Quality, and Production in the Superintendent’s mind. It is used to illustrate that something in the system needs adjustment.
- Use of the “Charrette” team analysis process to quickly come up with solutions for risks using a cross functional team including subcontractors. The structure of a charrette varies, depending on the problem and the individuals in the group, charrettes often take place in multiple sessions in which the group divides into sub-groups. Each sub-group then presents its work to the full group as material for further dialogue. Such charrettes serve as a way of quickly generating a solution while integrating the aptitudes and interests of a diverse group of people.
- Process to Identify Project risks then a further analysis to determine how risky on a scale from Less Risky to highly risky
- “Mining the Diamond” process to focus on target injury types vs incident rate
- “Extend the pyramid” – safety related data is investigated down to the audit level in effort to be as predictive as possible using data that is already being collected.
- Leveraging insurance carrier expertise – small businesses leverage the expertise, best practices, and experience of their insurance carrier’s safety team to improve their compliance and performance.
- Have found that having Foreman and Superintendents perform Safety Inspections on each other has drastically improved our Safety Culture, general knowledge, and overall morale.
- Utilize engineered and manufactured fall protection systems, we also design and test our own fall protection systems by performing drop tests with dynameters to understand the forces to the anchorages and fall distances an employee may be subjected to during a fall. We test engineered components to understand how they react during a fall to assure our

employees are protected in the event of a fall. The drop tests are videoed and documented for sharing with our employees during our fall protection training.

- Using web based ConstructSecure, and PICS to learn more about what peers are doing to manage and improve safety - <https://www.constructsecure.com/> and <http://www.picsauditing.com/>
- Predictive Solutions “Safety Net” to help ID risks and track resolution of identified risks
- Root cause analysis is presented to Owner/ Client to show visible management commitment to safety and to demonstrate a Client “no surprise” philosophy
- Members of a Peer Group where other contractors come into their company and do Safety performance audits with report back to senior management
- Toll free 800 number sticker inside of hard hat to call in an incident after normal work hours for 24/7 coverage
- Use of ISNetworld to see what other contractors are doing in Safety
- Expanding Root Cause Analysis to focus more on the “choices” that management and employees made leading up to the incident
- Smith System of Defensive driving for all employees who drive company vehicles <http://www.smith-system.com/>
- Use of RFID chips to record crane and rigging inspections and inventory equipment <http://www.cranestodaymagazine.com/features/track-and-trace/>
- Use of “Earthcam video recording equipment to enhance jobsite security and for monitoring of safety awareness and work practices by project management - Real time <http://www.earthcam.net/>
- “What Do You Think I am Looking At?” audit process - Project management takes supervisors through their own work area and if a hazard is identified, they ask the question, take a picture, and the supervisor explains the hazard, and how to correct the situation. The supervisor later presents pictures and findings in a staff meeting.
- AutoDesk VELA Field Management: Safety audits with iPads <http://usa.autodesk.com/architecture-engineering-construction/>
- Measuring Cost Per Work Hour (total incurred insurance cost per work hour) as an additional performance indicator and subcontractor pre-qualification measure
- Cell Phone Use Policy – You must be at least 50 feet from mobile equipment to help prevent Run Over Back Over accidents
- Meet with competitors 2x per year to share best safety practices and learn from each other
- Kaizen brainstorming
- Monthly superintendent conference to share safety lessons learned and safety initiatives
- Use a online motoring service to track Motor Vehicle Records for those who drive on company business (Negligent Entrustment)
- SafetyNet is used to document behaviors and conditions. These observations, in conjunction with historical event data, are used to predict where challenges and where the next event may arise in the future.
- Incidents including Near Miss events are thoroughly investigated with a root cause analysis and a formal report, followed by a presentation and Lessons Learned.
- Site specific fire prevention plan is covered during orientation and audited throughout project duration.
- Anyone who drives on company business is required to attend driver training which includes Defensive Driving. All employees driving records are reviewed before they are allowed to drive.

- Every week the jobsite Foreman writes a formal document in regards to safety and health. The frequency is required due to ongoing changes in the work environment and equipment.
- All drivers who drive on company business receive a 6 hour defensive driving course (NSC). Driver MVR's are checked every 6 months.
- Safety Stratus safety software utilized to document safety observations..... <https://www.safetystratus.com/>
- Every 30 days, a loss history analysis is prepared for our projects and is reviewed at Safety Meetings.
- Two-week look-ahead schedule is posted at jobsite trailers to forecast what is coming up to trigger plans for addressing safety issues.
- Supervisory behavior observation program where audits are a critical part of a managers performance evaluation. These observations are reviewed during the employees review and are heavily considered for promotion.
- Each position has a job description and is reviewed closely with physicians during physicals, range of motion exams, and fitness for duty exams.
- Prior to project beginning an intensive risk analysis is completed and is evaluated and adjusted through the life cycle of the project. Sequentially, pre-bid plan reviews are completed utilizing Virtual Construction technologies
- Projects use a proprietary mobile app to document safety. The app documents both positive and unsafe behaviors in real time. Images and reinforcement are sent directly to subcontractor foremen and their teams. In 2017 more than 600,000 observations were made using this system.
- Project estimators meet with safety personnel/project team during the pre-bid and pre-construction planning phase to budget people, project controls, and PPE.
- All company employees that operate a company owned vehicle or personal use vehicle on company business is required to complete 4 hour Defensive Driving and a trailer towing (if applicable) training annually.
- Smartphone app allows employees to report safety observations from their mobile device. This safety data is trended across the business. With the trended data specific inspections, communications and training are tailored to help focus efforts and drive specific injury numbers down that are currently occurring in the field. For example, shoulder strains and tears by 33% and strains and strains overall by 40% this year through this process.
- Refined incident review process by categorizing contributing factors to get better more consistent information. Also built a tracking system that allows for the analyzation of common causes for incidents and losses.
- Our definition of safety effectiveness extends to participation, hazard recognition, and training interest.
- Lagging metrics are a result of "What" we did, and can easily be the result of luck.
- Measure crew participation with perception surveys conducted weekly by the safety department. The survey questions include "when was the last time your boss spoke to you about safety" and "what was the last training class you went to", as examples. Crewmember perceptions are trended and shared with supervision and management on a quarterly basis.
- Employees engagement is measured in weekly affirmations. These include the acknowledgement that company maintains an anonymous hotline to report employee complaints, and also include whether safety meetings are being conducted properly, whether pay is being handled properly, and whether breaks are being given.
- Developed in house app "Safety Mojo" to track all safety communications from

- the field to the office, and from the office to the field. Incident reporting, hazard identification, inspections and meetings are all communicated electronically and trended.
- Projects awarded that are over \$250,000 require storyboards with all GC and subcontractor personnel along with a safety representative tasked with identifying risk throughout project completion. High-risk tasks require a written Job Hazard Analysis (JHA) identifying all potential hazards and mitigation plans.
 - BIM 360 computer based auditing program collects safety data from all job sites. The safety hazards and corrective actions identified on projects are entered into the program for analysis. The data can then be trended in an attempt to proactively identify areas of concern before an injury or incident.
 - Overexertion injuries are difficult to control and often end up being identified during the first aid process. Have become very vigilant with regards to follow up treatment. Overexertion 1st aids/Med only/Lost time injuries are monitored very closely throughout the healing process. This is extremely important with a soft tissue injury because very minor incidents can elevate to medical status very quickly if not managed well.
 - Use eCompliance program to audit, capture, and communicate experiences containing elaboration and discussion of near misses and reports and investigations by the safety committee. <https://www.ecompliance.com/>
 - Safety observation documentation uses an inhouse developed app called “Improve It” that helps with reporting and capturing data for analysis. The data is presented in a series of models that allow for the drawing of conclusions about future risk and take the necessary precautions to avert it.
 - Root Cause Analysis (RCA) using Sologic Software is required for any OSHA recordable injury and above. <http://www.sologic.com/root-cause-analysis-software>
 - “What’s wrong with this picture” monthly safety quiz competition.
 - “Craft Ride Along” a craft worker is randomly selected to conduct a safe ride along with one of the safety managers.
 - An accident review committee is in place for the root cause analysis of all vehicular incidents.
 - Have a dedicated QC manager and all sites must comply with ISO QC criteria.
 - IndustrySafe is used for OSHA recordkeeping. Allows maintenance of accurate recordkeeping at all times for all projects. Any incident must be entered into the system within 24 hours. <https://www.industrysafe.com/>
 - Use multi-tiered inspection process. Weekly by supervisors, safety personnel, and engineers. Monthly for project managers and Superintendents. Periodic inspections are conducted by superintendents from other sites (cross walks).
 - Safety 5 – Blocks (project safety performance flash reports) are shared with ownership and leaders on a quarterly basis during Executive Project Reviews. Safety 5 – Blocks are an integral part of this review and provide a detailed look at leading & lagging indicators (safe & at-risk behaviors, safety training, safety audits, AHA schedules, injury rates, and insurance savings).
 - Annual Cross Business Safety Audit (CBA) – A detailed 3rd party safety compliance assessment is conducted at client sites to identify strengths and weaknesses of our project safety efforts. CBA findings and corrective actions are shared with ownership and leaders.
 - Safety Snapshot (BBS) is a tool used to engage employees/subcontractors by recognizing safe behavior while pointing out those needing improvement.

- Snapshots encourage discussion of safe and at-risk behaviors, and help identify trends and whether additional safety training may be needed. Weekly Snapshots assist supervisors in recognizing and managing safe and at-risk employee/subcontractor behavior, while safety audits verify processes are in place and work conditions are safe.
- Vice Presidents and Project Managers conduct iAuditor audits each time they visit a job site. Superintendents and Foreman also conduct audits weekly. The units enable leadership to gather data from observations that are used in a matrix to calculate risk and probability. When this data is calculated it is presented to Management weekly. <https://safetyculture.com/>
 - Experienced safety issues that could have been prevented, if data collected provided access to project performance that would have helped improve the decision making process. Nothing was available commercially to achieve this so Acme Construction Analytics was developed in-house. A patent pending app that quantitatively measures the effectiveness of current processes, and allows the prediction of future outcomes based on the data collected from past performance.
 - Use Hazard Scout a cloud based mobile friendly safety management system designed to foresee and control hazards associated with safety and performance. <https://www.hazardscout.com/>
 - Use the DISC behavior assessment tool which is a personality assessment tool that focuses on four different behavioral traits: dominance, inducement, submission, and compliance. This has allowed leadership to understand what type of approach needs to be taken when dealing with one another based on personality.
 - Developed additional support metrics through the use of “cost per hour” for jobsites, divisions, locations, superintendents, PMs, and foremen.
 - When reviewing company/project statistical incident types they are divided into 2 categories to separate future prevention lessons learned from case management.
 - Fatigue monitoring and fatigue messaging to home and family
 - Implemented +Safety Reports to track jobsite safety inspections, using comprehensive analytics to predict potential safety hazards. <http://www.safety-reports.com/>
 - Project management uses a 3 step documented process to address identified risks; 1) eliminate the risk, 2) minimize the risk, 3) alter the work process if the risk is immovable.
 - Schedule is looked from a safety standpoint as a whole rather than parts. Management thinking is that just because a task can be completed it may not justify being completed out of sequence due to potential safety implications. Ex. Installation of a high voltage line in an area where substantial underground work and grading operations have yet to be completed.
 - All identified hazards are tracked through the national safety Council Safety Management Navigator System. All issues are tracked until closed. The company has set a leading indicator goal average closure rate of 30 days or less. Some items require administrative changes that take longer than putting the guardrail back up. Unfortunately, the Navigator system is no longer available from the NSC. However, there are other similar systems available.
 - The Safety department works with the Sales team to ensure a detailed site-specific safety walk and plan are developed for every project. This helps the Sales team better understand the unique safety requirements of the project so the instructions to bidders have fewer safety requirement surprises.
 - Implemented a driver telematics system using EROAD Inc. The “Drive Buddy” function provides management with driver

- behavior and analysis. The system also provides information to coach drivers on their habits and identifies areas to improve performance. This system reduced violations and complaint calls by 25% in the first six months of implementation.
- Developed a safety peer group with 7 other companies across the US for continuous improvement of their company and to help improve the other peer group companies.
 - Estimators, pre-construction, project management, and superintendents must attend 2 mandatory Operational Development Seminars per month. The seminars are designed to improve communication, share of information, provide continuous and frequent learning opportunities, how to recognize common and complex safety system hazards, and foster process improvements.
 - Every 30 days a loss history analysis is prepared for all projects and reviewed by executive leadership team which develops an action plan based on the trends.
 - Safety Excellence model is comprised of 4 KPI's (Key Performance Indicators) 1) leadership and engagement, 2) safety management systems 3) risk reduction, and 4) performance measurement
 - Trade Contractors Safety Alliance (TCSA) consists of 12 member companies that have taken a pledge to make safety a personal value to work collaboratively with all trade contractors to eliminate hazards and prevent incidents. The group meets quarterly hosted by guest speakers, sharing of best practices, and sharing of lessons learned
 - Utilize "IndustrySafe" software for recording safety observations. Reports generated from the software result in PI's (process improvements) along with a before and after photo illustrate the PI change. <https://www.industrysafe.com/>
 - Developed a policy for all workers to address fatigue. Employees can decline work assignments without reprimand.
 - Project site delineation through Job Hazard Analysis by cordoning, with designated rope and signage, based on low (yellow) and high (red) level hazards vs. standard plastic caution tape method (proven to be inefficient).
 - Compliance Wise software is used for safety self-inspection management. Tracks issues, allows for date stamped photos, and has a follow up system that ensures corrective action has been completed. <https://www.compliancewise.net/>
 - Project lessons learned review system based on case studies of past projects.
 - Use of drones to view high-hazard activities
 - 3rd party Industrial Hygienists monitor for both silica and noise levels 3-4 times every year.
 - To measure the effectiveness of Pre Task Plans a structured system of random sampling of plans helps to validate plans are being completed effectively. Used as a leading indicator.
 - Company used a "Daily Foreman Check In" smartphone app. Foreman list what went well on their project and note what challenges they faced and how they dealt with them. Goes to President and Safety Manager. Has the ability to be rolled up for a month and year summary.
 - Use of "Posers" to reenact and assist in the visual steps leading up to - Accident Investigation
 - Safety Mojo - Electronic system to notify executive team of incident, track involvement, and FU - Report card graded weekly
 - Electronic JSA Safety plan builder. Cannot load a task without a hard or a control example: (<https://www.jsabuilder.com/>)
 - Weekly Safety audits completed with Site Audit Pro which incorporates photographs with positive and negative observations. The audit results with pictures are reviewed each week in the subcontractor meetings - <http://www.veamstudios.com/company>.

- html
- Monthly job site audits are scored from 1-10. If the project receives a 10 P1 buys lunch for everyone. If the audit scores 6 or lower the project manager and foreman must meet with the president to explain why.
 - Use and application of CII's 8 Zero Injury fundamentals to determine safety leading indicators and formulate safety business plans
 - Leading Indicators are tracked using Autodesk BIM/360 safety inspection program
 - Loss history analysis showed employees with 3 months or less experience were having 40% of the injuries. Developed a strengthened new employee training program where a mentor is assigned and special training for a 3 month period is given until sign off by mentor.
 - 2 week Look Ahead schedules are posted on a "LEAN Board". This gives all a pictorial view of what's coming up and fosters thinking and discussion around what safety issues will need to be addressed.
 - Vehicle accidents are a huge source of risk for contractors. Company went way above and beyond to help prevent vehicle accidents by incorporating the "Smith System" of driver training. <http://www.smith-system.com/>
 - Safety Mojo safety app. www.safetymojo.com
 - Changed procedures due to safety committee input and now embrace ALL field workers being certified riggers.
 - Estimating Team "Hand Off" safety meeting comprised of VP Field Ops, PM, Superintendent, Foreman, Engineer, Purchasing Manager, and Safety Manager
 - Use Integrated Process design techniques in the bid process to bring safety and risk considerations into the picture much earlier.
 - Use of Smart Bid for project selection with additional questions for Owner and GC related to safety to make sure clients and customers have aligned safety cultures <http://smartbidnet.com/>
 - Formal Post-project "lessons learned" meeting with all levels of project management including employees. Safety is 1/3 of the discussion. Lessons are inventoried and used on next project.
 - Project management team has special focus on "unusual or non-routine work" during the project planning stage to identify potential risks and develop planning around those potential risks that are outside of the normal routine.
 - Pre-hire Isokinetic physical evaluations to match the physical capabilities of the applicant to the demands of the task.
 - Hazard ID team building game where employees take photos of project hazards and submit to Superintendent. Superintendent vote on the best hazard catch and the employee receives a prize.
 - Use company Physicians to accompany site inspection team to review health hazards and to become familiar with the demands of the tasks for more efficient and effective return to work placements
 - New project planning includes an occupational health assessment by a qualified healthcare professional
 - IndustrySafe software is used to validate training and for making safe behavior observations <https://www.industrysafe.com/>
 - Use iAuditor to perform and track in-house safety performance <http://www.safetyculture.io/iauditor/>
 - Use of 3-D Lift Planning Software has helped ratchet up the safety planning for critical lifts <http://www.3dliftplan.com/>
 - Highway contractor includes their attorney on their work zone crisis management team. Mobilizes to the crash scene with company officials

- Monthly “Project Safety Executive Summary” is completed outlining positive trends in behavior and conditions along with specific issues that need executive focus and attention
- Use Hazard Scout safety management software to help ID issues and at risk behaviors <https://www.hazardscout.com/>
- Use of LEAN to map and pinpoint where safety concerns are more frequent so the right managers are involved and more detailed planned completed
- Require all employees who may be on sites with a known or unknown Asbestos potential to maintain an annual 2 hour Asbestos Awareness certification card
- Safety Means and Methods strategy meetings are held as each new scope begins, these are also peer reviewed
- “At Risk” physical tagging procedure. When issues are found a tag is placed on the item, photographed, and sent to the Superintendent for correction
- Use “Workplace Aware: software for identification of hazards and communicating remediation and lessons learned. <http://www.workplaceaware.com/>
- All JSA’s are electronically uploaded to corporate website within 1 hour of completion so anyone in the company can review and comment on.
- Company safety professionals log their time and what activities they are doing at the project level. A leading indicator of performance for the safety professionals is that they spend at 80% of their time outdoors on the project managing safety by walking around and observing the people element of the project along with identifying hazards and assisting in solutions. Prior to this measurement we our safety team spent 80% of their time in the trailer doing paper work
- “Crane Verification Process” where every crane even those delivered by rental companies is fully evaluated before use on project. This process also applies to all subcontractor cranes. Since putting process in place a year ago 12+ cranes delivered by rental companies have been shut down and returned for safe equipment.
- “Fatigue Management Plan” has helped take a closer look at how fatigue negatively affects our employees and their decision making process. We have learned that managing fatigue has help us improve productivity, safety, and rework.
- All heavy equipment operators must pass a TPE (Task Proficiency Evaluation) by a dedicated heavy equipment evaluator and trainer before being allowed to operate equipment on the project. This includes subcontractors.
- “RED Book” process for helping field workers ID and Control Risks. RED stands for Recognize, Eliminate, and Discuss. Each RED Book is carried by each craft worker and the master RED Book is kept by the crew leader for daily signoff for the Pre-Task meeting.
- Developed a monthly “Safety Dashboard” that contains leading and lagging indicators and issues identified on projects for the month. The dashboard also contains prevention measure and next months activities to address and control the identified issues.
- Workers required to take a 20 second pause every 20 minutes to conduct a risk analysis and hazard mitigation validation
- Outfitted company vehicles with GPS devices to track employee location; reduced amount of non-work related vehicle use
- Use of unmanned aerial vehicle (UAV) to conduct jobsite overview and hazard assessment to avoid congestion, impact zones, etc.
- Installation of “deer horn” on company vehicles reduced wildlife traffic mishaps 100%.
- Critical lift crane software

- Use of modern HR hiring analytic tools to understand personality traits of applicants
- Pre-hire Cost Reduction Technology (CRT) tool which measures dynamic strength and the physical ability to do a job
- Annual 3rd party safety program review, evaluation and summary
- Executive and project based leadership, participate in a thorough risk identification and reduction program. This includes weekly documentation of safety audits and provides the basis for the company safety trends, as developed from a field level.
- HCSS Inspection/observation results, as well as, near miss reports and incident trend analytics and are shared at weekly project meetings. HCSS.com
- Safety starts at bid time. Risk reviews are conducted during the bidding process in order to understand all aspects of contractual and project risk along with their potential exposures. To identify risk and understand proper controls training is a must, we provide regular training in risk identification and exposure control for management teams well as field teams.
- Management refers to a near miss as a “great catch” placing a positive connotation on what’s typically seen as a negative. This small change of words sends a subtle message to our field: WE CARE
- During estimating, we build a risk register that highlights what we view as the most critical safety risks on the project. This document is reviewed regularly and updated accordingly until project is completed.
- Hazard Alert Learning Opportunity Program (HALO) was transformed into a near miss and safety observation program. The remodeling of the program has yielded over a 1000% improvement in the number of near misses and observations submitted.
- Each Regional Manager is provided a weekly “dashboard”, that details incident and observation data from the previous week, month, and year as well as identifies particular trends in that data. This information is used to customize a plan to aggressively mitigate hazards and reverse any negative trends. Dashboards and analytical data are also used at the project level to compare statistical data across regions and job sites. Amazingly, the program can provide predictive data that will alert us where challenges are likely to arise which allows us to focus additional resources in that particular area.
- Audits create trending metrics that allow the Safety Director and Senior Management to review data and implement additional measures if necessary to help mitigate future occurrences in the field.
- Our program is not minimum standard based but is extensive and addresses OSHA regulations, NFPA requirements, ANSI standards, local codes and standards, and industry best practices including the CSEA Best Management Practices.
- Estimators are looking at bid packages and contractor requirements for possible safety issues and addressing these concerns during the bid stage. Project Managers are looking at contracts and partnering with general contractors during the pre-construction meetings to ensure everyone is on the same page and safety issues are identified in the early stages of the job.
- Online employee training tracking software helps us analyze data related to training to draw correlations between training frequency and accidents/incidents.
- To manage fleet and driving hazards we utilize a comprehensive GPS tracking system that sends alerts on all company vehicles that involve speeding, fast braking, idling, disconnection, and low battery. These alerts are received by management and concerns are promptly investigated and followed up with the appropriate corrective action. Depending on the situation employees may lose driving privileges and/or could result in termination.

- We learn from our near misses. Recently we had one of our delivery trucks back into one of our employee's personal vehicles in a loading zone causing minor damages to the employee's vehicle. We realized we had a risk gap in the way our delivery trucks are operating. We took immediate action by adding back-up cameras to all our delivery vehicles and we implemented a process to have our drivers identify a spotter when they are onsite.
- We have continued to refine our business dashboards to report metrics related to fatigue, incidents and compliance. The four objectives of our strategic plan are to reduce new hire injuries by 50% , reduce safety related scheduling delays and unplanned costs, increase near miss reporting and achieve a positive to negative observation ratio of 4 to 1
- To sustain high safety performance, every region is audited on a biennial basis by the corporate safety department. Prior to closing each audit, findings are reviewed with the regional management team and action items are assigned.
- We saw an increase in injuries and incidents that directly correlated to employees with less than 90 days experience. The leadership team shifted their priorities to include a heavier focus on safety education and skills training. This included a complete overhaul of the new hire safety orientation program, switching from dated OSHA 10, to a unique 3-day National Center for Construction Education and Research (NCCER) Safety Orientation curriculum taught in English and Spanish.
- We utilize ComplianceWISE, a safety management and inspection program to generate data to communicate assessments of potential risks to a specific project. Hazard findings and mitigation are tracked, to assure risks are fully mitigated and never ignored. <https://www.compliancewise.net>
- Recently implemented Procore's Observation Tool which allows the superintendent to document and time stamp a recognized hazard. The supervisor can then assign it to the responsible subcontractor to remedy the hazard and is notified when the hazard is resolved. The inspection data is also used during annual reviews, bonus pay outs, individual performance promotions, and program or policy improvements. <https://support.procore.com/products/online/user-guide/project-level/observations>
- We implemented a program that has external evaluations of each project at least twice a year to a set of 25 leading indicators. A score and formal report is issued and sent to our President and the Regional / Project Leadership. Our Company President responds to every report. In addition, he sends personalized thank you notes and special recognition to people that stand out in safety.
- Utilize Safesite Inc. App technology, every visit is documented and trend analysis is generated. We also use past incidents to observe both lagging and leading trends to demonstrate areas of success and improvement simultaneously. With the use of today's technology, statistical information is wonderfully illustrated in a clear and succinct matter. <https://safesitehq.com>
- Organize a network of regional safety professional for a group sharing meeting. We saw the need to connect safety professionals in our local area more often. This commitment also extends to our involvement with the local community colleges and high school programs in outreach presentation promoting the safe and rewarding career opportunity in the construction field.
- Even the smallest tasks are analyzed for hazards and controls are established. Our collaborative incident and close call log on Smartsheet is yielding even greater data since we improved our incident investigation processes this year. New workers are now trained on recognizing serious injury or fatality (SIF) incidents before they ever step on site based on our

own real data.

- Root cause analysis are called Event Learning Opportunities (ELO)
- In addition to the standard KPI's like incident rates, we monitor loss cost per work-hour and target a goal of less than ten cents/man-hour in loss cost
- Use claim tracking in Viewpoint (a construction management software) along with SafetyNet in our monthly Project Status Summary (PSS) meetings that has furthered the line of communication between the project management team and senior management. <https://www.viewpoint.com/solutions/construction-management>
- eCompliance is a cloud based system that allows users to provide real time information to the project team as well as aggregating statistics to allow trends to be tracked. The trending allows for our team to take preemptive measures to educate our teams about areas where we are seeing challenges. eCompliance allows a two-way conversation between front-line supervisors and management, including instantly reporting hazards and giving the management team systems that enable a prompt response. <https://www.ecompliance.com/>
- Require all subs to fill out the jobsite JHA poster (dry erase) each Monday morning. Company field staff take pictures for documentation and send with a Toolbox Talk report on Monday to VP via iScout. <https://www.iscout.com/>
- Safety Team holds an open and collaborative Superintendents' Breakfast Meeting every other month for our Management Team and Superintendents to have a step-by-step discussion of any incident that occurred on our, or other companies', jobs and implement preventative measures. These meetings and visits are meant to reinforce to Superintendents that they are an integral part of our safety program.
- Back-Up Spotters training and policy was set in place to improve safety when backing up vehicles. "Circle of Safety" reinforces survey of surrounding area to look for obstructions and to guide the driver in.
- Company began implementing with great success a Key Activity Review on specific key project activities companywide. A Key Activity Review is an informal, sit-down review with the crew to see if the execution of the work activity can be improved for Safety, Quality and Production; it has served as a method to validate that our planning procedures are effective. These reviews are performed at the 10 percent completion stage of the activity.
- Electronic third-party jobsite audits are performed weekly. The project manager and safety review them, any issues are abated.
- To raise more awareness to Overhead Power lines, we created awareness signs by utilizing traffic control Vertical Panels. The VP's are easy to transport and stored in foreman's tool trailers. All crews are now allowed to place a sign in the area that have an overhead power line hazard .
- The first approach is bringing employees together from different facets of the business to discuss current trends, issues, and safety survey results. The objective of this team, which is called the Safety Steering Team, is to find areas of concern, propose different approaches to solving them, and passing these intentions off to a second team, called a Continuous Improvement Team. This team is comprised of field level employees that meet once a month until the subject at hand is mitigated.
- Our last layer of defense is our Last Minute Risk Assessment (LMRA) process. We teach our Team Members to do a quick mental check before they begin any task - what could go wrong with what I am going to do? When we identify a potential hazard, we can then figure out how to control that hazard.
- Every month the Branch General Manager

and Job Site Project Manager conduct a Quick SHOT (Safety Habits Observed Together) on the job site utilizing I-auditor our inspection system. The findings of the Quick SHOT are discussed during the Job Site Weekly Safety Meeting with the job site employees.

- When a new project is awarded to us, the project manager sends out a PM Checklist to the safety department. The checklist includes the scope of work and if the project will require any equipment that we may need our guys to train on. Job-site risks are identified by the Superintendent when he walks the project for the first time before any work commences.
- Our safety process starts before we even bid a job. Our estimators walk each job prior to bidding and look for possible pitfalls in the project. During this process a document we know as the risk log is generated. This document contains any item that may pose a risk to the company. Each risk is discussed amongst the management team (owner, operations director, safety director, estimator, project manager, etc.) in detail and plans/contingencies are developed to mitigate each item.
- Use fleet telematics to understand the driver's risk exposure.
- Using 360 degree cameras to document installation and quality. Used during the entire course of construction.
- Utilize SMARTDRIVE is a video based program that uses cell phone technology to capture driver performance. <https://www.smartdrive.net/>
- Use Nex Traq vehicle telematics system to coach driver performance. When they started, they were averaging 10,000 violations each month and are now they are at 3,800 each month. They expect to see continued improvement as the embrace more coaching. <https://www.nextraq.com/>
- Lean practices have led to a focused safety assessment and is tied to the project managers bonus.
- Use a daily dashboard to communicate real time safety metrics based on leading indicators.
- Used OSHA consultation service on all jobsites in the past year. It helped them understand what worked well in their systems and what needed to be changed.
- Implemented a 10-member safety/risk oversight council. Their purpose is the review safety policies for feasibility. It consists of all levels employees.
- Using fleet telematics from Verizon - Telogis and check MVR's. <https://www.verizonconnect.com/company/telogis/>
- For JSA's they use a severity/probability matrix to identify hazards in need of control. This effort results in a pre-control and post-control Risk Matrix Score.
- Use Matterport software and a 3d camera. A software program to show a jobsite walkthrough. It is a product that started in the real estate broker industry. It offers a 3D tour of a worksite. <https://matterport.com/>
- Score the attitude of project safety team as part of the project audit.
- Obtained a grant to design fall protection harnesses for women.
- Created a safety task force team made up of field managers and complete a peer review audit. 35 peer audits were done in 2019. These are not simple audits there are 327 questions. Many innovative safety ideas have come out of this process.
- They use a mobile app called SAFEPLAN that captures and allows data analytics. The has greatly improved their near miss tracking. <https://navigate360.com/safeplans/>
- Collaborate with Steel Erectors of America – they share fall protection ideas, etc. <https://www.seaa.net/>
- For \$12 per person company uses

Advantage program that on the spot validates with a yes or no answer employee's disposition to safety. This helps eliminated about 18% of the workforce that applies to the company.

- When something doesn't work, we remove it like surgery and add new nutrients to our being through additional training, new policies and protocols, and brain storming discussions with our colleagues in the industry.
- Use "Slack" which is an interactive messaging medium that works well with cell phones and tablets. Employees find it to be consumer friendly and thus using it more, thus creating a more efficient and the safer project. <https://slack.com/>
- Pre-Bid safety planning. Before a Project Manager bids on the project there are meetings with the General Contractor & their Safety staff, engineers when necessary, Operators that will be performing the work and the GC Management staff. Plans are developed specific to each project. Copies of these plans and any special instructions are discussed and a hard copy given to the workers that will be doing the work
- Project safety evaluations around a leadership checklist that measures collaboration, housekeeping, material storage / handling, pre-planning efforts, data collection (iScout / SafetyNet) and subcontractor engagement.
- Created weekly safety reports. Every Monday a report is emailed of the past week's incidents and near misses to the entire company, in an effort to continue the conversation around safety. These reports include a brief review of the incident followed by a "safety message" from the Corporate Safety Director that analyzes the incident and offers solutions for future prevention.
- National contractor with 6 regions requires each region to drill down into their own safety performance and unique jurisdictional issues and develop specific safety business plans to raise the level of their games. The regional plans are combined to form a written annual business safety plan for company safety improvement. Reviewed and measured quarterly.
- Identified 12 behaviors that are our "Critical Safe Behaviors". from a CCSI 5-year study of claims in the CCSI database. The study found that there are 12 behaviors associated with our most frequent and severe injuries.
- Use an online monitoring service to track Motor Vehicle Records for those who drive a company truck or their truck on company business (Negligent Entrustment Prevention) - Samba Safety is the vendor we use for this service. <https://www.sambasafety.com/>
- Root Cause Analysis (RCA) using Sologic Software is required for any OSHA recordable injury. <https://www.sologic.com/en-us>
- Use the DISC behavior assessment tool, a personality assessment tool that focuses on four different behavioral traits; dominance, influence, steadiness, and conscientiousness. This has allowed leadership to understand what type of approach needs to be taken when dealing with one another based on personality. <https://www.discprofile.com/what-is-disc/overview/>
- Have aligned lean / safe / sustainable programs that are reducing fall hazards, creating better ergonomics, reducing material handling touches, creating cleaner jobs, reducing slips, trips and falls, reducing soft tissue injuries, increasing productivity and quality, reducing labor costs, and last but certainly not least, we are having fewer serious injuries.
- Developed "Property Damage Incident Rate" utilizes an "old formula" in a new manner, that allows us to compare the safety performance of our job sites (different sizes and types), based on the number of property damage events as

compared to equipment operation hours. We began with OSHA's RIR calculation and replaced injury with property damage data. The formula is as follows; Total Property Damage Incidents x 16,000 / Total Equipment Hours = Incident Rate. (16,000(16,038) represents equipment hours per site in 2017).

- Utilize an electronic Risk Management Information System (RMIS) to show live dashboards with divisional metrics. The dashboards contain both leading and lagging indicators and incorporate not only our employees, but all of our subcontractors' data as well.
- Senior Management participates in incident investigations that had, or could have had, a potential for Serious Injury or Fatality (SIFS). This has led to several key safety initiatives; one example is the training course "Leadership the OneLife Way" which is a 4.5 hour course designed to help first-line supervisors to become better safety leaders.
- Leadership is dedicated to seven areas revolving around safety in the workplace. These areas include awareness, training, communication, documentation, proper equipment, supervision, and innovation .
- Drones - have developed our UAV utilization for much deeper benefit than project photos. Our new primary application is with bridge work critical lift planning. We combine the use of three different software platforms and drone imagery. This helps us achieve high levels of accuracy on crane set locations and reaching the exact calculated radius on every lift, minimizing risk. We use drones to perform inspections on bridge structures and even malfunctioning crane booms, removing the need to place employees in high risk situations when not necessary, thus removing the hazard. Our drone program also performs traffic control inspections, from regular maintenance flights to traffic switch planning and quality control prior to opening.
- Use drones to assist with 3rd party auto accident documentation that occur within our work zones, documenting the road conditions and traffic control compliance during the time of the accident which helps with capturing the conditions of the road before we receive a lawsuit two years later after the job is complete.
- Have a comprehensive fleet vehicle program with a vehicle safety committee that includes inspection, vehicle assignment, MVR(s) review and accident review.
- Costs associated with HSE concerns are addressed up front and as a line item in the bid.
- Built a risk registry, which houses all of our risk assessments for each cost type, for all construction and plant operations. These risk assessments are the starting point of our safety planning processes.
- Provide Safety Leadership support by equipping them with the newest electronic technology to include applications such as; OSHA Safety Heat tool, light and decibel meters, flashlights, cameras, QR reader, severe weather/lightning strike tools,
- ComplianceWise safety auditing process is an electronic, photo time-stamped process that is fully integrated into Company protocols. New hires are trained on the software, as are Executive team members who review audit data and must respond to identified issues or concerns. The cumulative data is reviewed daily, weekly, and monthly to ensure timeliness of corrective actions, and once an item is identified, mandatory corrective action must happen in a certain amount of time or an email to management is triggered if there is an issue of non-compliance. <https://www.compliancewise.net/>
- Project Execution Plan (PEP). We create a PEP for each project that establishes roles and responsibilities for all the deliverables including safety performance. Project teams break down the scope of work and identify the individual work events allowing us to identify the resources (personnel, equipment, and training) necessary to

- complete them.
- JHA identifies hazards, outcomes and controls and has risk ratings for the hazards pre and post controls. This process allows us to look at the risk reduction afforded by the properly implemented control and allows us to evaluate whether the residual risk is low enough for the activity to proceed.
- A point system program for traffic violations and motor vehicle accidents has been developed and implemented. An employee can lose their driving privilege by reaching an established number of points in the program. A new fleet safety innovation for improving our employees' safe driving habits and managing the fleet has involved the deployment of telematics devices being placed in company vehicles.
- Once per month, the safety director has breakfast with all foremen to facilitate cross communication and encourage open discussions, closing gaps between crews and to allow direct access to the director's ear. These meetings have been a great way to communicate to all foremen and continue safety culture improvements.
- Developed new leading indicator protocol and processes to capture near-misses using Procore cloud software. Procore provides field teams a way to report near-misses in real time online from their smart phone or iPad making the reporting process as easy as possible. Definition of a near-miss to encompass anything from unsafe behavior or conditions to machine failure or faulty processes.
- Each month the operations team sponsors a Skype teleconference that focuses exclusively on safety issues and performance; incident review with lessons learned and corrective actions; ESH training; program developments and updates; project safety audits and "celebrating our successes." These meetings are hosted by our company president and attended by all District leaders and their key operations personnel.
- Use SmartDrive systems in every DOT over-the-road vehicle. Driver and union buy-in is very strong. Any g-force event triggers the system's video capture. Drivers can also activate the system. Since 2016, with SmartDrive, OSHA recordables were reduced from 12 to 6, restricted days from 120 to 42, and total lost days from 193 to 0. <https://www.smartdrive.net/>
- Daily project safety meeting minutes are compiled on the company's server and analyzed for conformance, trends, and identification of risks across different project types monthly by the Safety Manager. We modify our safety program according to trends and topics of concern.
- Smartsheet log - web-based collaborative log broadcasts a message immediately to field leaders and senior managers when an incident or near miss has occurred so hazards can be shared between jobsites. Reported events are then disseminated to workers during the next morning's huddle or immediately if they pertain to a serious injury or SIF hazard.
- Utilize Go-pro cameras for confined space evaluation
- Craft Safety Empowerment Program (CSEP). Members of the CSEP are working field employees identified by wearing a different color vest. Each member is a mentor, available to answer questions regarding safety, quality, production, quality of life on the project, etc. Every two weeks members of the CSEP meet with the project manager and discuss what they have seen and heard from our craft employees.
- Company Cross Site Safety Visits: Top Management, senior managers and supervisors are designated to conduct cross site safety visits on each of our projects bi-annually. The visiting team then develop a written report based on their observations and give recommendations for improvement to the project team.
- HCSS Safety software is used on all of our new projects in order to improve our

- efficiency and effectiveness for both the safety staff and our field supervisors. The safety management system includes a web application and mobile app on the iPad that enables the paperless documentation and monitoring of training, meetings, JHAs, observations, inspections, near misses, incidents while reducing paperwork with fillable forms and having the ability to run reports to spot trends. www.hcss.com
- Fatigue Management - overtime hours limited program for employees with the goal of preventing fatigue or stress through internally developed software (called XTime) to easily identify those with high amounts of overtime and provide coaching and schedule adjustments.
 - Preconstruction MISOP meetings (Mentally Installed Systems on Paper) have a safety component which covers emergency-response procedures specific to the working location, chemical inventory for known chemicals to be onsite, work scope hazards and mitigation planning. These plans are reviewed and modified as needed during the project to maintain effectiveness.
 - Implemented a 10% progress shutdown review for individual activities. When 10% of the activity has been conducted on the project, work activity will be suspended to allow a meeting to occur with crew members and management. The review meeting is comprised of personnel directly involved with the task. The purpose of the meeting is to review associated hazards and the means and methods established to abate these identified hazards.
 - Use seismographs on all blast jobs and use the square distance formula to design blasting jobs.
 - Walked away from on CCIP project due to concerns about the GC handling any blasting claims.
 - JHA's have added a severity matrix to gauge high loss potential. Prepared in the office by project team and modified in the field
 - JHA's are not required for routine everyday tasks and they reserve that requirement for high hazard, non-routine tasks.
 - Leading Indicator - require a written response rate of 90% on all project safety evaluation recommendations.
 - Have in-house Industrial Hygiene capabilities, because of the projects they work on
 - Vehicle Telematics...A near miss was avoided because of telematics that found a brake failure. Equipment was taken out of service until inspected and repaired by a mechanic.
 - Engineered a lift attachment where the crane pick software detected and lift problem that was solved by the engineered solution.
 - Use AIC safety software program for site safety inspections. Has resulted in immediate notification of jobsite safety issues. <http://www.applicationsinternational.com/>
 - Started blood pressure monitoring as part of their fall protection program.
 - Had a total of 1,525 near miss reports in 2018....and used these as learning opportunities
 - Use advanced predictive analytics in their safety planning from data that is mined from the near miss program.
 - Rotate assigned safety people to projects to keep things fresh.
 - Project was 12 weeks in duration, 7-days a week. Recognizing and preventing fatigue was a key risk factor. Developed a Fatigue Management System dashboard and transferred it to a manageable 1-page spreadsheet. Factors such as incident rate vs. hours worked was measured. If a Supervisor is going to work over 70-hours, then changes in shift schedule was made. You can't be productive, safe, and manage jobs if you are working too many hours a week
 - All weekly staff, production, and operations

meetings are led off with a presentation of data from the risk management department with results of the previous week's observations, incidents etc., with an opportunity for Q&A and employee feedback at that time. Great transparency and communications with entire workforce!

- The percentage of new employees per trade and job risk classification is tracked and logged as well as the number of new hazards found on the projects and new hazard corrections, along with people impacted by both.
- Conducting blood pressure testing for workers who routinely work at height and other high risk activities, and worksite analysis beginning with a baseline of all potential hazards on site including an occupational health assessment by company physician
- Safety alerts for observations go out via text message to all foremen
- JHA's are revisited to determine modifications based on root causes from incidents.
- There's a technology committee where workers suggest new types of technologies to help eliminate/reduce risk
- 3 day Safety Boot camp for hands on training for non-construction personnel entering the industry
- Web based SmartSheet Log - broadcasts messages to field leaders and management when an incident occurs. Data from SIF's is constantly tracked, which has helped pinpoint RED ZONE - the days and times incidents are most likely to occur.
- Utilizing pre-hire risk tolerance stress response assessments
- Video communication between handheld mobile devices and home offices to obtain most accurate site information, problem resolution, and technical expertise.
- Safety swaps of safety and occupational health staff between projects for rotational assignments allows for a fresh set of eyes one every project.
- Active participation in the AGC-OSHA partnership with the Construction Health and Safety Excellence (CHASE) program to reduce barriers and improve communication between field operations and federal regulators
- Observation program includes structured questions that force employees to look beyond basic level hazards. The program provided more risk ID balance from just the identification of basic items (i.e.. missing PPE, improper use of tools).
- Safety observation card linked to timecard - the two must be submitted simultaneously.
- Addition of hand drawn pictures to Job Hazard Analysis to facilitate better understanding of work to be performed, especially in a multi-lingual work environment
- Cross functional teams meet to discuss all aspects of the business. Members are those who manage and perform the work, those who sell the work, and those that design the projects.
- Use of Enablon, a global on-line reporting system for key safety reportable events and incidents. Program helps identify major risk areas across all business units. Link: <http://enablon.com/solutions/ehs-management> and <http://enablon.com/applications/audit-compliance>
- Executive leadership "SafeRing" program - Planning - Communicating - Observing - Improving. Subcontractors are also involved in the SafeRing process.
- SSE "Short Service Employee" employees with less than 30 days on the project. Special emphasis and observation process for these employees.
- Change job assignment during day to avoid repetitive injuries – but be sure employee is oriented properly for new job assignment to ensure employee is proper safety trained possesses adequate skills to accomplish

task safely.

- Cross functional teams that go through a “Learn After Doing” post project learning process. Documented and used in pre-job planning meetings down the road.
- “Unplanned Events” and “near misses” are investigated with the Superintendent to integrate Safety, Quality, and Production in the Superintendent’s mind. It is used to illustrate that something in the system needs adjustment.
- Use of the “Charrette” team analysis process to quickly come up with solutions for risks using a cross functional team including subcontractors. The structure of a charrette varies, depending on the problem and the individuals in the group, charrettes often take place in multiple sessions in which the group divides into sub-groups. Each sub-group then presents its work to the full group as material for further dialogue. Such charrettes serve as a way of quickly generating a solution while integrating the aptitudes and interests of a diverse group of people.
- We use a lot of data to help us make safety decisions
- We teach our safety people risk management
- Process to Identify Project risks then a further analysis to determine how risky on a scale from Less Risky to highly risky
- “Mining the Diamond” process to focus on target injury types vs incident rate
- “Extend the pyramid” – safety related data is investigated down to the audit level in effort to be as predictive as possible using data that is already being collected.
- Leveraging insurance carrier expertise – small businesses leverage the expertise, best practices, and experience of their insurance carrier’s safety team to improve their compliance and performance.

TASK DESIGN - ENGINEERING CONTROLS & DESIGN FOR SAFETY

- Laser scanning equipment used to document existing conditions of a facility/project space so that materials can be prefabricated with precision.
- Use Power BI to identify monthly corporate global trends, requiring every project to review their metrics and adjust task design to address data-evidenced issues.
- Use Hug Lights on boom lifts to effectively illuminate stripping operations.
- Use ring tracing, a process of attaching a ring over the pipe system and pushing it along the pipe to the cut location to avoid cutting the incorrect pipe.
- Transitioned all employees from conventional hard hats to safety helmets. After attending a safety seminar on Safety Helmets at the 2019 AGC National Convention in Denver, CO
- Muscle Strain risks were significantly reduced when the Superintendent designed and implemented a ramp and pulley system to bring in materials to the basement of a courthouse remodeling project which eliminated the need for workers to carry and maneuver large bags of grout and other material.
- Phasing out all A-frame ladders to podium and platform ladders. This allows our people to have safer working conditions and environments by being able to comfortably work more safely and to retain a secure footing. We feel the reduction in foot fatigue and the virtual elimination of all the associated problems is well worth it.
- Worked on a partnership with a preferred vendor and created a user-friendly all-inclusive PPE catalog that streamlines delivery processes via direct shipment. The catalog is sectorized by task making it easier to navigate based on tasks from Arc-rated PPE to PFAS.
- Complex LOTO plans require qualified persons, other trades, owners, and general contractors to script a non-deviated sequential plan, with signatures, which correlates to electrical one-line diagram with intent to validate zero energy sources exist prior to work commencement.
- Use of “Sawstop” table saws which stop when skin makes contact with the blade - More information at <https://www.sawstop.com/products/contractor-saw/>
- 100% Glove policy has reduced hand injuries by 98% - A specialized hand JSA has to be completed if the work process would not require gloves.
- Use of Ground Penetrating Rader and Vacuum Pot Holing to verify mark-out accuracy as additional measures beyond standard Utility locates to make sure dig is safe.
- How to keep electrical cords out of walkways <https://www.carniequickhooks.com/>
- Moving to cordless tools to eliminate risk issues with cords
- Innovative Ideas (ones that eliminate hazards) receive a \$1,000 reward.
- Upright Jack Hammer Stand – for doing overhead jack hammering on bridge jobs. Reduces overexertion and took workers away from falling debris.
- Use of BIM to lay out a 10-foot grid of fall protection anchorage inserts before placing concrete.
- “Ladder Last” policy which requires jobsite supervisors to review all activities where ladders would be typically used and replace them with stair towers, manlifts, or slope excavations to “engineer out” the use of ladders wherever possible.
- Ergonomic de-stake puller to reduce overexertion injuries <https://stakepuller.com/>

- Walk Through straight ladder extensions to allow workers to step through rather than around the ladder at the top landing.
- Use of BIM to engineer out difficult Fall Prevention anchorage points on complex building design projects
- Designated safety cell phone use areas on projects that limit cell phone use in work areas.
- No dry cutting/drilling of concrete...use of Hilti capture system
- Use of cones with striped paint for high visibility so pedestrians don't trip on fence base.
- Vehicle pre-trip and run over back over prevention "Circle for Safety" plan is used with a magnetic sticker that is moved to another position after check is done.
- Hand drill motors that are equipped with anti-kickback devices
- "Innovative Idea Challenge" process...a method to encourage solutions to difficult safety challenges.... most recent...a bar code attached to a tool whereby the employee/foreman scans to code and a short video clip comes up on their phone with how to safely use the equipment.
- Job Site carts with large diameter wheels to move tools and materials around project at waist height to reduce back strains/injuries.
- Use of high-tech knee pads to reduce discomfort when performing kneeling tasks
- Designated Oasis locations throughout the project, with shade, water, etc.
- Engineering controls to address safety concerns presented by the steep roof. Developed site-specific crane procedures to separate pedestrian and vehicular traffic, which governed crane placement, truss storage, and operation hours. The design minimized boom rotation into sensitive areas and avoided peak facility hours for hoisting operations. Fall protection systems were adapted to accommodate body harness connections within the complex truss system. Two specific fall arrest systems were used: continuous engineered static cable allowed carpenters to fasten to and move freely along the cable; retractable fall limiting devices, anchored incrementally, protected carpenters maneuvering on the sloped trusses.
- During construction of the six-story tilt-up Client project, safety cables in the window openings of all panels prior to erection. This building is one of only four, six story tilt wall buildings in Texas. The building's walls are composed of a lower four-story panel measuring sixty feet tall with a two-story panel measuring 35 feet height stacked on top.
- Designed fall protection system of stanchions and temporary horizontal lifelines continually advancing with multiple leading edges. The metal decking scope was complicated by the numerous sloped triangular sections forming the roof canopy.
- Had to drill large deep shafts under high voltage lines where the drill rig would be in close proximity to the lines. We devised a plan to have the lines taken out of service and an electrical contractor was contracted to hold the lines away from the drill rig so as not to come in contact with the lines causing any damage when they were re-energized.
- Cattle gate system to protect the open holes until they can be completed. The idea came from the employee safety team.
- Fall Protection - 100% retractable, no lanyards allowed.
- Eliminated step ladders and now only use either platform ladders or aerial lifts.
- Utilize daily job rotation to reduce the duration, frequency and severity and exposure to hazards related to manual material handling overexertion.
- Superintendent worked with the masonry and reinforcing steel subcontractors to coordinate the grout lift heights and rebar joint breaks so when the masonry

subcontractor completed each floor, the CMU walls would be 42" above the planned floor elevation to provide fall protection for all subsequent trade work.

- Mechanical site rotary brooms are red tagged when water sprayers are not working.
- Enhanced horizontal lifelines splice connections by using thimbles designed for splicing connections. This provides a tighter clamp connection and was proven during a drop-test.
- 3-D Lift computer software is used to create all critical lift plans, and they are reviewed by a team of qualified employees including the operators.
- On a bridge project engineers developed an overhanging debris containment system that attaches to the bottom side of the bridge. The overhang was designed for 55 psf. or 250lbs. concentrated load at any given area. It was an engineering control for debris containment, walkway and guardrail for employees, eliminating the use of fall protection.
- On a highway project reduced the amount of phasing from 8 phases to 3 phases by designing an asphalt road detour allowing traffic to shift away from the work zones and creating larger and safer work zones for employees and subcontractors to complete the work.
- Use BIM for penetration layout, and installation of fall protection anchors for MEP, and equipment and finishes on the front end. On a university project almost 1,000 anchors were installed with more than 95% prior to the concrete pour. This also eliminated the exposure to Crystalline Silica from drilling.
- Prefabricating high risk work such as electrical conduit racks, mechanical piping racks, water manifold systems, medical head wall units and prefabricated rooms in a controlled environment at ground level to reduce the risk of worker fatigue and muscle strains, eliminate/reduce fall hazards, eliminate/reduce overhead hazards, improve quality control and eliminate rework and the additional risk exposure associated with rework.
- Guardrails, warning lines, and PPE are used for fall protection. Do not allow monitoring as a form of fall protection. 6-foot lanyards are not allowed below 18 feet.
- Use prefabricated, trench box guardrails that secure directly to the trench box to eliminate the fall hazard and eliminate the hazards associated with Personal Fall protection PPE.
- Addressed strain/sprain exposures involve the handling by pipe layers of tools such as jumping jack compactors and tool/material buckets weighing anywhere from 20-100 pounds. A craft employee committee was developed to design rigging that would eliminate the need for our employees to manually lift anything. The committee worked with our rigging supplier and produced an excellent product that has eliminated our risk of strain and sprains in the respective tool handling operations.
- Utilize Zonar vehicle tracking <https://www.zonarsystems.com/>
- Challenge: protecting structural metal deck installers when working over a lower floor. Previously deck installers always used a lifeline anchored to the base of the deck. In the event of a fall the slack in the lifeline and the fall arrest gear would not prevent them from contacting the deck which is 12 feet immediately below them. Solution: developed an engineered solution by fabricating a raised lifeline anchor post installed specifically for use by leading edge workers. With the extended height there is sufficient room to absorb the slack, preventing contact with the floor.
- To address ergonomics, we use rolling stools to reduce kneeling, and use of overhead drill presses to reduce shoulder and back injuries related to overhead drilling.
- Reduce equipment noise exposures by choosing the quiet package option for any powered equipment.

- Partnered with a local architect to offer construction safety engineering ideas to the AIA. Ideas included designing stationary ladders for roof access, and mechanical equipment placement away from electrical systems.
- Cord management program that requires all electrical cords to be run overhead.
- Developed Prevention Through Design program.
- Incorporate anchor points for fall protection on the roof and handrail anchor points on the columns. Skylight designs with railings or grills to prevent falling through. Set windowsills or mullions at 40" for fall protection. Replace hazardous materials with more environmentally and health friendly products.
- Silica exposure from power brooms. Watered the affected area with a spray system, installed enclosed cabs and air filtration system. Engineering changes helped to control the dust exposure to employees therefore eliminating the use of additional PPE. Controlling the dust has also created great visibility for other operators, workers, and the public.
- Wheel chocks used on all project site vehicles
- Underwater pile inspection method that utilizes an aluminum ring fabricated with several GoPro cameras attached and skateboard wheels using an electric winch to lower the ring down marked piles all while video recording/inspecting the piles for remote and repeated viewing. The engineered configuration eliminates the diver's exposure normally required in otherwise obscured areas typically utilizing manual inspections.
- Developed an engineered traffic control truck which contains an enclosed basket allowing employees to place traffic control without being exposed to live traffic.
- Use work zone intrusion alarms to warn workers of vehicles which enter a work zone.
- Maintain an extensive supply of portable chain-link fencing on each project site, to deploy as-need to prevent access to hazardous areas ranging from temporary excavations to metal storage piles.
- Require stair towers to access elevated work levels rather than using ladders.
- To warn of overhead power line hazards painted construction barrels blue, added a blue light to the top, and attached a sign to designate overhead hazards.
- Electrical contractor faced a challenge with an unsafe change in elevation when exiting a trench box. One of their employees designed & fabricated a metal step that hooks onto the side of the box and creates a safer egress for their workers.
- Study work sequencing opportunities to minimize risks. Examples include early installation of stairwells prior to vertical construction to ensure safe access and building roof trusses on the ground then lifting into place to reduce fall exposure.
- Site hazard delineation by cordoning off hazard level areas based on yellow and red level dangers using designated rope and signage vs standard plastic caution tape.
- Pre-load construction materials prior to building enclosure with equipment vs manpower providing safe work progress, reducing slips, trips, falls.
- When faced with working on a controlled decking area, attached the shear pins at the shop in a safe secure environment. This allowed for 100% weld of every pin on an 8 x 8 piece of angle iron, allowing the erectors to simply mount the angle iron in place and not have to put anyone at risk on a leading edge.
- Risk Identified and engineered out from a work plan was to use a GoPro camera to monitor a confined space test rather than expose an employee to the hazard.
- Pnuema Gophers do not come with visual/ auditory warnings or automatic shutoff if it comes in contact with an unknown electrical

circuit. Built their own “Zap Alert” system to provide continuous testing for potential energization, visual/auditory warnings, and automatic shutoff of all attached equipment to prevent a potential shock hazard to employees.

- Old safety design required employees to traverse a ladder and work from a small platform with limited fall protection and a slow process for transferring of asphalt loads. The new design allowed for a “modern floating” platform to be built providing employees with 100% fall protection as well as a more economical easier platform from which to transfer material.
- Strains/sprains are the frequency and cost drivers for the company. Teaching the employees the value of intelligent layout processes, efficient installation procedures, and other similar processes designed to reduce the risk as much as possible.
- Head protection with integrated eye protection.
<https://www.kask-safety.com/>
- Engineered vacuum head box to control silica dust when cleaning out ground level concrete seams.
- Electrician no knife policy ... working with DeWalt to develop a porta saw with artificial intelligence to sense when 2 hands are not on the cutting device.
- Contractor working with Purdue University to develop and utilize augmented reality 3-D modeling techniques to prevent underground utility strikes.
- Employee designed rebar guard to eliminate fall potential and fall protection.
- Require all power hand tools to be battery operated to eliminate the trip hazard of cords on the project.
- Automated truck “soap dispenser - driver never gets out of truck.
- Provide highway construction traffic control flaggers with Timberland anti-fatigue boot inserts to relieve foot fatigue and increase

blood circulation.

<https://www.timberland.com/shop/timberland-pro-anti-fatigue-technology-insoles-91621000>

- Working on a task force with the state DOT to develop innovative solutions based on local weather and traffic patterns to provide early warning to work zone instructions on highway projects.
- Have devoted significant resources to identify leading indicators that are real leading indicators. Kaizen techniques and Total Quality Management are used to guide the process. The process has led to the “Practice makes Perfect” process of change and measurement for the contractor.
- To control Silica from power broom dust added, closed cabs, better filtration filters for the operator, along with a water spray bar. Results: eliminated the use of respirators, created better visibility for subcontractors-public drivers-operators passing through the project, and kept local business owners happy.
- Use a handrail system next to trenches rather than personal fall arrest system.
- Use of BIM to identify underground utility conflicts prior to excavation to reduce the risk of employees being exposed to an open excavation more than necessary.
- Light rail contractor designed excavator buckets for removing ballast from between cribs between ties to eliminate exposure to overexertion injuries from hand removal. Increased productivity reduced risk.
- New equipment and machines for road work heavy is ordered with the more expensive “quiet package” to help workers hear backup alarms and reduce the potential for runover-back over accidents.
- New hand tools are ordered with ergonomic features like the Bosse ergonomic shovel and other tools.
<https://bossetools.com/>
- Changed the way of forming long-span parking structures that had been done the

same for 27 years. Redesigned the collars, making them lighter and safer to set, and at the same time tripled productivity. Instead of using wooden Ellis shores (which were heavy and always posed a risk for pinching fingers), they went to aluminum pole shores which were much lighter and easier to handle. They changed the steel frames and beams and went to aluminum frames and aluminum stringers. This made the beams lighter and easier to lift and much safer than steel beams.

- Developed a wheel chock procedure which is audited for subcontracted dump trucks which helps prevent trucks from leaving the work zone with beds raised.
- Underground subcontractors are using a modular handrail system instead of cable or retractable lanyards on city street excavations. The system can be moved along a linear work zone by a single employee. The system can be as short as 5 feet or scaled as long as required. A proactive approach to a hard to control fall exposure in tight, deep, excavations on city streets.
- Underground contractor eliminated the risk of sending workers into large diameter piping to complete a visual inspection. The company developed a robotic vehicle with cameras to complete the inspection of future piping without exposing their workers to Confined Space hazards. Resulted in better quality inspections and inspection documentation for the owner.
- Researched and found prefabricated rated trench box guardrail systems that are designed to secure right on the trench box. Controlled falls into a trench and eliminated the hazard of using lanyards and retractable around moving excavation equipment.
<https://www.guardianfall.com/performance-safety-products/anchor-points/product/trench-box-guardrail-receiver>.
- The contractor had to install 1.2 million square feet of COIR matting with biodegradable stakes. Previous process was to bend over and drive the stakes which required deep bends at ground level risking overexertion strain injuries. Found a commercially available stand-up stake driving tool that made the task ergonomically more acceptable and reduced the risk of muscle strains.
- During a bridge move, the project manager engineered out the hazards with a catwalk and handrails instead of a horizontal lifeline. This created a safer environment for the employees to perform their job and was a time cost savings since they could perform their tasks without using fall protection. The 379-ton bridge was moved in one piece 24 hours ahead of schedule due to built-in safety efficiencies with zero injuries.
- A rooftop anchor system is deployed to ensure fall protection restraints are available on any job. This system enables work on rooftops or flat surfaces that don't have anchor tie-off points. Now, employees can either use a fall restraint system or fall arrest. A fully contained case was designed and built to allow easy transport.
- Field leadership designed, engineered, and built a gantry turntable for bridge crane removal and installation. The turntable can be used with the 250-ton, 450-ton and 550-ton gantry systems. The overhead bridge crane is lifted off the rails and rotated with the turntable without the use of other equipment. Once the bridge crane is turned and clear of the rails, it can be safely lowered to floor level. In the past this process required multiple material handling machines, which was extremely cumbersome, and posed potential risks with multiple pieces of independently operated equipment moving in tandem. This tool has removed 50% of lift equipment needed.
- Use remote controlled skid steer loaders for elevated demolition applications to reduce the risk of operator injuries during high hazard work. Drones are used as the eyes of the operators when directing the remote-

controlled skid steers.

- Utilize plastic “S” ceiling hooks for all electrical cords to keep cords off the floor, facilitate better debris removal and cleanup, and reduce the risks associated with the #2 most costly Workers Compensation injury; Falls on the same Level walking surface.
- During a large concrete pour rather than having workers manually handling and using vibrators which increases their risk to overexertion injuries, vibrators were mounted on mini excavators to eliminate the exposure.
- On a structural steel project, the sequence of work was changed to allow for structural steel to be connected on the ground, rigged, and moved into position after bolt up. Changing the sequence reduced the risk for many hours of employees being exposed falls from heights.
- Utilize a prefabrication operation which uses prevention through design techniques. Operation has eliminated several hazards because work takes place in a controlled environment where crafts are not working on top of each other and most fall and ergonomic hazards are eliminated.
- Installed guardrails around roof hatch openings to prevent falls.
- Machine guarding around moving parts of concrete mixers, and roofing kettles.
- Installed fence panels on each side of track out cleaning devices.
- Installed brackets on parapet walls to extend the height to prevent falls from roofs.
- Designed a ventilation system for indoor exhaust.
- Designed a dust collector (bag house) for cutting masonry block.
- Contractors steel fabrication shop employees were exposed to falls while loading steel beams on a flatbed trailer using an overhead gantry crane. An employee made the suggestion of pulling another empty flatbed alongside the one being loaded, creating a nice walking area beside the flatbed being loaded. Fall arrest is still used, but there is much more room to position steel beam members as they are loaded and tied the load down after loading.
- Masonry contractor invested in a Spyder crane for setting large stone panels mechanically rather than manual labor from a forklift. Reduced the risk of overexertion injuries from manual setting of stone. The work method changes also increased productivity by 30%.
- The grading contractor designed an A-frame structure with an overhead rail and 2 trolley mounted retractable lifelines for the 2 workers who have to get into the bed of every load. The previous system was scaffolding on both sides which did not give full fall protection when going inside bed of hauler.
- The task of manually placing 20 tons of sand into an interior filtration vault with a skid steer loader then transferring to the vault manually with wheelbarrows and shovels. Designed a pneumatic conveying system that eliminated wheel barrowing and shoveling and the risk of overexertion injuries from manual transfer to the vault.
- To minimize saw cuts in the field, adjustable floor hole covers are utilized where possible.
<https://www.paragonproducts-ia.com/hole-cover-c-298-l-en.html>
- Use of engineered platforms over excavated or uneven surfaces to complete project construction above unsafe areas resulting in lower risk of fall same level injuries and continued facilitation of the work.
- Preload construction materials with use of equipment vs manpower prior to building enclosure to provide efficient and safe progress of the work and reducing slips, trip, falls and strains.
- Developed a fall protection system that consists of cabling barrier installed six feet

back from the perimeter of the building and on all open shafts. The posts and cabling are put in place prior to concrete being placed on a floor and remain there for the duration of the project.

- Installed elevator shaft divider beams before forms are taken down so the workers can install them on a deck instead of having to erect scaffolding floor to floor.
- Choose formwork which allows for easy access, movement, and setting to reduce overexertion and fall risks.
- Instead of exterior long ladder access to scaffolds, the company installs single level hatch plank ladders that do not require long climbs to access scaffold levels.
- Use of silent core cutting blades to reduce dust inhalation and noise exposure
- Incorporation of RFID technology into safety vests that communicate a worker's location to receiver units in heavy/mobile equipment, as a protective measure against run-over back-over incidents.
- Use of reusable slab clamp on edge protection rather than PPE on bridge deck work
- Extreme Housekeeping program
- Opportunity for Improvement Form for workers. \$\$\$ Rewards for applied ideas, part of Total Quality Management Program
- Project management evaluates the work in the planning stages to focus on Phasing the work to mitigate risks to workers. Example: phasing the work so workers can be protected greater distances behind barrier walls or away from traveling public than was shown in the project plans. Also phasing as much work during the day to reduce night work which has more risk.
- Purchasing motorized construction equipment with the quiet package to reduce and engineer out noise sources and levels around workers. The link to this document from The Laborers' Health and Safety Fund of North America further discusses reducing noise on construction

projects

- Fabricated a tractor mounted bar to place geotextile fabric on the subgrade mechanically reducing significantly the manual handling risk to workers and made the placement of the fabric more efficient.
- Working with a local university's construction management school, going forward stair towers will be used to gain access from the ground to the 1st floor of the building. Motto "You should be able to walk, not climb to your work area."
- Working with a local university's construction management school. A new guardrail system that takes less time to set up and provides more consistent and reliable passive fall protection than wooden guardrails is being used on all projects. Rapid EPS. The cost is roughly \$1.25 a linear foot and is reusable.
- Offsite fabrication of mechanical piping and plumbing along with patient bathrooms and headwalls reduced which made the tasks safer and increased productivity.
- 100% glove policy for all employees, level 5 cut resistant.
- Coordination and planning between the steel erector with the steel fabricator to pre-engineer thousands of engineered connection plates for; individual tie off points, HLL anchor locations, and a bolted outrigger system that supported a pre-engineered walkway system used to access work points for ironworkers, welders, surveyors, and QA/QC 3rd party inspectors on the project.
- Focus on "Ladders Last" program has moved work from ladders from 90% to less than 5%. All aerial work 95% is now performed from Ariel lifts, scaffolding, and Baker scaffolding significantly reducing the risk of ladder falls.
- Ergonomic "cut station" for sheet metal cut saws to keep the work task at waist level, reducing the stress on the back and the potential for back strains. Mobile storage carts and dump buggies for cut-off waste

also reduce the overall risk of back strains and improve the ergonomics of the task.

- Local code inspectors caused the sequencing of MEP installation to be more hazardous because some trades had to jump ahead and install their utilities out of sequence. This caused the increased risk of more use of ladders, scaffolds, and lifts. A group of contractors met with local county/city code inspectors and asked that the inspection sequence be changed to accommodate safer work practices. The code officials agreed to change their inspection sequence to accommodate safer installation practices by the contractor(s). Quality and production also improved. This was historic, no one has asked them to change the sequence before.
- On jobs a dance floor scaffold is built over open ceiling areas as an alternative to using lifts, ladders and otherwise less safe alternatives.
- Designed prefab temporary electrical panels which eliminated the need for removing front covers to access the installation and removal of conductors from the circuit breakers.
- Developed a formal agreement with national fall protection vendor to immediately notify company of any technological advancement in Fall protection systems so workers will have the latest and best safety equipment.
- 100% retractable lanyard policy
- Utilization of “Twist Lock” cord connections for temporary lighting which reduced electrical risks.
- Pre-work infrared illumination images of electrical panels to help warn workers of high temperature potential electrical issues prior to work.
- Project engineers design anchorage points and review location and specs with all workers and subs who will be using the anchorage.
- Designed noise reduction enclosure panels to keep high noise level operations contained. Use sound level meters and dosimeters around to outside of enclosure to validate results.
- “Nothing Hits the Floor” program to reduce Falls on working surfaces. Debris containers are planned and placed in strategic locations with large casters and lifting eyes so full containers don’t become an overexertion problem.
- Construction materials are delivered on pre-loaded and stackable carts to reduce the risks of multiple unnecessary handling of material, which reduces overexertion exposure.
- Designed material carts and debris containers to fully integrate into ergonomic chop saw stations. The stations are convenient and mobile. The Chop Saw stations are pre-built at a standard height to receive material directly into debris containers to eliminate multiple handling. Built upon a narrow cart design, they easily pass through doorways without the need to be broken-down or modified. They have a self-contained HEPA filtration/dust & debris collection system, as well as an integrated backstop, task lighting, fire extinguisher, GFCI and emergency shutoff switch. The system blends safety, environmental health, productivity and lean principles.
- The “Ladders as a Last Resort” program has eliminated ladder use completely. Now all work is done from powered personnel lift equipment. Project engineer and Superintendent plan work sequence to facilitate the program.
- Use of BIM and Trimble technologies to reduce congestion and noise issues on project
- Use of BIM to pre-place pipe rack hangers above the floor which is ergonomically lower risk. Eliminated drilling from below on scaffolding, lifts, and ladders. Also reduced exposure to Silica dust from drilling overhead.
- Developed a scaffolding system with overhead A-frame fall protection anchorage

- points on trollies for retractable lanyards. Used to access the beds of haul trailers safety when lining with plastic sheeting for contaminated soils.
- Transferred the risk of a 220' in the air demolition project fall risk to workers to a Brokk demolition Robot equipped with a Go-Pro move the worker from a 220' crane basket to inside a trailer doing the work remotely.
 - Air operated Genie lift with specialized cradle to hold ceiling ductwork in place while worker in lift connects the duct.
 - Deadman Block redesign based on employee suggested resulted in elimination of repeated drilled holes that could weaken the top of the block. Now use permanent metal attachment rails and fork pockets so the blocks could be moved with a manual or mechanical lift truck. Results: safer attachment point for blocks and improved production by freeing up the tower crane for block movement
 - Use "Giken" silent pile driving machines to reduce noise levels to below 85dBA
YouTube Video
<https://www.youtube.com/watch?v=dEkujTI5qk>
https://www.youtube.com/watch?v=M5FqzeV_bC0
 - A risk reduction device was created in-house that eliminated pile drivers from climbing the leads to align the pile.
 - Designed vertical vertical jack hammer mounts which alleviated workers from manually holding the hammers. The result is lower risk for muscle strains and vibration.
 - Use of remote-control compactors and GPS survey robots to reduce people congestion which reduced crushing and struck-by hazards.
 - Workers are issued padded knee pads so they can get closer to low level work for better body mechanics and risk reduction for muscle strains.
 - Designed shoring slide rail system to protect workers in boring pits.
 - Devised a Fall protection system for working on existing narrow concrete beams with embedded stirrups.
 - Tie back anchorage points are poured into each column for roof and interior leading-edge anchorage points.
 - A paved and internally heated primary building workers access walkway that will keep the access ice free preventing falls on the same level.
 - Placing porta-johns on the heated access way preventing falls on the same level
 - Pre-planned layout for extension cord "mains" located above the floor and door headers.
 - For buildings with parapets, spec the design to be high enough to serve as a permanent perimeter guardrail.
 - Innovation: reusable concrete anchorage points required a certain size drill bit. Drill bit and anchor are now issued together in a protective tube.
 - A guardrail boot is mandatory on projects to standardize the passive fall protection system and make sure guardrails are durable and meet standards.
 - Engineered guardrail systems are mandatory for all projects. Smart Edge is used for leading edge elements.
 - Provide employees with company logo wicking type-3 shirts to dissipate heat during hot weather work.
 - Use engineered platforms over excavated or uneven surfaces to complete project construction above unsafe areas. Reduces falls on the same level, and uneven surfaces for personnel lifts.
 - Put non-slip surfaces on all equipment decks and stepping surfaces companywide to prevent falls from equipment.
 - "PE Day in the Field" Project Engineers must spend a full day in the field one-on-one with Safety Managers on an annual basis to share experiences in both ways.

- Guardrails are placed next to open trenches rather than a Personal Fall Protection System. This is a consistent company policy for all open excavations 6' or greater in depth.
- Designed buckets for removing ballast from between cribs between rail ties to eliminate work by hand. Reduces the risk of overexertion injuries to workers.
- Created a policy requiring all equipment and equipment rented, especially equipment used to lift personnel, to have the most current state of the art redundant safety features available. Prior to the policy we found we were getting older non-updated rental equipment which exposed our employees to hazards that technology has engineered out.
- Purchased "Safe Approach Flange Clamps" to enhance the safety of fall protection system anchorage points Advanced American Constructors
- Evaluation of packing process and quantity of packaging materials reduced worksite clutter, amount of trash removal and contributed to a sustainable production goal by reducing wasted materials.
- Equipment, product, and material rule that required initial delivery to be within 30 feet or 30 seconds of the location where equipment/material to be used in effort to reduce waste and injury potential associated with manual material handling.
- Materials/assemblies/forms prefabricated off-site and delivered "just-in-time" for assembly/use.
- Manufactured pre-assemblies designed by BIM have made work much more efficient and reduce material handling exposures.
- Highway and Road projects use intrusion alarms on traffic cones. Use the Zello Walkie Talkie app for instant communication with cell phones that act like a walkie-talkie.
- Use the CCI program to design out material handling hazards such as a jack hammer stand. The recently designed a "claw" to work from the ground instead of a ladder or otherwise elevated.
- On school and higher education jobsites they use social media to communicate safe footpaths to students
- Purchased new rack trucks with hydraulic gate loaders to reduce muscle strains.
- During the erection of the prefabricated structural wall panels where not especially heavy could have been lifted onto place with a 50-ton telescopic crane. Decided to use a 150-ton crawler crane. The smaller crane would have been nimbler but would have required numerous crane pads and a much larger controlled access zone. The larger crane allowed for fewer fixed crane pads and smaller controlled access zones. The resulting site logistics and safety plans were simpler and static, which enhanced our ability to sequence the adjacent work, to convey the sequence to the workers and reduce worker exposure to risk.
- Risk issue with fall hazards along a trenching operation. Replaced standard PFP systems with physical devices designed for vertical building construction with handrail systems that not only eliminate the fall, but to eliminate the hazards created by PFP system.
- Prefabrication of MEP systems; Laser scanning decks prior to concrete placement to help prevent line strikes; Cover all temporary and permanent power duct banks in concrete regardless of requirements. Also use technology to limit exposure. BIM modeling is used to identify anchor points for fall protection, areas for leading edge handrail as well as inputting site utilities to avoid line strikes. Use BIM to inform sequencing of work scheduling to ensure trades are not exposed to unnecessary stacking. We also use Matterport which is software that uses 360-degree photos to document in-wall conditions to prevent utility strikes. <https://matterport.com/industries/architects-engineering-construction>

- For construction of core used Aluma Gangwall form systems. Employees were having trouble utilizing fall protection as required while building the form system. The foreman implemented a static line for use on the forms to achieve easier and better protection during this operation. This was accomplished by extending the very outside 2 strong backs into the design, then installing 2 picking eyes and turning them around to install an engineered static line. Because the system allows the self-retracting lifeline to move with the employee, the workers were also protected from swing falls.
- Issued new style head protection with chin straps. A week after issuing the safety helmets, an employee was hit on the head from a glulam beam. The beam free-fell approximately 5' striking him directly on his head. The helmet's extra protection and chin strap did its job. Other than a sore neck, the employee did not sustain any head trauma or significant injury.
- Projects are planned to utilize equipment and machinery to reduce employees' exposure to injuries while carrying heavy materials by hand. This also allows our crews to use fewer ladders on the job.
- Require guardrails everywhere and anywhere possible on jobs even if the fall hazards are below 6' to reduce all fall hazards and time spent wearing fall arrest systems. Have designed mobile work platforms that take the place of scaffolding and allow employees to work free of falls on the job.
- Engineering - add additional jersey barriers to what were indicated in plans, install sheeting, when necessary, at our own cost, utilizing additional shoring and trench systems even when competitors do not.
- The underground leadership team led a committee that developed a new underground utility damage prevention program that has reduced our at-fault underground utility hits by 87%. The upgrades in the program included the purchase of a Hydrovac truck and creating a crew to operate it that services all of our projects' potholing needs. This also reduced the potential of injuries related to laborer hand shoveling operations. Once utilities are potholed the lines are GPS located and mapped for use throughout the project.
- Underground Manager in cooperation with our Structures Manager designed, certified, and had built a guardrail platform system that would fit on the top of manhole structures to provide safer access with a confined space tripod system.
- "Recently implemented SmartDrive's video-based safety program to enhance fleet safety efforts, reduce unsafe driving behaviors and minimize incidents on the road.
- All company vehicles have been equipped with SmartDrive technology, which monitors drivers while their vehicle is in motion and sends alerts based on triggering events such as abrupt braking. The SmartDrive System has allowed us to identify areas of concern and mentor our drivers on safe driving habits in hopes of preventing accidents.
- Within the first six months, we saw a 100% reduction in rear-end collisions and a 96% improvement in their SmartDrive safety score. <https://www.smartdrive.net/> The Business Development team has been assigned a dedicated Safety Specialist who is committed to assisting with all aspects of pre-planning and proposal development, such as project safety costs and implementation of engineering controls. This direct involvement from the safety team allows us to mitigate and/or plan for anticipated hazards before the job begins. An example of these engineering controls is the introduction of our HEPA-Filtrated cabs to eliminate exposure to airborne dusts/silica which have effectively removed potential hazards.
- Partnered with PureGPS to provide instant feedback to management about all employees that operate fleet vehicles

and equipment. With this information, we can provide training, track trends in driving habits and effectively reduce exposure and risk to our employees and the public. We have witnessed a significant improvement to driving behaviors since the implementation of this program.

- While performing work from a barge for dam repairs, the use of generators was a necessity for power supply. The noise levels were in the 80-85 dB range but were constant. To eliminate the need for hearing protection, an insulated three-sided shield was constructed. The generator was placed as far as practical from the crew work area and then the closed end of the wall was placed between the generator and the employees. This sound barrier wall deflected the noise away from the crew members. Crew members were excited by simply not having to wear earplugs.
- Sequence of Work - On a multi-bridge repair project in Charlotte, NC, our crews were having to perform a lot of jackhammering operations. Instead of assigning this scope to one individual, crew members were rotating every 10 minutes. This was a small crew of six employees, so the outcome was that each crew member was exposed to the vibration of the jackhammer for only 10 minutes per hour. This proved to be a success and helped to eliminate fatigue and possible strain injuries. In addition to this crew rotation, anti-vibratory gloves were purchased/ utilized; positive feedback received in regard to this PPE selection.
- The design team has implemented a note section on their drawings that outlined expectations that need to be followed through deliberation with safety on areas of the project that could create risk as identified through certain tasks. (Steel erection, excavation, silica exposure, etc.) this allows us to review and maintain safety in design through engineered controls such as isolation barriers to protective systems or even administrative controls if necessary.
- Utilized prefabrication shop to build a majority of the lighting fixture packages, the electrical home runs and support racks, and the electrical power distribution panels. This effort saved the company thousands of dollars in labor costs. Workers were required to spend less time working at heights.
- Design team designed a system to utilize the permanent piping for temporary power, eliminating the need for mobile temporary power stations and reducing the number of extension cords in use. This effort resulted in fewer trip hazards and exposure to energized electrical cords.
- Eliminated plastic danger and caution tape on projects reinforced or not. All areas that require delineation to note danger or caution zones or where authorized employees only are not allowed will be barricaded using a hard-barricading system. This keeps paths clear and keeps danger areas consistently designated. Subs now provide and use the cone and expandable bar system.
- The management team worked to get the temp power stations off the ground and hung on the walls or placed on stands. Having the temp power elevated allowed workers to plug in their corded tools and equipment without having to bend over which reduces back strains and extension cords were elevated to reduce the tripping hazards.
- Working with vendor partners to find alternatives to lighting systems that require less energy consumption, are brighter than the OSHA lighting minimums, allow for easier installation, easier to modify lighting as building becomes compartmentalized, and minimize the number of fixtures required to light an area.
- Prefab Teams continue to pursue safer installation. For example, projects that have high bend repetition can have several conduits bent in a controlled environment with optimum body positioning, great lighting and without trade stacking or congestion. Racks can be outfitted to

be installed as a skid, thus minimizing time spent going up/down to take measurements and installing conduits one by one.

- Utilizing virtual reality goggles to see the future project in place. This new technology enables our employees to identify possible installation conflicts and to see the final project. Additional benefits include identification of areas where fall protection anchor points need to be installed or moved to provide final placement for employees to tie off to.
- Employ certified drone specialists. They can fly a drone over projects looking at high risk areas, thus removing employees from being exposed to hazards.
- Healthcare projects use prefabricated temporary wall systems to contain dust and maintain ICRA requirements. Also self-contained HEPA filtration units work to filter harmful contaminants and maintain negative air requirements.
- Project team included in their package one-man lifts to eliminate the need for ladders onsite.
- Through our Motion Matters program, we tested new tools such as duplex nail guns, cordless pipe cutters and even upper body exoskeletons to reduce wear and tear on the body. Videos of each study were uploaded into Stream and were shared company wide.
- An example of safety by design during construction is the installation of guardrails on steel stairs. The vertical members used to connect wire rope for guardrails are installed once the stairs are placed. The wire rope is then stretched and attached by the steel subcontractor and the installation of those as well as perimeter wire rope cable guardrails is always included in the contract. To go along with making the stairs compliant, and safe for use is that stair tread infills are prefabricated and ready to install once the wire rope guardrails are completed.
- Prefabricating the exterior skin (including metal stud framing, Thermax insulation, and miscellaneous steel for window openings) allows us to dry-in a building faster, creating a safer work environment. Prefabrication of building components allows for work to be conducted indoors, in a controlled environment where fall hazards are reduced, and exposure to severe weather is eliminated. Prefabricating interior items, such as overhead runs, offers the same safety benefit of building in a controlled, ground-level environment. Building information modeling (BIM) is another technology that assists in constructing faster, higher quality, and far safer projects by allowing us to conceptualize whether a building's design is compatible with site conditions as related to constructability. BIM also allows for clash detection, minimizing rework.
- Recently we were granted a waiver from the FAA to fly drones over active project sites (the first company in the US to receive this waiver), We have an initiative to integrate drone footage into their comprehensive safety management system. Have started employing drones to monitor large-scale activities that require large numbers of workers onsite, such as pouring concrete. Safety Managers can review the captured documentation, ensuring that everyone onsite is working in an appropriately safe manner. Our drone program can also view sloping of trenches and other safety conditions. Drones also allow the project team to see the project site from a 3D view so that they can pinpoint risks early on and therefore sequence the work in a manner that helps to clarify the schedule, understand the site constraints, and look ahead to potential safety issues. Sequence videos show which type of work will occur when, allowing the trades to understand their own work within the larger context and thereby preventing both errors and accidents.
- Currently piloting a Prevention Through Design program that engages the client, various stakeholders, trade partners, design team, and maintenance on one of our projects. The program identifies potential risk for work at heights, access/

egress clashes, logistical challenges, utility work risk and scope gaps. The team creates recommendations and implements corrective action ideas during the design phase of work. The recommendations are priced and captured in “Celebration of Wins Log”. Our wins and efficiencies gained in the program have received national attention, they will be included in the third edition of the national book ... “Advanced Safety Management: Focusing on Z10,45001 and Serious Injury Prevention”.

- Piloting projects throughout the nation for technology wearable devices that warn employees of emergency action notification, determine if an employee was involved in a fall, fatigue management, health and wellness bracelets. Piloting drone technology on specific projects with 3D modeling to design and build safer projects and mitigate hazards such as excavation crushing hazards.
- The decking sequence was reviewed and modified so that horizontal lifelines were able to be used above a worker’s head rather than workers anchoring at foot level to the deck as it was installed.
- A self-performed 14,000 piece cut stone masonry veneer project. There was little room to get mechanical equipment to help move materials to the scaffold, and a crane was not an option. This was going to result in a large amount of manual material handling for our mason and mason tenders compared to a job of similar size. We used proven ergonomic improvements from general industry and adapted them to our project. Rolling conveyor racks were used to move cut stones from one end of the approximately 125-foot-long scaffold to the other. This eliminated the need for workers to lift and carry stones or move stones with a dolly which would create an opportunity for poor lifting posture. The racks allowed the workers to lift and set stones on the racks and roll from one end of the scaffold to another.
- When working around underground electrical lines, electrical arcing is a serious

concern. We observed the utility company utilizing a Quad pod set up with technora rope, which is a dielectric retrieval rope. We then removed 90% of our tripods and replaced them with the Quad Pod system with technora retrieval rope to create a universal non-entry rescue system for all our confined space entries. The Quad Pod can also be utilized to lower tools and equipment into confined spaces.
https://www.3m.com/3M/en_US/company-us/all-3m-products/~/3M-DBI-SALA-Confined-Space-Rescue-Davit-System-with-Winch-8302500-Technora-Rope-50-ft/?N=5002385+3291827933&rt=rud

- We do work in proximity of energized lines sometimes within the minimum approach distance of 27 kV primary cables. To help protect our workers, we communicated with other electrical companies to find what are the best dielectric tools to help protect our workers from electrical hazards. From the information gathered and researched, we supplied dielectric shovels, prying bars, digging and prodding bars to go along with wearing dielectric gloves and overshoes to reduce electrical arcing immensely. Fire retardant clothing and arc-flash face shields are also utilized by any worker in proximity to energized lines to reduce risk exposure.
- To protect team members in the maintenance shops, a hydraulic lift system was developed and installed to replace the need for hand jacks when lifting trucks and equipment. This new lift system reduces potential injury from physical exertion as well as faulty, secondary support devices such as jack stands.
- Worked with a partner equipment manufacturer to redesign custom Reel Trailers to help reduce the potential for human error by incorporating automatic controls and safeguards.
- All corporate departments and each of our ten regional operations offices participate in Gemba walks twice per week. The Gemba Walk is an opportunity for staff to stand back from their day-to-day tasks to

walk the floor of their workplace to identify wasteful activities. The objective of Gemba Walk is to understand the value stream and its problems rather than review results or make superficial comments.

- “Used our 5S program to address slip/trip/fall incidents, and to support our lean construction practices.
- Sort – minimizing the quantity of materials stored onsite by limiting materials to those that will be installed within a one-week period.
- Straighten – establishing designated storage and lay down areas on projects and keeping materials off the ground and mobile through storage on racks, carts, pallets, bins, etc.
- Shine – requires immediate deposit of trash and debris into mobile trash carts (nothing hits the floor) and cords and hoses must be suspended off the ground to minimize trip hazards.
- Standardize – all contractors are assigned a color, and materials are marked as they arrive onsite.
- Sustain – with continuous daily cleanup enforced, weekly composite crews are focused on polishing the jobsite.
- Results: The 5S program generated several innovative ideas from our self-perform craft and subcontractors around material storage and continuous cleanup. Since the launch of the 5S program in April, we have seen a 65% reduction in slip/trip/fall injuries.”
- For the last four years we have been practicing Single Piece Flow (SPF) scheduling. With this process, we break a project into similarly sized or dense areas (instead of an entire floor), determine the best sequence, and then set a rhythm or takt time to complete those areas. This allows for faster completion of the project, more efficient subcontractors, higher quality, earlier in place mock-ups, and a safer work environment for our trade partners. Our experience is that safety is improved because contractors are working in less congested areas.
- We have engineering staff working in the corporate office that assist in engineering out hazards, designing anchor points and pick points of objects.
- Maintain an extensive supply of portable chain-link fencing on each project site, to deploy as-needed to prevent access to hazards ranging from temporary excavations to metal storage piles.
- A major point of emphasis was to eliminate ladder access to roofs by requiring stair towers for 100% of our projects. We continue to champion LEAN principals like rolling racks and cutting tables with waste drop containers, eliminating trip hazards and reducing back fatigue.
- Upgraded our head protection when shown the statistics and the specs on the advanced helmets available today. Rolled out mandatory use of 3M SecureFit X5000 safety helmets. Despite early misgivings, they have been embraced and even lauded for their comfort and the feeling of safety they provide.
https://www.3m.com/3M/en_US/worker-health-safety-us/solutions/securefit-safety-helmet/
- Backing was one of the most frequent and serious hazards we faced. We have adopted a “Forward First” policy in which employees are trained to park so that they can drive forward rather than backing. New trucks and equipment are being purchased with backup camera systems already installed, and several older trucks and equipment have had backup camera systems and additional mirrors installed. All trucks lacking a backup camera system have had G.O.A.L. (Get Out and Look) decals affixed to the mirrors (with associated training), and we require a spotter whenever backing in the blind.
- Rather than sending a worker down into a large permit required confined space, rigged up GoPro cameras with LED lights and lowering it into the tank to video internal conditions might provide the

necessary outcomes. The results were amazing! All the internal hazards were eliminated. No personnel entered the vessel. The client was extremely impressed, and the video served its purpose so well that the client scheduled future repair work because of the video.

- Our sheet metal superintendent worked with our sheet metal fabricator to layout and prefabricate the duct risers so all field joints could be connected at chest level and all duct supports installed at ground level. This eliminated the need to assemble ductwork off of ladders or do any overhead drilling for anchors to hang the duct – both of which represent common opportunities for injury in our line of work.
- Open roof exposures such as skylight opening are not cut in through the roof until the skylight is on site ready to be installed. The area is barricaded off until the skylight is installed, and protection of the skylight is in place.
- Worked with the product development team of a bandsaw manufacturer and gave them the idea to make a bandsaw that only operates with two hands on the tool. The idea was to have a trigger-like device on both the top and bottom handle of the bandsaw causing the tool to disengage when neither hand is on the handle. This new development has encouraged other tool manufacturers to develop similar products for safety and making our company safer and other companies as well.
- Utilize test boxes and chicken switches for reducing exposure to employees when performing electrical work. The best way to prevent electrical exposures is to perform the work deenergized and create the safest work environment possible. Test boxes allow for our employees to check absence of voltage, check voltage readings, and rotation without having direct contact with the electrical system. The test box is designed to be connected to the system in a de-energized state, when the system is turned on the test box is located at a safe distance and out of the way where readings can be taken with voltage meters and measuring devices that allow for test prongs to be plugged into portals measuring each phase giving the necessary readings.
- Utilized a high-tech installation process which was the first of its kind in our 107-year history. This process eliminated all fall hazards for a major portion of activities, no work from ladders, no work from scissor lifts or platforms. We were able to accomplish this by taking 3D modeling to unprecedented levels, modeling the entire overhead conduit system. In turn, this allowed us to layout and install 90% of boxes and supports before any concrete was poured into the metal pan-decks between flooring. From this layout, we drilled holes into the metal pan-decking, dropped aircraft cable through to the floor below, where prefabricated assemblies were attached to the cable, pulled up and fastened by the crew above – all work performed without ladders or scissor lifts, despite the 17-foot expanse between floors. This process eliminated literally thousands of trips up ladders and scissor lifts for our crews.
- Prior to starting construction activities, we will capture an underground survey using GPR (Ground Penetrating Radar) for boundaries that are not covered by public locate services. This survey is available for subcontractors to review at all our jobsite trailers.
- Faced with the unique challenge of removing 2000 timber piles, mostly all below water and full of debris, presented a hazard to our crews. Instead of sending divers to locate the piles or putting crews in the piles field we developed a patent pending extractor system that allowed the crane operator to place the hammer over the pile, vibrate it in the mud, clamp the pile and extract it.
- Developed a system requiring workers to tie off while climbing scaffold ladders, gang ladders, ladders over 10', and have installed

handles at the top of gang ladders to allow safe access while climbing on and off them. We developed a fall protection system consisting of a cabling barrier installed six feet back from the perimeter of the building and all open shafts. The posts and cabling are put in place prior to concrete being placed on a floor and remain for the duration of the project.

- When we have a cable system that is not for tying off, we use a different color mesh so workers can easily recognize it. Another example of engineering controls is putting in elevator divider beams before forms are taken down so the workers can install them on a deck instead of having to erect scaffolding floor to floor.
 - We use cattle guards as barricades to maintain minimum approach distances for fall and electrical hazards on the jobsites.
 - Company utilizes a hand-held wireless, remote control device which permits the user to control certain functions of the device in portable traffic signal trailers. The user can take control of a running signal operation and stop all traffic by a push of the “STOP” button. Normal operation of the signals is returned by pushing the “Resume” button.
 - Our ownership has provided us with access to all dustless equipment that our workforce needs to be successful in reducing exposure. We use dustless grinders with the appropriate dust collection systems, water attachments for all handheld power saws, water attachments for jackhammers and rivet busters, and vacuum attachments for any core drilling. Along with all these engineering controls, we have our own personal sampling pumps to determine any exposure we may have to have a variety of hazards.
 - Use the Corp of Engineers critical lift plan which is above and beyond OSHA. In addition to the critical lift plan, we also have a huddle prior to the lift to make sure all parties are on board with the specifics.
 - Limiting string lighting to running wire
- and installing a temp lighting device in the location of a what will be a permanent structure, thereby solving the age-old problem of poor lighting on construction sites.
- Using suction cup mechanical lift tools to lift and place roof pavers on commercial jobsites.
 - RFI system allows a way to advise the need for general lighting that the project owner isn't always aware of.
 - Through prefabrication, it has dramatically reduced the need for jobsite ladders over previous methods.
 - Develop a preconstruction traffic and access plan for all jobs.
 - Silica was a big challenge, so they found CLEMCO which is a company that makes a spray wand that uses water and air to blow out concrete joints that results in no measurable respirable silica dust. This engineers out the exposure. <https://clemcoindustries.com/>
 - Use beacons on concrete saws to identify where the machinery is during work. This is especially useful at night.
 - Built an automatic straight edge device for finishing pavement. Big savings in labor but also a big reduction in ergonomic exposures.
 - Fabricated a tool to keep workers away from pinch point hazards when placing precast or tilt up panels. This allows the work to be done while eliminating the pinch point hazard.
 - Manage project OSHA lighting expectations to include adequate room by room lighting after compartmentalizing.
 - Use drones to study worksite traffic patterns.
 - Roofing hot kettles require 2-fire extinguishers.
 - Have moved away from using ladders and use lifts instead when necessary. We have displaced over 50% of our ladders to date, which means we have better control over

the work areas we use. This also takes hours off our bids and saves labor costs to the owner.

- Company recognized safety issues involved with manually handling materials and has purchased “Exoskeletons” outer sleeves for lifting objects that are lightweight and reduce arm injuries to employees.
- Require materials to be stored on carts – nothing on the floors. Rolling carts are to be used for moving materials whenever possible. All power cords are to be suspended. Company mitigates dropped object accidents by requiring tools to be tethered.
- Decibel readings of equipment are obtained frequently to assure personnel that the company “Hearing Loss Prevention Program” is working.
- The company invested heavily in Hydro-demolition equipment. This is a new way of performing demolition work. This process is quicker, uses less work hours and keeps the employees a safer distance from the demolition.
- Developed a patented Pile Cutting machine to cut concrete piles safely and efficiently. The machine takes one Operator to work in a climate-controlled cab away from the risk of cutting, to cut up to 200 piles a day. The previous method would take two operators manually sawing the piles at the rate of 30 a day, exposed to the risks of the chipped concrete and the struck-by/caught-between risks of swinging of the pile once it is cut. Productivity is increased and fatigue is reduced by reducing the hours it takes to perform a task.
- Company invested heavily in Brokk robotic demolition equipment which allows the Operator to work remotely at a safe distance from the demolition area.
<https://www.brokk.com/us/>
- Installed safety cables in the window openings of all wall panels prior to erection.
- New initiative to develop emerging Project Engineers with regards to safety engineering and education. Entry level Project Engineers received more specific insight as to the importance of project safety. They also perform separate inspections and lead toolbox talks.
- Invested in hydro-vac technology to safely identify existing utility lines, as well as all new concrete cutting and drilling vac equipment to mitigate silica exposure.
- During a large congested downtown project, the public is channeled using site fencing and a scaffold bridge over construction areas for safe access.
- Utilized timber piles for vertical support of a “stage top” style system which allowed several different trades to have an adequate elevated work platform from framing through rough-in phases. This engineered control eliminated the need for any Personal Fall Arrest Systems.
- Have increasingly gone to prefabrication of structures on the ground to eliminate work at heights whenever possible. We have had great success framing the stair towers’ roofs of parking decks on the ground, leading to the elimination of framing, roofing and stucco work at heights and limiting it to only one crane lift. Similar to this type of planning, we have installed fall protection guardrails on tilt wall panels prior to erection to eliminate fall hazards. Casting fall protection anchor points into the panels for steel workers and roofers has also been integrated into the process.
- Add load tolerances into every design to account for dynamic loads during concrete construction. It takes a lot of planning with concrete formwork, sometimes up to thirty days of advanced planning - all for safety.”
- All pre-con decisions are based on understanding every employee’s needs, the company does not find the employee for the task, we find the task that is suitable for each employee.
- Designed a ramp and pulley system to bring in materials to the basement of the courthouse for a remodeling project which

eliminated the need for workers to carry and maneuver large bags of grout and other materials. This idea significantly reduced the risk of strain injuries.

- Electrical contractor has continued to evolve with technology by providing special cut level 5 gloves. These gloves allow employees to use their touch screen devices in the field without removing their PPE.
 - We had to install 200 light fixtures in a 35,000 square foot basement with a 24-foot-high exposed ceiling. To reduce production time installing over 200 light fixtures, installed (using total station) over 500 aircraft cables in the concrete deck above prior to the pour. These not only limited time roto-hammering in supports (silica) but also limited the time working on scissor lifts (caught between, falls from heights).
 - Engineering procedures have been put in place by the means of required paperwork to be signed by an owner if it is deemed not feasible to deenergize an electrical circuit (i.e. – existing hospital or critical system). The amount of energized work has been minimized with this procedure. If it is deemed that work is required on an energized circuit a detailed Methods of Procedure (MOP) is required, reviewed and approved by the Vice President of Field Operations and Safety Manager prior to any work commencing.
 - Continuous Improvement (CI) department implements value-added changes. Currently we have leveraged CI to take our Motion Matters - Sprain and Strain Prevention Program, and Cordless Power Tool Best Practices company-wide. These programs set the standard for improved organization, ergonomics and efficiency, while also reducing fatigue and repetitive motion.
 - The equipment department is standardizing new technologies into our vehicle and heavy equipment fleet. Hands-free systems, backing sensors and cameras now come standard on all light vehicles.
- We are also currently ordering cameras and backing sonars on all heavy equipment with blind spots.
- Utilize Building Information Modeling (BIM) during the design phase to mitigate safety concerns such as potential fall protection hazards, site access/egress and logistics challenges.
 - Deck installers have always used a lifeline anchored to the base of the deck to tie off from. The workers would be tied off, but the slack in the lifeline, and the fall arrest gear would not prevent them from contacting the 12' deck immediately below them, in the event of a fall. The company developed an engineered solution by fabricating a raised lifeline anchor post installed specifically for use by the leading-edge workers. With the extended height there is sufficient room to absorb the slack preventing contact with a floor even as minimal as 12 feet below.
 - Invested in 100% floor scaffold systems aka “dance floor” in a sloped floor auditorium. The angled floor auditorium created risks for any employee that is working on overhead systems. Determined that by creating and managing a comprehensive temporary floor system, multiple trades could work freely on a level and solid platform, eliminating the challenges from working on ladders, aerial lifts and rolling scaffolds.
 - Use 3D printing to build miniature models of proposed safety devices, railing systems, rescue stations, trenching conditions, or structural conditions (e.g., cantilever projections).
 - Panel Dollies: Prefabrication allows the electrical panels to be made up including the installation of breakers but can result in the panel being heavy and awkward due to the attachment of the “homerun” cables. To allow for the safe and efficient movement and installation of these panels we created a specialized dolly that allows the panel to be rolled into place and secured significantly reducing manual handling and fall on the same level risks.

- Use of rolling stools to reduce kneeling and use of overhead drill presses to reduce shoulder and back injuries related to overhead drilling.
- Use Trimble Point Layout Software. Productivity is improved with the capability to scan the site before installation and outline an execution plan. By having the scanned floorplan model, we could pre-fabricate conduit and cable tray systems in-house. This method allowed us to be extraordinarily efficient and minimized the time it takes to install new electrical systems, reducing fatigue and injury exposure on the job.
<https://mep.trimble.com/electrical/layout-solutions/>
- “Developed an “Over OSHA” policy. After a detailed analysis of our safety data from previous years, we identified the most prevalent types of incidents and developed safety policies above OSHA standards to target those incident types. Examples of our higher than OSHA standards for Cranes include Load moment indicators, Anti-Two-Block Stop Devices, and Third-Party Crane Inspections.
- Engineering Controls for Safety - Examples include designing and building guardrails, picking attachments, working platforms and stairs, tie off/anchor points, bollards, design connections between beams limiting pinch points, ladder cages and grab bars, non-skid stair treads and grating, stamping weights to heavy objects, and pre-plan shipping to limit fall exposures.
- Work with engineers and architects to provide higher parapets, strategically located roof access points, and permanent roof anchors, making construction safer and facilities safer to maintain.
- Falls are the most frequent and severe injuries related to the steel erection industry. We go above and beyond the requirements for fall protection. While utilizing engineered and manufactured fall protection systems, we also design and test our own fall protection systems by performing drop tests with dynamometers to understand the forces to the anchorages and fall distances an employee may be subjected to during a fall. We test engineered components to understand how they react during a fall to ensure our employees are protected in the event of a fall. The drop tests are videoed and documented for sharing with our employees during our fall protection training.
- Co-developed a band saw with one tool manufacturer that stops working if you remove your hands. Will be out on our projects.
- Working with a ladder manufacturer to make ladders with the bottom step a different color to help employees that wear bi-focal glasses see the lower step more effectively.
- When there is going to be a delay in the stair fabrication, we spend the money on setting up a stair tower for access to all the floors instead of using ladders. This prevents fall exposures on ladders as well as we gain some production efficiencies as well as can provide better access in the event of an emergency requiring EMS response.
- Utilized a GoPro on a pole with a large light which was connected to an iPad. This allowed workers to inspect the ducts without having to physically enter the ceilings or ducts. This reduced time, injuries from lacerations, falls from ladders, and entering confined spaces.
- When our engineering team is designing a piping system our BIM program notifies them that a shut-off valve placement is in an area with potential fall hazards. If they designed the system like this, our owners would be put at risk during any future maintenance. But by bringing this spatial awareness to our design team, we can make changes that mitigate those hazards, prior to any installation.
- Robo flaggers were purchased to eliminate worker exposure to traffic. It is a small traffic signal with a crossing arm that drops down to block traffic when the lane is

closed. DOT says the units are more visible than human flaggers and motorists tend to see them from a greater distance away. They are controlled by workers located a safe distance away from moving traffic. <https://www.utilityproducts.com/safety/article/16019089/robotic-work-zone-flaggers>

- An employee asked to devise a fall protection system that would be conducive to working on an existing narrow concrete beam with embedded stirrups. Engineering drew up some plans, the shop fabricated specialized stanchions, and our survey and safety department tested the system. Field personnel had the opportunity to deliver a presentation to an audience of their peers to show everyone how it made the task safer.
- Utilized circular metal cage livestock round bale feeders to put around deep open holes instead of typical flagging/barricades.
- Purchased drill rigs that have operator cabs to reduce noise and eliminate dust exposure.
- Engineered a stabilizer for light stands to prevent tip over on slopes and during winds.
- Engineered pipe cutting table jig to stabilize pipe handling and has reduced ergonomic hazards as well as increased quality and production.
- Changed their trucking dispatching procedures to avoid unnecessary trips.
- Stopped using the piano wire method of paving as a grade control method and that has eliminated trip and fall hazards from the piano wire.
- Converting pneumatic tools to battery tools to eliminate the trip and fall hazards created by pneumatic hoses.
- Use tier IV equipment to reduce nitrous oxide exposure.
- Use mineral oil in equipment instead of hydraulic fluid to reduce environmental hazards.
- Use a 3M Uvicator sensor that changes color when exposed to too much UV light. Worker emergency ID in hard hat. <https://multimedia.3m.com/mws/media/12249420/uvicator-sign-of-safety-technology.pdf>
- Use anti-fatigue ergo-inserts for boots. ...90% reduction in reports of leg and back pain.
- Use Halo Light hard hats for better night visibility. All PPE is chosen by safety committee meetings.
- Started using puncture resistant boot soles due to an employee suggestion.
- Developing an 85-acre employee training complex for site work excavation equipment operators that will include an indoor dirt arena, haul roads, etc.
- Concrete forming contractor uses signage with the phone number of whom to contact to get access to a form wrecking area.
- To prevent Trips and Falls with vigilant housekeeping at the jobsites, cleaning up after yourself, and maintaining solid level ground for walking.
- We focus on same level falls by identifying the contributing factors of each accident. Inspect. Use a focused checklist. Perform Access Evaluations using our “Access Champions” system. We verify pathways. When possible, team up when walking.
- Use of drones and 3 different types of software imagery for use in critical lift planning. Use of drones for inspecting crane booms, traffic control pre-lane switches, and bridge inspections. Look for opportunities to remove people from the high-risk work environment equation.
- Cameras and backing sonar are standard on all light vehicles and being added to all heavy equipment to prevent incidents associated with blind spots.
- Use sound curtains to minimize noise exposures.
- LEAN principals like rolling racks and

- cutting tables with waste drop containers, reducing possible injuries, back fatigue, and handling material multiple times.
- The company uses remote controlled skid steers for elevated demolition work.
- Company uses drones to construct topographical maps of the worksites.
- Annual review of all job hazard analyses to ensure reflect most current prevention measures and lessons learned from the past year.
- Safety Planning is used during the design phase and a database of Lessons Learned is maintained and used to prevent future errors from past errors in the design, planning, and execution of work.
- The “Shark Cage” is to protect workers and provide more effective fall protection while working inside beams on long span decks. Also, it has guard rails that roll with a tied off worker from column to column.
- GPS and Robotic systems on earthmoving equipment require less personnel on the ground around the equipment significantly reducing the potential for run over and back over incidents and fatalities. More efficient, better quality and safer.
- Blocked the texting feature on Company provided phones.
- Architect outreach program to train and discuss Design for Safety (DfS) with architects. Architects need CEU’s and GC put together an hour DfS presentation and over 90 architects went through the training.
- “Dead Man” anchorage block for Fall Protection.
- Permanent Tie-Off is installed and used during construction and then left in place for use by maintenance personnel.
- Badging system for site access control... called My Time Station
- Ladders with transport casters and ladders with assembly trough so a person moves the ladder with less exertion and can climb with their hands free
- We have changed wheels on dollies so that they roll better. We also have our guys working on toolboxes at waist height instead of working on the floor.
- Implementing remote switching during electrical startup and testing removes workers from outside the arc flash boundary entirely. This engineering control eliminates direct exposure to potentially lethal energy sources and represents the highest-order hazard control for high-voltage electrical work.
- Specifying tools and equipment that require two-hand activation — supported by rapid-stop and auto-stop technologies and vibration-reduction features — prevents unintended contact with moving parts, reduces hand-arm fatigue, and significantly lowers the risk of hand injuries during high-hazard tasks (e.g., Milwaukee tools).
- Utilizing prefabricated duct bank assemblies reduces field exposure time, minimizes on-site cutting and handling hazards, and improves installation consistency and quality — reflecting a design-for-safety approach that controls risk before workers arrive on site.
- Automated beam lines integrate various machines and technologies to handle the cutting, drilling, and welding of steel beams with minimal manual intervention. These systems improve precision, speed and quality while improving production and reducing injuries and incidents.
- Addition of hand drawn pictures to Job Hazard Analysis to facilitate better understanding of work to be performed, especially in a multi-lingual work environment
- Cross functional teams meet to discuss all aspects of the business. Members are those who manage and perform the work, those who sell the work, and those that design the projects.

- Use of Enablon, a global on-line reporting system for key safety reportable events and incidents. Program helps identify major risk areas across all business units. Link: <http://enablon.com/solutions/ehs-management> and <http://enablon.com/applications/audit-compliance>
- Executive leadership “SafeRing” program
 - Planning - Communicating - Observing - Improving. Subcontractors are also involved in the SafeRing process.
- SSE “Short Service Employee” employees with less than 30 days on the project. Special emphasis and observation process for these employees.
- Change job assignment during day to avoid repetitive injuries – but be sure employee is oriented properly for new job assignment to ensure employee is properly safety trained possesses adequate skills to accomplish task safely.
- Cross functional teams that go through a “Learn After Doing” post project learning process. Documented and used in pre-job planning meetings down the road.
- “Unplanned Events” and “near misses” are investigated with the Superintendent to integrate Safety, Quality, and Production in the Superintendent’s mind. It is used to illustrate that something in the system needs adjustment.
- Use of the “Charrette” team analysis process to quickly come up with solutions for risks using a cross functional team including subcontractors. The structure of a charrette varies, depending on the problem and the individuals in the group, charrettes often take place in multiple sessions in which the group divides into sub-groups. Each sub-group then presents its work to the full group as material for further dialogue. Such charrettes serve as a way of quickly generating a solution while integrating the aptitudes and interests of a diverse group of people.
- We use a lot of data to help us make safety decisions
- We teach our safety people risk management
- Process to Identify Project risks then a further analysis to determine how risky on a scale from Less Risky to highly risky
- “Mining the Diamond” process to focus on target injury types vs incident rate
- “Extend the pyramid” – safety related data is investigated down to the audit level in effort to be as predictive as possible using data that is already being collected.
- Leveraging insurance carrier expertise – small businesses leverage the expertise, best practices, and experience of their insurance carrier’s safety team to improve their compliance and performance.
- PBI transitioned all employees from conventional hardhats to safety helmets. After attending a safety seminar on Safety Helmets at the 2019 AGC National Convention in Denver, CO
- WB Moore implemented phasing out all A-frame ladders to podium and platform ladders. This allows our people a safer work condition and environment by being able to comfortably work more safely and to retain a secure footing. We feel the reduction in foot fatigue and the virtual elimination of all the associated problems is well worth it.
- Worked on a partnership with a preferred vendor and created a user friendly all-inclusive PPE catalog that streamlines delivery processes via direct shipment. The catalog is sectorized by task making it easier to navigate based on tasks from Arc-rated PPE to PFAS.
- Complex LOTO plans requires all WB Moore qualified persons and other trades, owners, and general contractors to script a non-deviated sequential plan, with signatures, that correlates to electrical one-line diagram with intent to validate zero energy sources exist prior to work commencement.
- Use of “Sawstop” table saws which stop

when skin makes contact with the blade
- More information at <http://www.sawstop.com/products/contractor-saw/>

- 100% Glove policy has reduced hand injuries by 98% - A specialized hand JSA has to be completed if the work process would not require gloves
- Use of Ground Penetrating Rader and Vacuum Pot Holing to verify mark-out accuracy as additional measures beyond standard Utility locates to make sure dig is safe
- Creative ways to keep electrical cords out of walkways - <http://www.carniequickhooks.com/>
- Moving to cordless tools to eliminate risk issues with cords
- Innovative Ideas (ones that eliminate hazards) receive a \$1,000 reward
- Upright Jack Hammer Stand – for doing overhead jack hammering on bridge jobs. Reduces overexertion and took worker away from falling debris
- Use of BIM to lay out a 10 foot grid of fall protection anchorage inserts before placing concrete
- Use of LEAN and TQM to identify risks and focus on safety improvements
- “Ladder Last” policy which requires jobsite supervisors to review all activities where ladders would be typically used and replace them with stair towers, manlifts, or slope excavations to “engineer out” the use of ladders wherever possible
- Ergonomic de-stake puller to reduce overexertion injuries - <http://stakepuller.com/>
- Walk Through straight ladder extensions to allow workers to step through rather than around the ladder at the top landing
- Use of BIM to engineer out difficult Fall Prevention anchorage points on complex building design projects
- Designated safety cell phone use areas on

projects that limit cell phone use in work areas

- No dry cutting/drilling of concrete...use of Hilti capture system
- Use of cones with striped paint for high visibility so pedestrians don't trip on fence base
- Vehicle pre-trip and run over back over prevention “Circle for Safety” plan is used with a magnetic sticker that is moved to another position after check is done
- Hand drill motors that are equipped with anti-kickback devices
- “Innovative Idea Challenge” process...a method to encourage solutions to difficult safety challenges....most recent...a bar code attached to a tool whereby the employee/foreman scans to code and a short video clip comes up on their phone with how to safely use the equipment
- Job Site carts with large diameter wheels to move tools and materials around project at waist height to reduce back strains/injuries
- Use of High Tech Knee Pads to reduce discomfort when performing kneeling tasks
- Set up Oasis locations throughout the project, with shade, water, etc.
- Engineering controls to address safety concerns presented by the steep roof. Developed site-specific crane procedures to separate pedestrian and vehicular traffic, which governed crane placement, truss storage, and operation hours. The design minimized boom rotation into sensitive areas and avoided peak facility hours for hoisting operations. Fall protection systems were adapted to accommodate body harness connections within the complex truss system. Two specific fall arrest systems were used: continuous engineered static cable allowed carpenters to fasten to and move freely along the cable; retractable fall limiting devices, anchored incrementally, protected carpenters maneuvering on the sloped trusses.
- During construction of the six story tilt-up

- Client project, installed safety cables in the window openings of all panels prior to erection. This building is one of only four, six story tilt wall buildings in Texas. The building's walls are composed of a lower four-story panel measuring sixty feet tall with a two-story panel measuring 35 feet height stacked on top.
- Daily Huddles on projects are conducted to identify hazards and we then apply the Hierarchy of Controls in order to mitigate the hazard down to the lowest possible risk level.
 - Contract to furnish and install nearly 700 lineal feet of 22 ft tall Operable Partitions. The 170 panels were each 22 feet high by 4 feet wide weighing over 1000 lbs each. Crew designed and fabricated unique tooling to dramatically simplify the panel handling and raising operation. The safety tooling required half of the manpower previously required; the tooling also eliminated strenuous and potentially dangerous manual lifting. (PICTURE)
 - Designed fall protection system of stanchions and temporary horizontal lifelines continually advancing with multiple leading edges. The metal decking scope was complicated by the numerous sloped triangular sections forming the roof canopy.
 - Had to drill large deep shafts under high voltage lines where the drill rig would be in close proximity to the lines. Devised a plan to have the lines taken out of service and an electrical contractor was contracted to hold the lines away from the drill rig so as not to come in contact with the lines causing any damage when they were re-energized.
 - Cattle gate system to protect the open holes until they could be completed. Idea came from employee safety team.
 - Fall Protection - 100% retractables, no lanyards allowed.
 - Eliminated step ladders and now only use either platform ladders or aerial lifts.
 - Utilize daily job rotation to reduce the duration, frequency and severity and exposure to hazards related to manual material handling overexertion.
 - Superintendent worked with the masonry and reinforcing steel subcontractors to coordinate the grout lift heights and rebar joint breaks so when the masonry subcontractor completed each floor, the CMU walls would be 42" above the planned floor elevation to provide fall protection for all subsequent trade work.
 - Use table 1 compliant attachments for all work tools, when working with materials containing crystalline silica. Also, arranged for the tool manufacturers to come out to jobsites and train all of our workers in the proper procedures to follow when using the tools and cleaning out the attachments.
 - Mechanical brooms are red-tagged when water sprayers are not working.
 - Enhanced horizontal lifelines splice connections by using thimbles designed for splicing connections. This provides a tighter clamp connection and was proven during a drop-test.
 - 3-D Lift computer software used to create all critical lift plans, and are reviewed by a team of qualified employees including the operators.
 - On a bridge project engineers developed an overhanging debris containment system that attaches to the bottom side of the bridge. The overhang was designed for 55 psf. or 250lbs. concentrated load at any given area. It was an engineering control for debris containment, walkway and guardrail for employees, eliminated the use of fall protection.
 - On a highway project reduced the amount of phasing from 8 phases to 3 phases by designing an asphalt road detour allowing traffic to shift away from the work zones and creating larger and safer work zones for employees and subcontractors to complete the work.
 - Use BIM for penetration layout, and

installation of fall protection anchors for MEP, and equipment and finishes on the front end. On a University project almost 1,000 anchors were installed with more than 95% prior to the concrete pour. This also eliminated the exposure to Crystalline Silica from drilling.

- Prefabricating high risk work such as electrical conduit racks, mechanical piping racks, water manifold systems, medical head wall units and prefabricated rooms in a controlled environment at ground level to reduce the risk of worker fatigue and muscle strains, eliminate/reduce fall hazards, eliminate/reduce overhead hazards, improve quality control and eliminate rework and the additional risk exposure associated with rework.
- Guardrails, warning lines, and PPE are used for fall protection. Do not allow monitoring as a form of fall protection. 6 foot lanyards are not allowed below 18 feet.
- Materials delivered precut and loaded on movable carts to eliminate multiple stages of material handling. The material carts and debris containers are table height along with our chop saw stations to receive material directly from our material carts and drop cut-off material directly into our debris containers helping to eliminating debris. We also added task lighting, fire extinguisher, emergency shutoff switch and a self-contained hepa filtration/dust & debris collection.
- Use prefabricated, trench box guardrails that secure directly to the trench box to eliminate the fall hazard and eliminate the hazards associated with Personal Fall protection PPE
- Addressed strain/sprain exposures involve the handling by pipe layers of tools such as jumping jack compactors and tool/material buckets weighing anywhere from 20-100 pounds. A craft employee committee was developed to design rigging that would eliminate the need for our employees to manually lift anything. The committee worked with our rigging supplier and produced an excellent product that has completely eliminated our risk of strain and sprains in the respective tool handling operations.
- Utilize Zonar vehicle tracking..... <https://www.zonarsystems.com/>
- Challenge: protecting structural metal deck installers when working over a lower floor. Previously deck installers always used a lifeline anchored to the base of the deck. In the event of a fall the slack in the lifeline and the fall arrest gear would not prevent them from contacting the deck 12' immediately below them. Solution: developed an engineered solution by fabricating a raised lifeline anchor post installed specifically for use by leading edge workers. With the extended height there is sufficient room to absorb the slack preventing contact with a floor.
- To address ergonomic use rolling stools to reduce kneeling, and the use of overhead drill presses to reduce shoulder and back injuries related to overhead drilling.
- Reduce equipment noise exposures by choosing the quiet package option for any powered equipment.
- Partnered with a local architect to offer construction safety engineering ideas to the AIA. Ideas included designing stationary ladders for roof access, and mechanical equipment placement away from electrical systems.
- Cord management program that requires all electrical cords to be run overhead.
- Developed Prevention Through Design program
- Incorporate anchor points for fall protection on the roof and handrail anchor points on the columns. Skylight design with railings or grills to prevent fall through. Set window sills or mullions at 40" for fall protection. Replace hazardous materials with more environmentally and health friendly products.
- Silica exposure from power brooms. Watered the affected area with a spray

system, installed enclosed cabs and air filtration system. Engineering changes helped to control the dust exposure to employees therefore eliminating the use of additional PPE. Controlling the dust it also created great visibility for other operators, workers, and the public.

- Wheel chocks used on all project site vehicles
- Underwater pile inspection method that utilizes an aluminum ring fabricated with several GoPro cameras attached and skateboard wheels using an electric winch to lower the ring down marked piles all while video recording/inspecting the piles for remote and repeated viewing. The engineered configuration eliminates the diver's exposure normally required in otherwise obscured areas typically utilizing manual inspections.
- Developed an engineered traffic control truck which contains an enclosed basket allowing employees to place traffic control without being exposed to live traffic
- Use work zone intrusion alarms to warn workers of vehicles which enter a work zone.
- Maintain an extensive supply of portable chain-link fencing on each project site, to deploy as-need to prevent access to hazardous areas ranging from temporary excavations to metal storage piles.
- Require stair towers to access elevated work levels rather than using ladders.
- To warn of overhead power line hazards painted construction barrels blue, added a blue light to the top, and attached a sign to designate overhead hazards.
- Electrical contractor faced a challenge with an unsafe change in elevation when exiting a trench box. One of their employees designed & fabricated a metal step that hooks onto the side of the box and creates a safer egress for their workers.
- Study work sequencing opportunities to minimize risks. Examples include early installation of stairwells prior to vertical construction to ensure safe access, and building roof trusses on the ground then lifting into place to reduce fall exposure.
- Site hazard delineation by cordoning off hazard level areas based on yellow and red level dangers using designated rope and signage vs standard plastic caution tape
- Pre-load construction materials prior to building enclosure with equipment vs manpower providing safe work progress, reducing slips, trips, falls
- When faced with working on a controlled decking area, attached the shear pins at the shop in a safe secure environment. This allowed for 100% weld of every pin on a 8 x 8 piece of angle iron, allowing the erectors to simply mount the angle iron in place and not have to put anyone at risk on a leading edge.
- Risk Identified and engineered out from a work plan was to use a GoPro camera to monitor a confined space test rather than expose an employee to the hazard.
- Pnuemagophers do not come with visual/auditory warnings or automatic shutoff if it comes in contact with an unknown electrical circuit. Built their own "Zap Alert" system to provide continuous testing for potential energization, visual/auditory warnings, and automatic shutoff of all attached equipment to prevent a potential shock hazard to employees.
- Old safety design required employees to traverse a ladder and work from a small platform with limited fall protection and a slow process for transferring of asphalt loads. The new design allowed for a "modern floating" platform to be built providing employees 100% fall protection as well as a more economical easier platform from which to transfer material.
- Strains/sprains are the frequency and cost drivers for the company. Teaching the employees the value of intelligent layout processes, efficient installation procedures, and other similar processes designed to reduce the risk as much as possible.

- Trained Operations personnel to find new ways for non-energized work situations. They educate our clients about the situations. As a result, the number of energized work exposures has decreased 80%.
- Head protection with integrated eye protection <https://www.kask-safety.com/>
- Engineered vacuum head box to control silica dust when cleaning out ground level concrete seams. (Picture)
- Electrician no knife policy ... working with DeWalt to develop a porta saw with artificial intelligence to sense when 2 hands are not on the cutting device
- Contractor working with Perdue University to develop and utilize augmented reality 3-D modeling techniques to prevent underground utility strikes.
- Employee designed rebar guard to eliminate fall potential and fall protection
- Require all power hand tools to be battery operated to eliminate the trip hazard of cords on the project.
- Automated truck “soap ?????” dispenser - driver never gets out of truck
- Provide highway construction traffic control flaggers with Timberland anti-fatigue boot inserts to relieve foot fatigue and increase blood circulation. <https://www.timberland.com/shop/timberland-pro-anti-fatigue-technology-insoles-91621000>
- Safety director is included and consulted during the pre-bid phase of upcoming work for input on safe work engineering and administrative issues
- Senior management has a performance expectation for each project team to submit a new safety innovation per project
- Working on a task force with the state DOT to develop innovative solutions based on local weather and traffic patterns to provide early warning to work zone instructions on highway projects.
- Have devoted significant resources to identify leading indicators that are real leading indicators. Kaisan techniques and Total Quality Management are used to guide the process. The process has led to the “Practice makes Perfect” process of change and measurement for the contractor.
- To control Silica from power broom dust added, closed cabs, better filtration filters for the operator, along with a water spray bar. Results; eliminated the use of respirators, created better visibility for subcontractors-public drivers-operators passing through the project, and kept local business owners happy.
- Use handrail system next to trenches rather than Personal fall Arrest System
- Use of BIM to identify underground utility conflicts prior to excavation to reduce the risk of employees being exposed to an open excavation more than necessary
- Light rail contractor designed excavator buckets for removing ballast from between cribs between ties to eliminate exposure to overexertion injuries from hand removal. Increased productivity reduced risk.
- New road working heavy equipment is ordered with the more expensive “quiet package” to help workers hear backup alarms and reduce the potential for runover-backover accidents.
- New hand tools are ordered with ergonomic feature like the Bosse ergonomic shovel and other tools. <https://bossetools.com/>
- Changed the way of forming long span parking structures that had been done the same way for 27 years. Redesigned the collars, making them lighter and safer to set, and at the same time tripled productivity. Instead of using wooden Ellis shores (which were heavy and always posed a risk for pinching fingers) they went to aluminum pole shores which were much lighter and easier to handle. They changed the steel frames and beams, and went to aluminum frames and aluminum stringers.

- this made the beams lighter and easier to lift and much safer than steel beams.
- Developed a wheel chock procedure which is audited for subcontracted trucks which helps prevent trucks from leaving the work zone with beds raised.
- Underground subcontractor is using a modular handrail system instead of cable or retractable lanyards on city street excavations. The system can be moved along a linear work zone by a single employee. The system can be as short as 5 feet or scaled as long as required. A proactive approach to a hard to control fall exposure in tight, deep, excavations on city streets. (Photo in Blois PowerPoint)
- Underground contractor eliminated the risk of sending workers into large diameter piping to complete a visual inspection. Company developed a robotic vehicle with camera's to complete the inspection of future piping without exposing their workers to Confined Space hazards. Resulted in better quality inspections and inspection documentation for the owner.
- Researched and found prefabricated rated trench box guardrail system that are designed to secure right on the trench box. Controlled falls into trench and eliminated the hazard of using lanyards and retractables around moving excavation equipment. <http://www.guardianfall.com/performance-safety-products/anchor-points/product/trench-box-guardrail-receiver>
- Contractor had to install 1.2 million square feet of COIR matting with biodegradable stakes. Previous process was to bend over and drive the stakes which required deep bends at ground level risking overexertion strain injuries. Found a commercially available stand up stake driving tool that made the task ergonomically more acceptable and reduced the risk of muscle strains.
- During a bridge move, the project manager engineered out the hazards with a catwalk and handrails instead of a horizontal lifeline. This created a safer environment for the employees to perform their job and was a time cost savings since they could perform their tasks without using fall protection. The 379 ton bridge was moved in one piece 24 hours ahead of schedule due to built-in safety efficiencies with zero injuries. (Pictures)
- Deployed a rooftop anchor system to ensure fall protection restraints are available on any job. This system enables work on rooftops or flat surfaces that don't have anchor tie-off points. Now, employees can either use a fall restraint system or fall arrest. A fully contained case was designed and built to allow for easy transport. (Pictures)
- Field leadership designed, engineered, and built a gantry turntable for bridge crane removal and installation. The turntable can be used with the 250-ton, 450-ton and 550-ton gantry systems. The overhead bridge crane is lifted off the rails and rotated with the turntable without the use of other equipment. Once the bridge crane is turned and clear of the rails, it can be safely lowered to floor level. The past this process required multiple material handling machines, which was extremely cumbersome, and posed potential risks with multiple pieces of independently operated equipment moving in tandem. This tool has removed 50% of lift equipment needed. (Pictures)
- Use remote controlled skid steer loaders for elevated demolition applications to reduce the risk of operator injuries during high hazard work. Drones are used as the eyes of the operators when directing the remote controlled skid steers.
- Utilize plastic "S" ceiling hooks for all electrical cords to keep cords off the floor, facilitate better debris removal and cleanup, and reduce the risks associated with the #2 most costly Workers compensation injury; Falls on the same Level walking surface.
- During a large concrete pour rather than having workers manually handling and

using vibrators which increases their risk to overexertion injuries, vibrators were mounted on mini-excavators to eliminate the exposure.

- On a structural steel project the sequence of work was changed to allow for structural steel to be connected on the ground, rigged, and moved into position after bolt up. Changing the sequence reduced the risk for many hours of employees being exposed falls from heights.
- Utilize a prefabrication operation which uses prevention through design techniques. Operation has eliminated several hazards because work takes place in a controlled environment where crafts are not working on top of each other and most fall and ergonomic hazards are eliminated.
- Installed brackets on parapet walls to extend the height to prevent falls from roofs.
- Designed a ventilation system for indoor exhaust
- Designed a dust collector (bag house) for cutting masonry block
- Utilize a “Nothing Hits the Floor” program which controls overexertion and falls on same level working surfaces
- Contractors steel fabrication shop employees were exposed to falls while loading steel beams on a flatbed trailer using an overhead gantry crane. Employee made the suggestion of pulling another empty flatbed alongside the one being loaded creating a nice walking area beside the flatbed being loaded. Fall arrest is still used, but there is much more room to position steel beam members as they are loaded and tied the load down after loading.
- Masonry contractor invested in a Spyder crane for setting large stone panels mechanically rather than manual labor from a forklift. Reduced the risk of overexertion injuries from manual setting of stone. The work method change also increased productivity by 30% <http://www.spydercrane.com/>
- Grading contractor designed an A-frame structure with an overhead rail and 2 trolley mounted retractable lifelines for the 2 workers who have to get into the bed of every load. Previous system was scaffolding on both sides which did not give full fall protection when going inside bed of hauler.
- Task was manually placing 20 tons of sand into an interior filtration vault with a skid steer loader then transferring to the vault manually with wheelbarrows and shovels. Designed a pneumatic conveying system that eliminated wheel barrowing and shoveling and the risk of overexertion injuries from manual transfer to the vault.
- To minimize saw cuts in the field, adjustable floor hole covers are utilized where possible. <http://www.paragonproducts-ia.com/hole-cover-c-298-l-en.html>
- Use of engineered platforms over excavated or uneven surfaces to complete project construction above unsafe areas resulting in lower risk of fall same level injuries and continued facilitation of the work.
- Preload construction materials with use of equipment vs manpower prior to building enclosure to provide efficient and safe progress of the work and reducing slips, trip, falls and strains.
- Developed a fall protection system that consists of cabling barrier installed six feet back from the perimeter of the building and on all open shafts. The posts and cabling are put in place prior to concrete being placed on a floor and remains for the duration of the project.
- Installed elevator shaft divider beams before forms are taken down so the workers can install them on a deck instead of having to erect scaffolding floor to floor.
- Choose formwork which allows for easy access, movement, and setting to reduce

overexertion and fall risks.

- Instead of exterior long ladder access to scaffolds, company installs single level hatch plank ladders that do not require long climbs to access scaffold levels
- Use of silent core cutting blades to reduce dust inhalation and noise exposure
- Incorporation of RFID technology into safety vests that communicate a worker's location to receiver units in heavy/mobile equipment, as a protective measure against run-over back-over incidents.
- Use of reusable slab clamp on edge protection rather than PPE on bridge deck work (Picture)
- Extreme Housekeeping program (see attached sample)
- Opportunity for Improvement Form for workers. \$\$\$ Rewards for applied ideas, part of Total Quality Management Program
- Project management evaluates the work in the planning stages to focus on Phasing the work to mitigate risks to workers. Example: phasing the work so workers can be protected greater distances behind barrier walls or away from traveling public than was shown in the project plans. Also phasing as much work during the day to reduce night work which has more risk.
- Purchasing motorized construction equipment with the quiet package to reduce and engineer out noise sources and levels around workers. The link to this document from The Laborers' Health and Safety Fund of North America further discusses reducing noise on construction projects <http://www.lhsfna.org/files/bpguide.pdf>
- Fabricated a tractor mounted bar to place geotextile fabric on the subgrade mechanically reducing significantly the manual handling risk to workers and made the placement of the fabric more efficient.
- Working with a local university's construction management school, going forward stair towers will be used to gain access from the ground to the 1st floor of the building. Motto "you should be able to walk, not climb to your work area"
- Working with a local university's construction management school . A new guardrail system that takes less time to set up and provides more consistent and reliable passive fall protection than wooden guardrails is being used on all projects. Rapid EPS <http://www.rapideps.com/us/index> - The cost is roughly \$1.25 a linear foot and is reusable. The photos show use on a stairway and on 2 elevator shaft openings
- Off site fabrication of mechanical piping and plumbing along with patient bathrooms and headwalls reduced which made the tasks safer and increased productivity.
- 100% glove policy for all employees, level 5 cut resistant
- Coordination and planning between the steel erector with the steel fabricator to pre-engineer thousands of engineered connection plates for; individual tie off points, HLL anchor locations, and a bolted outrigger system that supported a pre-engineered walkway system used to access work points for ironworkers, welders, surveyors, and QA/QC 3rd party inspectors on the project.
- Focus on "Ladders Last" program has moved work from ladders from 90% to less than 5%. All aerial work 95% is now performed from Ariel lifts, scaffolding, and Baker scaffolding significantly reducing the risk of ladder falls.
- Ergonomic "cut station" for sheet metal cut saws to keep the work task at waist level reducing the stress on the back and the potential for back strains. Mobile storage carts and dump buggies for cut off waste also reduce the overall risk of back strains and improve the ergonomics of the task.
- Local code inspectors caused the sequencing of MEP installation to be more hazardous because some trades had to jump ahead and install their utilities out of sequence. This caused the increased risk of more use of ladders, scaffolds, and

lifts. A group of contractors met with local county/city code inspectors and asked that the inspection sequence be changed to accommodate safer work practices. The code officials agreed to change their inspection sequence to accommodate safer installation practices by the contractor(s). Quality and production also improved. This was historic, no one has asked them to change the sequence before.

- On jobs a dance floor scaffold is built over open ceiling areas as an alternative to using lifts, ladders and otherwise less safe alternatives.
- Post OSHA violation - designed pre-fab temporary electrical panels which eliminated the need for removing front covers to access the installation and removal of conductors from the circuit breakers.
- Developed a formal agreement with national fall protection vendor to immediately notify company of any technological advancement in Fall protection systems so workers will have the latest and best safety equipment
- 100% retractable lanyard policy
- Utilization of “Twist Lock” cord connections for temporary lighting which reduced electrical risks
- Pre-work infrared illumination images of electrical panels to help warn workers of high temperature potential electrical issues prior to work
- Project engineers design anchorage points and review location and specs with all workers and subs who will be using the anchorage
- Designed noise reduction enclosure panels to keep high noise level operations contained. Use sound level meters and dosimeters around to outside of enclosure to validate results.
- “Nothing Hits the Floor” program to reduce Falls on working surfaces. Debris containers are planned and place in strategic locations

with large casters and lifting eyes so full containers don’t become a overexertion problem.

- Construction materials are delivered on pre-loaded and stackable carts to reduce the risks of multiple unnecessary handling of material, which reduces overexertion exposure.
- Designed material carts and debris containers to fully integrate into ergonomic chop saw stations. The stations are convenient and mobile. The Chop Saw stations are pre-built at a standard height as to receive material directly into debris containers to eliminate multiple handling. Built upon a narrow cart design, they easily pass through doorways without the need to be broken-down or modified. They have a self-contained HEPA filtration/dust & debris collection system, as well as an integrated backstop, task lighting, fire extinguisher, GFCI and emergency shutoff switch. The system blends safety, environmental health, productivity and lean principles. (PHOTO)
- “Ladders as a Last Resort” program has eliminated ladder use completely. All work done from powered personnel lift equipment. Project engineer and Superintendent plan work sequence to facilitate the program.
- Use of BIM and Trimble technologies to reduce congestion and noise issues on project
- Use of BIM to pre-place pipe rack hangers above the floor which is ergonomically lower risk. Eliminated drilling from below on scaffolding, lifts, and ladders. Also reduced exposure to Silica dust from drilling overhead.
- Developed a scaffolding system with overhead A-frame fall protection anchorage points on trolley’s for retractable lanyards. Used to access the beds of haul trailers safety when lining with plastic sheeting for contaminated soils
- Transferred the risk of a 220’ in the air demolition project fall risk to workers to a

- Brokk demolition Robot equipped with a Go-Pro move the worker from a 220' crane basket to inside a trailer doing the work remotely. (PHOTO)
- Air operated Genie lift with specialized cradle to hold ceiling ductwork in place while worker in lift connects the duct.
 - Deadman Block redesign based on employee suggested resulted in elimination of repeated drilled holes that could weaken the top of the block. Now use permanent metal attachment rails and fork pockets so the blocks could be moved with a manual or mechanical lift truck. Results: safer attachment point for blocks and improved production by freeing up the tower crane for block movement
 - Use "Gikin" silent pile driving machines to reduce noise levels to below 85dBA <http://www.giken.co.uk/product-range/giken-eco-1400s-slient-piler/> You Tube Video <https://www.youtube.com/watch?v=dEkcuJTl5qk> https://www.youtube.com/watch?v=M5FqzeV_bC0 (PHOTO)
 - Risk reduction device was created in-house that eliminated pile drivers from climbing the leads to align the pile (PICTURE) Great lakes Const
 - Designed a vertical jack hammer mounts which alleviated workers from manually holding the hammers. Resulted is lower risk for muscle strains and vibration.
 - Use of remote control compactors and GPS survey robots to reduce people congestion which reduced crushing and struck-by hazards
 - Workers are issued padded knee pads so they can get closer to low level work for better body mechanics and risk reduction for muscle strains
 - Designed shoring slide rail system to protect workers in boring pits
 - Devised a Fall protection system for working on existing narrow concrete beams with embedded stirrups
 - Tie back anchorage points are poured into each column for roof and interior leading edge anchorage points
 - "Left of Zero" program Innovation: A paved and internally heated primary building workers access walkway that will keep the access ice free preventing falls on the same level.
 - "Left of Zero" program Innovation: Placing porta-johns on the heated access way preventing falls on the same level
 - "Left of Zero" program Innovation: Pre-planned and design material handling pads to facilitate material storage.
 - "Left of Zero" program Innovation: Pre-planned layout for extension cord "mains" located above the floor and door headers.
 - "Left of Zero" program Innovation: For buildings with parapets, spec the design to be high enough to serve as a permanent perimeter guardrail.
 - Innovation: reusable concrete anchorage points required a certain size drill bit. Drill bit and anchor are now issued together in a protective tube
 - A guardrail boot is mandatory on projects to standardize the passive fall protection system and make sure guardrails are durable and meet standards. <http://www.safetyboot.com/>
 - Engineered guardrail systems are mandatory for all projects. Smart Edge is used for leading edge elements <http://iwwinc.ca/products/smart-edge-protection-system>
 - Provide employees with company logo wicking type-3 shirts do dissipate heat during hot weather work
 - Use engineered platforms over excavated or uneven surfaces to complete project construction above unsafe areas. Reduces falls on the same level, and uneven surfaces for personnel lifts.
 - Put non-slip surfaces on all equipment decks and stepping surfaces companywide to prevent falls from equipment.
 - Tie back anchorage points are poured into

- “PE Day in the Field” Project Engineers must spend a full day in the field one-on-one with Safety Managers on an annual basis to share experiences both ways.
- Guardrails are placed next to open trenches rather than a Personal Fall Protection System. This is a consistent company policy for all open excavations 6’ or greater in depth
- Designed buckets for removing ballast from between cribs between rail ties to eliminate work by hand. Reduces the risk of overexertion injuries to workers.
- Developed an underwater steel pipe piling inspection method which eliminated the risk to divers who previously performed the inspection, The system uses high definition GoPro cameras mounted on a ring which is lower down to stream video to the inspection engineers. The innovation eliminated worker risks, and resulted in a higher quality inspection process vs the diver looking through his diving mask to inspect. Safety, Productivity, and Quality all significantly increased. (PHOTO)
- Created a policy requiring all equipment and equipment rented, especially equipment used to lift personnel to have the most current state of the art redundant safety features available. Prior to the policy we found we were getting older non-updated rental equipment which exposed our employees to hazards that technology has engineered out.
- Purchased “Safe Approach Flange Clamps” to enhance the safety of fall protection system anchorage points (PHOTO and WEBSITE) Advanced American Constructors Steve Summers 503-445-9000
- Evaluation of packing process and quantity of packaging materials reduced worksite clutter, amount of trash removal and contributed to a sustainable production goal by reducing wasted materials
- Equipment, product, and material rule that required initial delivery to be within 30 feet or 30 seconds of the location where equipment/material to be used in effort to reduce waste and injury potential associated with manual material handling.
- Materials/assemblies/forms pre-fabricated off-site and delivered “just-in-time” for assembly/use.
- Manufactured pre-assemblies designed by BIM they have made work much more efficient and reducing material handling exposures
- Highway and Road projects use of intrusion alarms on traffic cones. Use the Zello Walkie Talkie app for instant communication with cell phones that act like a walkie-talkie`.
- Use the CCI program to design out material handling hazards such as a jack hammer stand. The recently designed a “claw” to work from the ground instead of a ladder or otherwise elevated.
- On school and higher education jobsites they use social media to communicate safe footpaths to students
- Purchased new rack trucks with hydraulic gate loaders to reduce muscle strains
- During the erection of the prefabricated structural wall panels where not especially heavy could have been lifted onto place with a 50-ton telescopic crane. Decided to use a 150-ton crawler crane. The smaller crane would have been more nimble but would have required numerous crane pads and a much larger controlled access zone. The larger crane allowed for fewer fixed crane pads and smaller controlled access zones. The resulting site logistics and safety plans were simpler and static, which enhanced our ability to sequence the adjacent work, to convey the sequence to the workers and reduce worker exposure to risk.
- Risk issue with fall hazards along a trenching operations. Replaced standard PFP systems with physical devices designed for vertical building construction with handrail systems that not only eliminate the fall, but to eliminate the hazards created by PFP system.

- Prefabrication of MEP systems; Laser scanning decks prior to concrete placement to help prevent line strikes; Cover all temporary and permanent power duct banks in concrete regardless of requirements. Also use technology to limit exposure. BIM modeling is used to identify anchor points for fall protection, areas for leading edge handrail as well as inputting site utilities to avoid line strikes. Use BIM to inform sequencing of work scheduling to ensure trades are not exposed to unnecessary stacking. We also use Matterport which is a software that uses 360-degree photos to document in-wall conditions to prevent utility strikes. <https://matterport.com/industries/architects-engineering-construction>
- Core construction used Aluma Gangwall form systems. Employees were having trouble utilizing fall protection as required while building the form system. The foreman implemented a static line for use on the forms to achieve easier and better protection during this operation. This was accomplished by extending the very outside 2 strong backs into the design, then installing 2 picking eyes and turning them around to install an engineered static line. Because the system allows the self-retracting lifeline to move with the employee, the workers were also protected from swing falls.
- Issued new style head protection with chin straps. A week after issuing the safety helmets, an employee was hit on the head from a glulam beam. The beam free-fell approximately 5' striking him directly on his head. The helmet's extra protection and chin strap did its job. Other than a sore neck, the employee did not sustain any head trauma or significant injury.
- Projects are planned to utilize equipment and machinery to reduce employees' exposure to injuries while carrying heavy materials by hand. This also allows our crews to use fewer ladders on the job.
- Require guardrails everywhere and anywhere possible on jobs even if the fall hazards are below 6' to reduce all fall hazards and time spent wearing fall arrest systems. Have designed mobile work platforms that take the place of scaffolding and allow employees to work free of falls on the job
- Engineering - add additional jersey barriers than what were indicated in plans, install sheeting when necessary at our own cost, utilize additional shoring and trench systems even when competitors do not.
- The underground leadership team led a committee that developed a new underground utility damage prevention program that has reduced our at-fault underground utility hits by 87%. The upgrades in the program included the purchase of a hydrovac truck and creating a crew to operate it that services all of our projects' potholing needs. This also reduced the potential of injuries related to laborer hand shoveling operations. Once utilities are potholed the lines are GPS located and mapped for use throughout the project.
- Underground Manager in cooperation with our Structures Manager designed, certified, and had built a guardrail platform system that would fit on the top of manhole structures to provide safer access with a confined space tripod system.
- "Recently implemented SmartDrive's video-based safety program to enhance fleet safety efforts, reduce unsafe driving behaviors and minimize incidents on the road.
All company vehicles have been equipped with SmartDrive technology, which monitors drivers while their vehicle is in motion and sends alerts based on triggering events such as abrupt braking. The SmartDrive System has allowed us to identify areas of concern and mentor our drivers on safe driving habits in hopes to prevent accidents.
Within the first six months, we saw a 100% reduction in rear-end collisions and a 96% improvement in their SmartDrive safety score. <https://www.smartdrive.net/>"

- The Business Development team has been assigned a dedicated Safety Specialist who is committed to assist with all aspects of pre-planning and proposal development, such as project safety costs and implementation of engineering controls. This direct involvement from the safety team allows us to mitigate and/or plan for anticipated hazards before the job begins. An example of these engineering controls is the introduction of our HEPA-Filtrated cabs to eliminate exposure to airborne dusts/silica which have effectively removed potential hazards.
- Partnered with PureGPS to provide instant feedback to management about all employees that operate fleet vehicles and equipment. With this information, we are able to provide training, track trends in driving habits and effectively reduce exposure and risk to our employees and the public. We have witnessed a significant improvement to driving behaviors since the implementation of this program.
- While performing work off of a barge for dam repairs, the use of generators was a necessity for power supply. The noise levels were in the 80-85 db range, but was constant. To eliminate the need for hearing protection, an insulated three-sided shield was constructed. The generator was placed as far as practical from the crew work area and then the closed end of the wall was placed between the generator and the employees. This sound barrier wall deflected the noise away from the crew members. Crew members were excited by simply not having to wear ear-plugs.
- Sequence of Work - On a multi-bridge repair project in Charlotte, NC, our crews are were having to perform a lot of jackhammering operations. Instead of assigning this scope to one individual, crew members were rotating every 10 minutes. This was a small crew of six employees, so the outcome was that each crew members were exposed to the vibration of the jackhammer for only 10 minutes per hour. This proved to be a success and helped to eliminate fatigue and possible strain injuries. In addition to this crew rotation, anti-vibratory gloves were purchased/ utilized; positive feedback received in regard to this PPE selection.
- The design team has implemented a note section on their drawings that outline expectations that need to be followed through deliberation with safety on areas of the project that could create risk as identified through certain tasks. (Steel erection, excavation, silica exposure, etc.) this allows us to review and maintain safety in design through engineered controls such as isolation barriers to protective systems or even administrative controls if necessary.
- Utilized prefabrication shop to build a majority of the lighting fixture packages, the electrical home runs and support racks, and the electrical power distribution panels. This effort saved the company thousands of dollars in labor costs. Workers were required to spend less time working at heights
- Design team designed a system to utilize the permanent piping for temporary power, eliminating the need for mobile temporary power stations and reducing the number of extension cords in use. This effort resulted in fewer trip hazards and exposure to energized electrical cords.
- Eliminated plastic danger and caution tape on projects reinforced or not. All areas that require delineation to note danger or caution zones or where authorized employees only are allowed will be barricaded using a hard-barricading system. This keeps paths clear and keeps danger areas consistently designated. Subs now provide and use the cone and expandable bar system. (Use Caplic photos)
- Management team worked to get the temp power stations off the ground and hung on the walls, or placed on stands. Having the temp power elevated allowed workers to plug in their corded tools and equipment without having to bend over which reduces back strains and extension cords were elevated to reduce the tripping hazards.
- Working with vendor partners to find

alternatives to lighting systems that require less energy consumption, are brighter than the OSHA lighting minimums, allow for easier install, easier to modify lighting as building becomes compartmentalized, and minimize the number of fixtures required to light an area.

- Pre-Fab Teams continue to pursue safer installation. For example, projects that have high bend repetition can have several conduits bent in a controlled environment with optimum body positioning, great lighting and without trade stacking or congestion. Racks can be outfitted to be installed as a skid, thus minimizing time spent with going up/ down to take measurements and installing conduits on-by-one.
- Utilizing virtual reality goggles to see the future project in place. This new technology enables our employees to identify possible installation conflicts and to see the final project. Additional benefits include identification of areas where fall protection anchor points need to be installed or moved to provide final placement for employees to tie off to.
- Employ certified drone specialists. They are able to fly a drone over projects looking at high risk areas, thus removing employees from being exposed to hazards.
- on healthcare projects use prefabricated temporary wall systems to contain dust and maintain ICRA requirements also self-contained HEPA filtration units work to filter harmful contaminants and maintain negative air requirements
- Project team included in their package one-man lifts to eliminate the need for ladders onsite
- Through our Motion Matters program we tested new tools such as duplex nail guns, cordless pipe cutters and even upper body exoskeletons to reduce wear and tear on the body. Videos of each study were uploaded into Stream and were shared company-wide
- Example of safety design during

construction is for the installation of guardrails on steel stairs. The vertical members used to connect wire rope for guardrails are installed once the stairs are placed. Wire rope is then stretched, and attached by the steel subcontractor and the installation of those as well as perimeter wire rope cable guardrails is always included in the contract. To go along with making the stairs compliant, and safe for use is that stair tread infills are pre-fabricated and ready to install once the wire rope guardrails are completed.

- Prefabricating the exterior skin (including metal stud framing, Thermax insulation, and miscellaneous steel for window openings) allows us to dry-in a building faster, creating a safer work environment. Prefabrication of building components allows for work to be conducted indoors, in a controlled environment where fall hazards are reduced, and exposure to sever weather is eliminated. Prefabricating interior items, such as overhead runs, offers the same safety benefit of building in controlled, ground-level environment. Building information modeling (BIM) is another technology that assists in constructing faster, higher quality, and far safer projects by allowing us to conceptualize whether a building's design is compatible with site conditions as related to constructability. BIM also allows for clash detection, minimizing rework.
- Recently were granted a waiver from the FAA to fly drones over active job sites (the first company in the US to receive this waiver), We have an initiative to integrate drone footage into their comprehensive safety management system. Have started employing drones to monitor large-scale activities that require large numbers of workers onsite, such as pouring concrete. Safety Managers can review the captured documentation, ensuring that everyone onsite is working in an appropriately safe manner. Our drone program can also view sloping of trenches and other safety conditions. drones also allows the project team to see the project site from a 3D view so that they can pinpoint risks early

on and therefore sequence the work in a manner that helps to clarify the schedule, understand the site constraints, and look ahead to potential safety issues. Sequence videos show which type of work will occur when, allowing the trades to understand their own work within the larger context and thereby preventing both errors and accidents.

- Currently piloting a Prevention Through Design program that engages the client, various stakeholders, trade partners, design team, and maintenance on one of our projects. The program identifies potential risk for work at heights, access/egress clashes, logistical challenges, utility work risk and scope gaps. The team creates recommendations and implements corrective action ideas during design phase of work. The recommendations are priced and captured in “Celebration of Wins Log”. Our wins and efficiencies gained in the program have received national attention, the will be included in the third edition of the national book “Advanced Safety Management: Focusing on Z10,45001 and Serious Injury Prevention”.
- Piloting projects throughout the nation for technology wearable devices that warn employees of emergency action notification, determine if an employee was involved in a fall, fatigue management, health and wellness bracelets. Piloting drone technology on specific projects with 3D modeling to design and build safer projects, and mitigate hazards such as excavation crushing hazards.
- The decking sequence was reviewed and modified so that horizontal life lines were able to be used above a worker’s head rather than workers anchoring at foot level to the deck as it was installed.
- A self-performed 14,000 piece cut stone masonry veneer project. There was little room to get mechanical equipment to help move materials to the scaffold, and a crane was not an option. This was going to result in a large amount of manual material handing for our mason and mason tenders compared to a job of similar size. We used proven ergonomic improvements from general industry and adapted them to our project. Rolling conveyor racks were used to move cut stones from one end of the approximately 125-foot-long scaffold to the other. This eliminated the need for workers to lift and carry stones or move stones with a dolly which would create an opportunity for poor lifting posture. The racks allowed the workers to lift and set stones on the racks and roll from one end of the scaffold to another.
- When working around underground electrical lines, electrical arcing is a serious concern. We observed the utility company utilizing a Quad pod set up with technora rope, which is a dielectric retrieval rope. We then removed 90% of our tripods and replaced them with the Quad Pod system with technora retrieval rope to create a universal non-entry rescue system for all our confined space entries. The Quad Pod can also be utilized to lower tools and equipment into confined spaces . https://www.3m.com/3M/en_US/company-us/all-3m-products/~/3M-DBI-SALA-Confined-Space-Rescue-Davit-System-with-Winch-8302500-Technora-Rope-50-ft/?N=5002385+3291827933&rt=rud
- We do work in proximity of energized lines sometimes within the minimum approach distance of 27 kV primary cables. To help protect our workers, we communicated with other electrical companies to find what are the best dielectric tools to help protect our workers from electrical hazards. From the information gathered and researched, we supplied dielectric shovels, prying bars, digging and prodding bars to go along with wearing dielectric gloves and overshoes to reduce electrical arcing immensely. Fire retardant clothing and arc-flash face shields are also utilized by any worker in proximity of energized lines to reduce risk exposure.
- To protect team members in the maintenance shops, a hydraulic lift system was developed and installed in order to replace the need for hand jacks when lifting

- trucks and equipment. This new lift system reduces potential injury from physical exertion as well as faulty, secondary support devices such as jack stands.
- Worked with a partner equipment manufacturer to redesign custom Reel Trailers to help reduce the potential for human error by incorporating automatic controls and safeguards
 - All corporate departments and each of our ten regional operations offices participates in Gemba walks twice per week. The Gemba Walk is an opportunity for staff to stand back from their day-to-day tasks to walk the floor of their workplace to identify wasteful activities. The objective of Gemba Walk is to understand the value stream and its problems rather than review results or make superficial comments
 - “Used our 5S program in 2019 to address slip/trip/fall incidents, and to support our lean construction practices.
 - 1.) Sort – minimizing the quantity of materials stored onsite by limiting materials to those that will be installed within a one-week period.
 - 2.) Straighten – establishing designated storage and lay down areas on projects and keeping materials off the ground and mobile through storage on racks, carts, pallets, bins, etc. .
 - 3.) Shine – requires immediate deposit of trash and debris into mobile trash carts (nothing hits the floor) and cords and hoses must be suspended off the ground to minimize trip hazards
 - 4.) Standardize – all contractors are assigned a color, and materials are marked as they arrive onsite.
 - 5.) Sustain – with continuous daily cleanup enforced, weekly composite crews are focused on polishing the jobsite. Results: The 5S program generated a number of innovative ideas from our self-perform craft and subcontractors around material storage and continuous cleanup. Since the launch of the 5S program in April, we have seen a 65% reduction in slip/trip/fall injuries.”
 - For the last four years we have been practicing Single Piece Flow (SPF) scheduling. With this process, we break a project into similarly sized or dense areas (instead of an entire floor), determine the best sequence, and then set a rhythm or takt time to complete those areas. This allows for a faster completion of the project, more efficient subcontractors, higher quality, earlier in place mock-ups, and a more safe work environment for our trade partners. Our experience is that safety is improved because contractors are working in less congested areas
 - We have engineering staff working in the corporate office that assists in engineering out hazards, designing anchor points and pick points of objects.
 - Maintain an extensive supply of portable chain-link fencing on each project site, to deploy as-need to prevent access to hazards ranging from temporary excavations to metal storage piles.
 - A major point of emphasis for us in 2019 was to eliminate ladder access to roofs by requiring stair towers on 100% of our projects. We continue to champion LEAN principals like rolling racks and cutting tables with waste drop containers, eliminating trip hazards and reducing back fatigue.
 - Upgraded our head protection when shown the statistics and the specs on the advanced helmets available today. Rolled out mandatory use of 3M SecureFit X5000 safety helmets. Despite early misgivings, they have been embraced and even lauded for their comfort and the feeling of safety they provide. https://www.3m.com/3M/en_US/worker-health-safety-us/solutions/securefit-safety-helmet/
 - Backing was one of the most frequent and serious hazards we faced. We have adopted a “Forward First” policy in which employees are trained to park so that they can drive forward rather than backing. New trucks and equipment are being purchased with backup camera systems already installed, and a number of older

trucks and equipment have had backup camera systems and additional mirrors installed. All trucks lacking a backup camera system have had G.O.A.L. (Get Out And Look) decals affixed to the mirrors (with associated training), and we require a spotter whenever backing in the blind.

- Rather than sending a worker down into a large permit required confined space, rigged up GoPro cameras with LED lights and lowering it into the tank to video internal conditions might provide the necessary outcomes. The results were amazing! All of the internal hazards were eliminated. No personnel entered the vessel. Client was extremely impressed, and the video served its purpose so well that the client scheduled future repair work as a result of the video.
- Our sheet metal superintendent worked with our sheet metal fabricator to layout and prefabricate the duct risers so all field joints could be connected at chest level and all duct supports installed at ground level. This completely eliminated the need to assemble ductwork off of ladders or do any overhead drilling for anchors to hang the duct – both of which represent common opportunities for injury in our line of work.
- Open roof exposures such as skylight opening are not cut in through the roof until the skylight is on site ready to be installed. The area is barricaded off until the skylight is installed and protection of the skylight is in place.
- Worked with the product development team of a bandsaw manufacturer and gave them the idea to make a bandsaw that only operates with two hands on the tool. The idea was to have a trigger like device on both the top and bottom handle of the bandsaw causing the tool to disengage when neither hand is on the handle. This new development has encouraged other tool manufactures to develop similar products for safety and making our company safer and other companies as well.
- Utilize test boxes and chicken switches for reducing exposure to employees when performing electrical work. The best way to prevent electrical exposures is to perform the work de-energized and creating the safest work environment possible. Test boxes allow for our employees to check absence of voltage, check voltage readings, and rotation without having direct contact with the electrical system. The test box is designed to be connected to the system in a de-energized state, when the system is turned on the test box is located at a safe distance and out of the way where readings can be taken with voltage meters and measuring devices that allow for test prongs to be plugged into portals measuring each phase giving the necessary readings.
- Utilized a high-tech installation process which was the first of its kind in our 107-year history. This process virtually eliminated all fall hazards for a major portion of activities; no work from ladders, no work from scissor-lifts or platforms. We were able to accomplish this by taking 3D modeling to unprecedented levels, modeling the entire overhead conduit system. In turn, this allowed us to layout and install 90% of boxes and supports before any concrete was poured into the metal pan-decks between flooring. From this layout, we drilled holes into the metal pan-decking, dropped aircraft cable through to the floor below, where prefabricated assemblies were attached to the cable, pulled up and fastened by the crew above – all work performed without ladders or scissor-lifts, despite the 17-foot expanse between floors. This process eliminated literally thousands of trips up ladders and scissor lifts for our crews.
- Prior to starting construction activities, we will capture an underground survey using GPR (Ground Penetrating Radar) for boundaries that are not covered by public locate services. This survey is available for subcontractors to review at all our jobsite trailers
- Faced the unique challenge of removing 2000 timber piles, mostly all below water

and full of debris, presented a hazard to our crews. Instead of sending divers to locate the piles or putting crews in the piles field we developed a patent pending extractor system that allowed the crane operator to place the hammer over the pile, vibrate it the mud, clamp the pile and extract it.

- Developed a system requiring workers to tie off while climbing scaffold ladders, gang ladders, ladders over 10', and have installed handles at the top of gang ladders to allow safe access while climbing on and off of them. We developed a fall protection system consisting of a cabling barrier installed six feet back from the perimeter of the building and all open shafts. The posts and cabling are put in place prior to concrete being placed on a floor and remains for the duration of the project
- When we have a cable system that is not for tying off, we use a different color mesh so workers can easily recognize it. Another example of engineering controls is putting in elevator divider beams before forms are taken down so the workers can install them on a deck instead of having to erect scaffolding floor to floor.
- We use cattle guards as barricades to maintain minimum approach distances for fall and electrical hazards on the jobsites.
- Company utilizes a hand-held wireless, remote control device which permits the user to control certain functions of the device in portable traffic signal trailers. The user can take control of a running signal operation and stop all traffic by a push of the "STOP" button. Normal operation of the signals are returned by pushing the "Resume" button.
- Our ownership has provided us with access to all dustless equipment that our workforce needs to be successful in reducing exposure. We use dustless grinders with the appropriate dust collection systems, water attachments for all handheld power saws, water attachments for jackhammers and rivet busters, and vacuum attachments for any core drilling. Along with all of these

engineering controls, we have our own personal sampling pumps to determine any exposure we may have a variety of hazards.

- Biggest struggle is not being asked to participate early in the design with the GC to engineer a means of fall protection.
- Use the Corp of Engineers critical lift plan which is above and beyond OSHA. In addition to the critical lift plan, we also have a huddle prior to the lift to make sure all parties are on board with the specifics.
- Have had good success in convincing owners that power can be interrupted in order to complete work...and in fact, shutting down the power is often necessary to ensure worker safety.
- Limiting string lighting to running wire and installing a temp lighting device in the location of a what will be a permanent structure. Thereby solving the age-old problem of poor lighting on construction sites.
- Using suction cup mechanical lift tools to lift and place roof pavers on commercial jobsites.
- RFI system allows a way to advise the need for general lighting that the project owner isn't always aware of.
- Through prefabrication have dramatically reduced the need for jobsite ladders over previous methods.
- Develop a preconstruction traffic and access plan for all jobs
- Silica was a big challenge so they found CLEMCO which is a company that makes a spray wand that uses water and air to blow out concrete joints that results in no measurable respirable silica dust. This engineers out the exposure. <https://clemcoindustries.com/>
- Use beacons on concrete saws to identify where the machinery is during work. This is especially useful at night.
- Built an automatic straight edge device for

- finishing pavement. Big savings in labor but also a big reduction in ergonomic exposures.
- Fabricated a tool to keep workers away from pinch point hazards when placing precast or tilt up panels. This allows the work to be done while eliminating the pinch point hazard.
 - Manage project OSHA lighting expectations to include adequate room by room lighting after compartmentalizing
 - Use drones to study worksite traffic patterns
 - Have moved away from using ladders and use lifts instead when necessary. We have displaced over 50% of our ladders to date which means we have better control over the work areas we use. This also takes hours off our bids and saves labor costs to the owner.
 - Company recognized safety issues involved with manually handling materials and has purchased “Exoskeletons” outer sleeves for lifting objects that are lightweight and reduce arm injuries to employees.
 - Require materials to be stored on carts – nothing on the floors. Rolling carts are to be used for moving materials whenever possible. All power cords are to be suspended. Company mitigates dropped object accidents by requiring tools to be tethered.
 - Decibel readings of equipment are obtained frequently in order to assure personnel that the company “Hearing Loss Prevention Program” is working.
 - Company invested heavily in Hydro-demolition equipment. This is a new way of performing demolition work. This process is quicker, uses less workhours and keeps the employees a safer distance from the demolition. http://www.waterblast.com/uploadedFiles/Site/Service_and_Support/Resources/HydroDemolition_Brochure_Web.pdf
 - Developed a patented Pile Cutting machine to cut concrete piles safely and efficiently. The machine takes one Operator working in a climate controlled cab away from the risk of cutting, to cut up to 200 piles a day. The previous method would take two operators manually sawing the piles at the rate of 30 a day, exposed to the risks of the chipped concrete and the struck-by/caught-between risks of swinging of the pile once it is cut. Productivity is increased and fatigue is reduced by reducing the hours it takes to perform a task. (Photo)
 - Company invested heavily in Brokk robotic demolition equipment which allows the Operator to work remotely at a safe distance from the demolition area. <https://www.brokk.com/us/>
 - Installed safety cables in the window openings of all wall panels prior to erection.
 - New initiative to develop emerging Project Engineers with regards to safety engineering and education. Entry level Project Engineers received more specific insight as to the importance of project safety. They also perform separate inspections and lead toolbox talks.
 - Invested in hydro-vac technology to safely identify existing utility lines, as well as all new concrete cutting and drilling vac equipment to mitigate silica exposure.
 - Introduced engineering controls such as HEPA-Filtrated equipment cabs to eliminate exposure to airborne dusts/silica.
 - During a large congested downtown project channeled the public using site fencing and a scaffold bridge over construction areas for safe access.
 - Utilized timber piles for vertical support of a “stage top” style system which allowed several different trades to have an adequate elevated work platform from framing through rough-in phases. This engineered control eliminated the need for any Personal Fall Arrest Systems
 - Have increasingly went to prefabrication of structures on the ground to eliminate work

at heights whenever possible. We have had great success framing the stair towers' roofs of parking decks on the ground, leading to the elimination of framing, roofing and stucco work at heights and limiting it to only one crane lift. Similar to this type of planning, we have installed fall protection guardrails on tilt wall panels prior to erection to eliminate fall hazards. Casting fall protection anchor points into the panels for steel workers and roofers has also been integrated into the process.

- Add load tolerances into every design to account for dynamic loads during concrete construction. It takes a lot of planning with concrete formwork, sometimes up to thirty days of advanced planning - all for safety."
- All pre-con decisions are based on understanding every employee's needs, our company does not find the employee for the task, we find the task that is suitable for each employee.
- Designed a ramp and pulley system to bring in materials to the basement of the courthouse for a remodeling project which eliminated the need for workers to have to carry and maneuver large bags of grout and other material. This idea significantly reduced the risk of strain injuries.
- Electrical contractor has continued to evolve with technology is by providing special cut level 5 gloves. These gloves allow employees to use their touch screen devices in the field without removing their PPE.
- Had to install 200 light fixtures in a 35,000 square foot basement with a 24 foot high exposed ceiling. To reduce production time installing over 200 light fixtures, installed (using total station) over 500 aircraft cables in the concrete deck above prior to the pour. These not only limited time roto-hammering in supports (silica), but also limited the time working on scissor lifts (caught between, falls from heights).
- Engineering procedures have been put in place by the means of required paperwork to be signed by an owner if it is deemed not feasible to deenergize an electrical circuit (i.e. – existing hospital or critical system). The amount of energized work has been minimized with this procedure. If it is deemed that work is required on an energized circuit a detailed Methods of Procedure (MOP) is required, reviewed and approved by the Vice President of Field Operations and Safety Manager prior to any work commencing.
- Continuous Improvement (CI) department implements value-added changes. Currently we have leveraged CI to take our Motion Matters - Sprain and Strain Prevention Program, and Cordless Power Tool Best Practices company-wide. These programs set the standard for improved organization, ergonomics and efficiency, while also reducing fatigue and repetitive motion.
- Equipment department is standardizing new technologies into our vehicle and heavy equipment fleet. Hands-free systems, backing sensors and cameras now come standard on all light vehicles. We are also currently ordering cameras and backing sonars on all heavy equipment with blind spots.
- Utilize Building Information Modeling (BIM) during the design phase to mitigate safety concerns such as potential fall protection hazards, site access/egress and logistics challenges.
- Deck installers have always used a lifeline anchored to the base of the deck to tie off from. The workers would be tied off, but the slack in the lifeline, and the fall arrest gear would not prevent them from contacting the deck 12' immediately below them, in the event of a fall. Company developed an engineered solution by fabricating a raised lifeline anchor post installed specifically for use by the leading edge workers. With the extended height there is sufficient room to absorb the slack preventing contact with a floor even as minimal as 12 feet below.
- Invested in 100% floor scaffold systems aka "dance floor" in a sloped floor auditorium.

The angled floor auditorium created risk for any employee that is working on overhead systems. Determined that by creating and managing a comprehensive temporary floor system, multiple trades could work freely on a level and solid platform, eliminating the challenges from working on ladders, aerial lifts and rolling scaffolds.

- Use 3D printing to build miniature models of proposed safety devices, railing systems, rescue stations, trenching conditions, or structural conditions (e.g., cantilever projections).
- Panel Dollies. Prefabrication allows the electrical panels to be made up including the installation of breakers but can result in the panel being heavy and awkward due to the attachment of the “homerun” cables. To allow for the safe and efficient movement and installation of these panels we created a specialized dolly that allows the panel to be rolled into place and secured significantly reducing manual handling and fall same level risks.
- Use of rolling stools to reduce kneeling and use of overhead drill presses to reduce shoulder and back injuries related to overhead drilling.
- Use Trimble Point Layout Software. Productivity is improved with the capability to scan the site before installation and outline an execution plan. By having the scanned floorplan model, we could pre-fabricate conduit and cable tray systems in-house. This method allowed us to be extraordinarily efficient and minimized the time it takes to install new electrical systems reducing fatigue and injury exposure on the job. <https://mep.trimble.com/electrical/layout-solutions/>
- “Developed an “Over OSHA” policy. After a detailed analysis of our safety data from previous years, we identified the most prevalent types of incidents and developed safety policies above OSHA standards to target those incident types. Examples of our higher than OSHA standards for Cranes include; Load moment indicators, Anti-Two-Block Stop Devices, and Third-Party

Crane Inspections.

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- Engineering Controls for Safety - Examples include designing and building guardrails, picking attachments, working platforms and stairs, tie off/anchor points, bollards, design connections between beams limiting pinch points, ladder cages and grab bars, non-skid stair treads and grating, stamping weights to heavy objects, and pre-plan shipping to limit fall exposures.
- Maintain an extensive supply of portable chain-link fencing on each project site, to deploy as-need to prevent access to hazards ranging from temporary excavations to metal storage piles.
- Work with engineers and architects to provide higher parapets, strategically located roof access points, and permanent roof anchors, making construction safer and facilities safer to maintain.
- Falls are most frequent and severe of injuries related to the steel erection industry. We go above and beyond the requirements for fall protection. While utilizing engineered and manufactured fall protection systems, we also design and test our own fall protection systems by performing drop tests with dynameters to understand the forces to the anchorages and fall distances an employee may be subjected to during a fall. We test engineered components to understand how they react during a fall to assure our employees are protected in the event of a fall. The drop tests are videoed and documented for sharing with our employees during our fall protection training.
- Co-developed a band saw with one tool manufacturer that stops working if you remove your hands. Should be out on our projects in early 2019.
- Working with a ladder manufacturer to make ladders with the bottom step a different color to help employees that wear bi-focal glasses see the lower step more effectively.

- When there is going to be a delay in the stair fabrication we spend the money on setting a stair tower for access to all the floors instead of using ladders. This prevents fall exposures on ladders as well as we gain some production efficiencies as well as can provide better access in the event of an emergency requiring EMS response.
- Utilized a GoPro on a pole with a large light which were connected to iPad. This allowed workers to inspect the ducts without having to physically enter the ceilings or ducts. This reduced time, injuries from lacerations, falls from ladders, and entering confined spaces.
- When our engineering team is designing a piping system our BIM program notifies them that a shut-off valve placement is in an area with potential fall hazards. If they designed the system like this, our owners would be put at risk during any future maintenance. But by bringing this spatial awareness to our design team, we can make changes that mitigate those hazards, prior to any install.
- Developed and implemented vertical jack-hammer mounts which alleviates our workers from holding the hammers.
- Robo flaggers were purchased to eliminate worker exposure to traffic. It is a small traffic signal with a crossing arm that drops down to block traffic when the lane is closed. DOT says the units are more visible than human flaggers and motorists tend to see them from a greater distance away. They are controlled by workers located a safe distance away from moving traffic. <https://www.utilityproducts.com/safety/article/16019089/robotic-work-zone-flaggers>
- An employee asked to devise a fall protection system that would be conducive to working on an existing narrow concrete beam with embedded stirrups. Engineering drew up some plans, the shop fabricated specialized stanchions, and our survey and safety department tested the system. Field personnel had the opportunity to deliver a presentation to an audience of their peers to show everyone how it made the task safer.
- Utilized circular metal cage livestock round bale feeders to put around deep open holes instead of typical flagging/barricades.
- Use water trucks to provide water for silica dust control on all jobs and use PAPR's for PPE.
- Purchased drill rigs that have operator cabs to reduce noise and eliminate dust exposure.
- Engineered a stabilizer for light stands to prevent tip over on slopes and during winds.
- Engineered pipe cutting table jig to stabilize pipe handling and has reduced ergonomic hazards as well as increased quality and production
- Changed their trucking dispatching procedures to avoid unnecessary trips.
- Stopped using the piano wire method of paving as a grade control method and that has eliminated trip and fall hazards from the piano wire.
- Converting pneumatic tools to battery tools to eliminate the trip and fall hazards created by pneumatic hoses.
- Use tier IV equipment to reduce nitrous oxide exposure
- Use mineral oil in equipment instead of hydraulic fluid to reduce environmental hazards.
- Use a 3M Uvicator sensor that change color when exposed to too much UV light. Worker emergency ID in hard hat. <http://multimedia.3m.com/mws/media/12249420/uvicator-sign-of-safety-technology.pdf>
- Use anti-fatigue ergo-inserts for boots....90% reduction in reports of leg and back pain.
- Use Halo Light hard hats for better night visibility. All PPE is chosen by safety

- committee meetings.
- Started using puncture resistant boot soles due to an employee suggestion.
- Developing an 85-acre employee training complex for site work excavation equipment operators that will include an indoor dirt arena, haul roads, etc.
- Using stair towers to eliminate ladders to change floors.
- Concrete forming contractor uses signage with the phone number of who to contact to get access to a form wrecking area.
- We focus on same level falls by identifying the contributing factors of each accident. Inspect. Use a focused checklist. Perform Access Evaluations using our “Access Champions” system. We verify pathways. When possible, team up when walking.
- Use of drones and 3 different types of software imagery for use in critical lift planning. Use of drones for inspecting crane booms, traffic control pre-lane switches, and bridge inspections. Look for opportunities to remove people from the high risk work environment equation.
- Via the Monthly Craft Safety team program, we work closely with our Continuous Improvement (CI) department to implement value added changes - via this process they have developed Motion Matters, Strain Prevention Program and Cordless Power tool Best Practices company wide. These programs have improved organization, ergonomics and efficiency, and reduced fatigue and repetitive motion (reducing recordable strain and sprain injuries 75% over 2 years).
- Cameras and backing sonars are standard on all light vehicles and being added to all heavy equipment to prevent incidents associated with blind spots.
- Use of sound curtains to minimize noise exposures
- Using 3D printers to build models of what will be used in the field
- LEAN principals like rolling racks and cutting tables with waste drop containers, reducing possible injuries, back fatigue, and handling material multiple times.
- Company uses remote controlled skid steers for elevated demolition work.
- Company uses drones to construct topographical maps of the worksites.
- Annual review of all job hazard analyses to ensure reflect most current prevention measures and lessons learned from the past year
- Safety Planning is used during the design phase and a database of Lessons Learned is maintained and used to prevent future errors from past errors in the design, planning, and execution of work.
- The “Shark Cage” to protect workers and provide more effective fall protection while working inside beams on long span decks. Also has guard rails that roll with a tied off worker from column to column.
- GPS and Robotic systems on earthmoving equipment require less personnel on the ground around the equipment significantly reducing the potential for run over and back over incidents and fatalities. More efficient, better quality and safer.
- Blocked the texting feature on Company provided phones
- Architect outreach program to train and discuss Design for Safety (DfS) with architects. Architects need CEU’s and GC put together an hour DfS presentation and over 90 architects went through the training.
- Permanent Tie-Off is installed and used during construction and then left in place for use by maintenance personnel.
- Badging system for site access control... called My Time Station
- Ladders with transport casters and ladders with assembly trough so a person move ladder easily and climb with hands free
- We have changed wheels on dollies so that they roll better. We also have our

guys working on toolboxes at waist height
instead of working on the floor

- Use of Cut Level 5 Gloves

SAFE WORK METHODS (PLANNING AND VALIDATION)

- Use the Hilti Jaibot for overhead work to reduce need to work from ladders, silica exposure and repetitive overhead work. <https://www.hilti.com/content/hilti/W1/US/en/business/business/trends/jaibot.html>
- Completely shut down field operations several times a year to provide one of a kind Fall Protection and rescue Training, empowering our employees to understand their potential and value.
- “Take 30” – with a 5-question thinking checklist before beginning any task or coming back from a break or other duty - Take 30 seconds to identify any potential hazards.
- SWP – “Standard Work Practices” a step-by-step guide for each work activity which integrates the right methods for Production, Quality, and Safety into one document.
- Fall protection training for special/building inspectors so they can safely inspect work at heights.
- “Safety Store” for ordering PPE, Traffic Control devices, first aid supplies, confined space equipment, and more at no cost to the project - Safety Store costs come out of the Safety and Risk Management department budget.
- Flash Drives are loaded with all company safety information that project management can plug into their computer for up-to-date safety information, forms, and safety manual.
- Using course of construction design ideas in the Design/Build process to maximize safe construction
- Orange Safety Buckets with accident and emergency equipment strategically located throughout project.
- Safety programs and safety practices are measured and evaluated annually by independent consultants: judged for compliance and relevance.
- Foreman is the Competent Person and Safety Coordinator on all projects, and they are explicitly evaluated on their safety performance and documentation of their daily safety activities.
- We go above OSHA standards e.g., Cold Weather, Hot Weather, Crane Verification Process, Fatigue Management, Concrete Pump Inspections and First Move Forward.
- Produced customized job hazard analysis safety training videos where onsite interviews, script development, and hands-on involvement were used to fully capture the unique and subtle elements of the particular craft.
- To improve operators and their safety awareness of equipment usage a team of senior operators and subject matter experts are evaluating a simulator-based training tool that allows for initial screening, retraining and skill improvement for select pieces of equipment. The simulator can put operators in challenging positions without risk of damage or injury. Like an aircraft cockpit simulator, new and existing operators can be inserted into situations which allow the operator to be challenged so that in actual conditions, they will be able to recognize and avoid these same situations.
- Many designated safety professionals have attended classes provided by the Construction Council for Safety (formerly MICCS)
- All General Foreman and Foreman go to competent person safety training every other year.
- New hire supervisors are required to complete OSHA 30 in the first 90 days.
- “All supervisors receive the following competent person training: trenching/ excavation, confined-space entry, and fall-protection.”
- Hand signals are posted on all cranes. Rigger and spotter trained employees carry

bilingual handbooks which assist with signals.

- Developed a 50/100 rule. No single employee is allowed to lift over 50 pounds and all equipment found to be over 100 pounds must be lifted mechanically.
- New and existing employees are taught proper lifting procedures by a medical professional.
- Proper lifting techniques are taught at employee onboarding, project orientation, toolbox talks and company academy training. Have a 35 lb. maximum lift limit for employees.
- Created Job Hazard Analysis covering each scope of work that is regularly performed. The JHA's and safety resources are available electronically via Smartsheet for everyone.
<https://www.smartsheet.com/>
- Developed a craft level Mini-Risk Evaluation. In conjunction with the Pre-Task Plan the Mini-Risk process encompasses the entire task not just identification of hazards. Helped create a more complete task planning tool that integrates safety-quality-productivity into task planning.
- Use symbol graphic safety signs.
- Cranes clearly display the universal hand signals, hazards warnings, and barricades around the swing radius of the equipment.
- Pre-task and activity hazard analysis utilize in-house developed RED (Recognize, Eliminate and Discuss) book. It is a task specific AHA is a pocket-sized checklist and planning tool intended to challenge employees by thinking and planning out each task by breaking down the hazards and corrective actions and/or PPE required.
- Established both a Glove Use Matrix and a Respirator Matrix which identifies and helps individuals understand which size and type of PPE is best for them.
- Craft workers compete and are recognized for producing the best Job Hazard Analysis on a weekly basis.
- Top out interior walls before MEPs are in place to minimize obstructions to access these hard-to-reach areas by drywall craft workers.
- Iron workers are isolated within a designated work zone to eliminate overhead hazards and exposures.
- Leaders receive 40–100 hours of Safety Skills/HPI Training (My Safety Leadership, BBS, Crane Management, Excavation-CP, Fall Protection-CP, Scaffold-CP, First-aid-CPR-AED-BBP, OSHA 10-Hour, Qualified Rigger/Signal Person and Supervisor Workplace Substance Abuse Awareness).
- 5x5 program that requires craft workers to take 5 seconds and step back 5 steps to assess all tasks for hazards and risks.
- Management project audits identified step ladders as a high risk. Implemented belt buckle policy and pledge. Prohibit team members from moving beyond the third step on the step ladder or leaning outside the frame. Each team member signs a pledge to follow the belt buckle policy and correct other team members not in compliance.
- Fire watch and hot work training are conducted annually.
- Use Knaack DataVaults to collaborate with subcontractors on project documentation, to streamline safety orientation process, streamline JSA documentation, and to aid in safety meeting coordination.
- Safe Driving company vehicles - DDC-4 level training provided. Regional Safety Managers attended Smith System style “train the trainer” class
<https://www.drivedifferent.com/about/our-history-mission/>
- Utilizing an electronic JSA that has speech recognition and facial recognition so writing skills are taken out of the process to motivate better information.
- Using a construction project risk simulator tool (Augmented Reality) for

initial screening, retraining, and skill improvement. The simulator inserts situations that mimic challenging tasks and measures reactions.

- Management must sign the posted pre-work plan before walking into the work area. The sign off are audited each day. This brings management accountability into the pre-work planning process.
- Developed a “Forward First” driving and parking policy to reduce backing accidents in pick-up trucks and runover-backover accidents around heavy equipment. Redi-mix trucks are a good example. Offloading is planned and routed to eliminate backing.
- Highway contractor developed task specific safe work zone procedures and templates which are large and colorful to use with crews for daily task planning.
- Foremen perform a documented, annual inspection on all rigging equipment for which they are responsible. This includes inspection, removal of defective equipment and tagging with serial numbers. This process effectively removed/replaced 27 questionable tools before they became defective or caused a mishap.
- Purchased and pre-loaded equipment on a tractor-trailer “safety gear trailers” which eliminate the multiple movement of equipment. Specific equipment is assigned to and stays loaded on a gear trailer until it is used. It is then reloaded and remains on that trailer until its next use. The loaded tractor-trailers are stationed in the yard and ready for future jobs.
- There was a need to improve safety communication between operations and sales. The foremen created a feedback form for sales on the information they originally provided to execute the job. This has resulted in increased focus on getting in front of jobs to include job hazard analysis completion when the job is booked. Safety is in front of a job, rather than only being managed during the job.
- All foremen, superintendents and management attend a 20-hour supervisor safety training course. Attendees receive classroom and hands-on training that includes hazard analysis, employee interaction, mishap investigation, interpersonal communication.
- Equipment qualification is a gated, two stage process. After receiving classroom and hands-on training, each student is issued a learner’s card. This is a temporary authorization to operate equipment under the supervision of a trained supervisor. The supervisor evaluates performance in field conditions, until they feel that the student can operate safely and unsupervised. This process has reduced mechanical material handling mishaps by 50%.
- The Pull Planning scheduling system helps the trade partners be engaged and work can be planned safely using “Safety Hazard Alerts” during the planning sessions.
- The company’s LEAN initiative is called 6S - Safety, Sort, Set in Order, Shine, Standardize, and Sustain
- Developed a trackable tagging system to detect project risks and violations. Tags are completed, attached to the risky item, then photographed and sent to superintendent and subcontractors if applicable. Resolution is tracked through the tagging system.
- Develop standardized project specific signage and provide contact information for both management and safety personnel to be reached 24/7 if needed vs standard signage.
- Developed a system that requires workers to tie off while climbing scaffold ladders, and gang ladders. Ladders over 10’ have installed handles at the top of gang ladders to allow safe access while climbing on and off them.
- “RED Book” - ‘Recognize Eliminate Discuss’ - mini AHA book that includes a checklist for all hazards and steps to complete AHAs.
- Over the years the company has tried many, many safety-related programs,

- ideas, and technology. Determined that they have too many programs, forms, etc. hitting the project leadership team. Developed a requirement that they were going to first purge things that don't work or are less effective. They now require for every new safety related program/system/form, they must purge 2 others already in place.
- Foreman can choose their work method topic of observation and coaching from a menu tied back to company historical losses and risks.
 - Completed productivity study - Passive fall protection was more efficient than Active PPE
 - Equipment operators are required to perform a 30 second walk around their equipment each time before they move it. This is in addition to their daily pre inspection program.
 - Daily ladder safety inspection tag for all types of ladders. Puts more responsibility and accountability into the ladder safety process.
 - Housekeeping committee on the jobsites. Subs clean 30 minutes per day.
 - Each Safety Manager carries a 4-gas monitor on the jobsites.
 - Safety Committee includes the Fleet manager to review fleet safety issues and results.
 - Safety Sequence Plan that is reviewed with the client and then finalized as the plan to reduce disruptions and surprises and showcases the safety planning process to client.
 - Quarterly documented formal tool inspection program completed by a competent person ensures safety of company tools. Extra set of eyes. Lessons learned completed and communicated after each quarterly inspection.
 - Pandemic plan that has procedures to recover from anything that would disable the firm's ability to do work.
 - Safety Manager "Us vs. Them" anti "Safety Cop" collaboration program. All Safety managers are required to make some deliveries, help erect scaffolding, help with trash runs, and help with material stocking.
 - Foreman documented assessments of worker attitude, demonstration, and engagement in safe work methods. Feedback given to evaluated employees.
 - Mentorship meetings held monthly to discuss common "at risk" safety observations for the month and to have a team oriented focused approach and message for helping newer employees.
 - Company vehicle policy: drivers must do a 30 second walk around vehicles to look for risks related to the vehicle and the ever-changing construction site surrounding the vehicle.
 - Project Chart for all to see which shows who are competent persons and what their qualifications and cell phone number are.
 - JSA's are completed but also "Work Plans" which outline safety, quality, and production goals along with the tools and materials needed and the specific means and methods that will be used to accomplish the task.
 - The Safety Task Force inspects jobs using a weighted point system. The riskier observations like falls from heights and excavations have a higher rating. Total point scores are added up and there is a housekeeping bonus at the end which can add or take away points from the overall score.
 - Fall Protection program is measured by "Lives Saved" after someone falls with fall protection. 18 lives saved in the past 5 years including subcontractors.
 - When PFPS's are inspected in the field a color-coded zip tie is attached to the harness. The colors are based on a time period and quickly tell others if the harness has been inspected and what time frame it was.

- All Craft workers are required to carry their own Job Hazard Analysis Workbook which includes a checklist and a step-by-step plan for completing an effective analysis.
- Use smart phone technology to with underground utilities to document precise location of utilities they install in case they must work near them in the future.
- Safety 360 process for equipment/ vehicle safety that requires a person to walk around and inspect each piece of equipment/vehicles prior to use.
- Workspace Management focuses on keeping workers on the ground safe by planning work to minimize heavy equipment backing with a focus on overlapping work zones.
- All project vehicles must wear seat belts and operate with lights on while on site.
- All workers are required to complete the OSHA 10-hour course prior to employment onsite.
- All site supervisors are required to complete the OSHA 30-hour course every 3 years.
- Experienced worker mentor program – All new hire employees, regardless of prior experience are assigned a veteran worker mentor to help acclimate new employee to the open communication of hazard controls. The program focuses on both hazard recognition and the actual “how to” openly discuss and correct identified safety hazards.
- Before the purchase of tools, equipment and even personal protective equipment (PPE), we gather employee feedback to ensure we are not only getting the best, but we are also getting the best fit for our employees. We also know PPE and equipment it is not one size fits all, so we also accommodate individuals to meet their specific needs.
- New Employee Safety Training (NEST) program for all new and returning employees. NEST was designed by employees for employees to cover real-life safety, job hazards, and health awareness. The course allows new employees to gain hands-on training using the tools and completing the tasks they will see on the job. This not only gives them knowledge of how to stay safe, but it also allows them to get some practice and demonstrate to instructors they are retaining the knowledge.
- Have evaluated for purchase multiple simulator training programs that can be utilized for initial screening, retraining and skill improvement for select pieces of equipment. Much like a cockpit simulator, the technology provides real life situations that allow our operators to experience unique challenges to enhance their confidence/skills and ultimately promotes peak performance. This will give us the ability to not only develop talent but effectively screen the skills of potential candidates in a safe environment, before they ever step foot into an actual piece of equipment.
- Sharing safety best practices is our philosophy because it is the right thing to do and should be shared with all who can benefit. We accomplish this through several avenues. Involvement at construction affiliation summits, at project executive leadership team meetings or through other means of networking. Our innovations are openly shared with all who are interested. At times this could include our customers, our subcontractors and often even our competitors.
- Apprentice Mentorship Program (AMP) provides all apprentices with a mentor that works with and evaluates them each month on how safely they worked, their attitude, their communication skills, their attendance, and whether they are asking questions to clarify their tasks. Mentors discuss apprentices’ current goals, progress toward achieving them, and what support they need to improve. Each apprentice and mentor share the responsibility to develop a safer, better and stronger electrician.

- OPERATIONAL RISK MANAGEMENT (ORM) DAILY WORK BRIEFING: The ORM briefing includes a five-step interactive process that involves all crew members in the discussion and developing work plan. The leader uses a whiteboard to illustrate five core functions - “Define the Scope of Work, Analyze the Hazards, Develop and Implement Hazard Controls, Perform Work Within Hazard Controls, Provide Feedback and Continuous Improvement” - to identify and document the process of hazard identification and controls... It is generally conducted by the superintendent.
- Our “Protect Your Hands” campaign has achieved a 28% reduction in hand injuries. This was achieved by identifying “caught-between” as the main cause of injury, adding focus inspection questions to our checklists, sourcing training and communicating that hand placement is more important than proper glove use.
- Our perspective is that humans simply perform better when they are directly involved with the risk assessment process and empowered with the ability to dynamically decide our work practices. Risk assessments become a real tool for planning, assessing hazards, and controlling the hazards associated with our work, and not just a document that gets submitted to the owner to check the box.
- We provide and ensure employees use Kevlar body protective gear when using chain saws and concrete cutting saws.
- An AHA (Activity Hazard Analysis) is required for a given DFOW (Distinguishing Feature of Work) and must be submitted and accepted prior to the commencement of work.
- Implemented a policy for Safe Dig Practices. Each operator is required to complete a dig permit each day prior to engaging in any type of excavation or dirt movement. Furthermore, each Supervisor is required to complete an excavation permit daily that includes site locate information, soil identification, and specific hazards within their scope of work being performed. To reduce the exposure and heighten awareness of the utilities in the areas, we have also implemented a color coordinated cone policy. Each crew has color coordinated cones to match the locate colors of buried lines. The cones have been a critical illustrative tool when working around overhead lines and buried lines. They have proven to be very effective in minimizing strikes.
- We recently combined our daily work plan and JSA’s into one document to encourage more discussion and input from crew members rather than the JSA simply being “something you have to sign”. Daily work plans are production focused and JSA’s are safety focused. Initially these were two separate documents; the two documents were combined because safety and production go hand in hand. You must know what you are going to do today, what tools you need to get the job done, and you need to know what you’re doing to properly protect yourself and your crew members from any hazards.
- Our safety practices are built around the 21 elements of control and seven key conformance areas identified by the ANSI Z10 standard to provide a world-class occupational health and safety management system.
- We use USACE EM 385 1-1 model for Accident Prevention Planning
- We took the key features of ANSI Z10 and EM 385 1-1 to establish the concepts of Operational Risk Management (ORM) to ensure continued safety and health of our employees. The ORM structure includes a safety policy, safety objective, and safety management plan for success.
- Unique hazards and controls: a unique risk was the total exposure from high voltage utility substation construction to the entire building/structure installation on a fast-track schedule. A “near energized” management system was developed to control the unique risk of working near (not on...) energized equipment and developing a strategy to control human performance

and error in high-risk operations.

- Maintain a bank of more than 100 Standard Work Practices for some of our most common tasks. These documents are created, reviewed and regularly validated by experienced company craft professionals to provide guidance on how to perform these activities in the safest, efficient and reliable manner.
- Another element of our safety program is a process called a “line break process”. We follow this protocol any time a member of our crew is tying into or breaking open a live plumbing or piping line. In the work we perform, this type of line break could be anything from a hazardous chemical to high-pressure steam and loss of containment has a high potential for physical damage to property or worse, personal injury. The form is a detailed review that walks the user through a series of checklists of items that require physical verification and sign off and a listing of all upstream or downstream systems that could be affected. It also identifies all work activities required before, during and after the line break as well as the timing and responsible party. Finally, this process requires numerous signatures from the facility representative, general contractor, and our team to ensure everyone is on the same page and back-up plans are in place before commencing work. In the case of anything dealing with high pressure (over 250 psi), Our COO or CEO must also sign off before work can proceed.
- We use a “Pocket JSA” that can be updated as tasks may change during the day. When the tasks do change, a “Take 5” briefing is held to update all crew members and to observe any hazards the new task might face.
- Improved Energized Work PPE to include Arc-Flash gloves and lighter, more comfortable apparel, along with lights and ventilation systems.
- After the morning huddle, employees utilize the “two-minute rule”, a checklist process for identifying and correcting

issues for 2 minutes pre-task.

- We conduct a 10% Progress Shutdown Review with all our crew members who are directly involved with the task. When 10% of the work for a project is completed, the progress of the project is thoroughly reviewed before the next step of the project commences. This is a vital aspect of our program and one that has continued to keep our crew members engaged in safety management of our projects.
- Pre Construction Utility Identification/ Clearance Procedure identifies utility conflicts before construction begins. Project Manager, Safety Manager, General Superintendent, Survey, Project Superintendent and Craft manager walk the entire job looking for known and unknown utilities by looking for obvious signs such as reviewing the project Utility Plans, identifying utility boxes and pedestals, to identify potential conflicts that could delay our operation. Once all utilities have been identified, all potential conflicts are potholed and brought to the owner’s attention for resolution before construction begins.
- The dump truck spotter wears a different colored vest so the driver can easily identify the spotter and distinguish them from other workers.
- Company does not chargeback jobs for safety resources – all safety is tracked in a separate cost code and added to overall cost.
- Backing-up activities are monitored closely to be sure that back-up alarms are present and functional and adequately audible. If they are not, that piece of equipment or truck will be shut down and red tagged.
- Task protocols, hazards, controls, PPE, equipment, and housekeeping are written on a 4.5” x 8” “Pocket-Card” that is double-sided and laminated. Given to each employee or the team leader to have in a pocket while performing the task.
- “SharePoint” website that was obtained to provide a way to have access to

all company policies, forms, safety information, SDS, and plans, and job information. Everything imaginable that might be needed in the field is loaded on this website. Information is general and job specific. Access for all employees 24/7

- Safe work methods are constantly studied. Any time a new piece of equipment is purchased operator training is done by the manufacturer.
- Safety program and safety practices are measured and evaluated by independent 3rd party safety consultants annually.
- Pre-task planning that includes analyzing manpower, tools, and equipment needed for the task(s) to assure proper identification of hazards and safety precautions are employed.
- Developed a 2-3 day “onboarding” training program that trains all salaried employee-owners on company policies and procedures before they ever step foot on a project.
- Planning procedures are validated by a Key Activity Review which is a formal, sit-down review with the crew to see if the execution of the work activity can be improved for Safety, Quality and Production. It helps make sure our planning procedures are effective. These reviews are performed at the 10 percent completion stage of the activity. The craft and project teams attend and have a BBQ lunch after the review.
- Project team including PX drafts a site-specific safety plan. It is a team “internal contract”, the entire group signs it with the responsibility of holding each other accountable for the implementation of the program.
- An 8ft tall reminder to protect yourself. This sign is a photo of an actual team member who is wearing all of the proper PPE and illustrates what “Always Doing What is Right” resembles.
- Evaluated and selected the CAT “virtual reality” simulator that will be utilized for initial screening, retraining and skill improvement for select pieces of equipment. This is a cost-effective means to allow operators to experience a multitude of challenging scenarios without the associated risk.
- After an increase in non-injury utility strikes was noticed by Senior management the team created a new program called the Utility Strike Avoidance Plan (USAP). The USAP has two critical components: the Talk Before You Dig Plan (TBDP) and the Talk Before You Dig Log. Prior to underground work commencing, the Subcontractor performing the work is to review the TBDP with the Project Superintendent to identify the existence of existing or newly installed utilities in area. The Subcontractor and the Project Superintendent complete the information on the TBDL and open a permit by initialing in the Open Permit columns. Upon completion of the task, the Subcontractor is to immediately update the TBDP, and both the Subcontractor and Project Superintendent are to close the Permit by initialing the Closed Permit columns. The permit is not closed until the Superintendent is satisfied and the TBDP is accurate and completely updated. Utility strikes were down 72% last year.
- Developed a specific “Best Practice” method that specifically identifies crucial aspects of the site’s specific concrete forming system and work methods. This easily accessible document allows our superintendents and employees to understand all the hazards associated with the formwork they will be installing.
- Developed the “Dusty Trades” program that takes an in-depth look and covers all PPE and respirators used on site and includes silica sampling to identify hazard areas and levels of exposure.
- Placards have been added to Gang boxes and office trailers demonstrating the required Silica exposure engineering controls for the most used tools.
- All leadership positions are required to take an 8-hour course on Energized Electrical

Work and lock-out/tag-out.

- Pre-Activity Plans (PAP) are completed by the foreman to break down the overall JHA into a few days or weeks sub tasks which allows for the risk at hand to be addressed on an as-needed basis.
- “Enhanced Awareness,” program of eliminating headphones, earbuds and/or radios, to abate distraction.
- Developed a “News App” which allows employees to report safety observations from their mobile devices. We then analyze this safety data coming in from across our business. This allows us to tailor specific inspections, communications and training to help focus our efforts and drive specific injuries down that are currently occurring in the field. In one example this year, we reduced strains and sprains overall by 75% through this process along with our Motion Matters initiative.
- Creating new personal risk assessment (PRA) booklets which hold a month’s worth of PRAs and fit neatly in a safety vest.
- XMOP process ensures we do not hit underground utilities. Before mobilizing, projects must complete an Existing Utility Drawing (EUD). A EUD requires that a third-party locator, company staff, or other consultants place all known or discovered underground hazards on one drawing. New structures and proposed new utilities are placed on the EUD to enable conflict identification. We require daily excavation permits when penetrations are within 25 feet of known conflicts or hazards. Superintendents issue daily dig permits before ground penetration. Our XMOP program has reduced accidental utility strikes by 90 percent.
- Safety Procedure & Guidelines Fact Sheets - 98 documents developed on specific exposures.
- STA (Safe Task Analysis). This is a four-fold card that covers their activity for the day and contains all appropriate forms (Trench inspection, hot-work permit, PPE checklist, lifting guide, confined space checklist, and safety rules). The foreman is responsible to make sure the STA is completed, to acknowledge that all necessary forms have been completed and to authorize permits.
- RED (Recognize, Eliminate and Discuss) book. This mini, task specific AHA is a pocket-sized checklist and planning tool intended to challenge our employees by thinking and planning out each task by breaking down the hazards and corrective actions and/or PPE required.
- Established both a Glove Use Matrix and a Respirator Matrix which identifies and helps individuals understand which PPE is required.
- Replaced key safety checklists in our program with full color, easy to follow flow charts, which has led to more effective execution of safety processes in the field.
- Shift Prep! – and Joint Stabilization and Stretch Breaks! Program - Dynamic and static stretching program. – is designed to prevent and/or drastically reduce occupational musculoskeletal injury risk and severity, including strains/sprains and slip/trip injuries, among our employees.
- Silica Pocket Guide: OSHA’s updated Respirable Crystalline Silica standards are dense, and this guide simplifies them. Printed on water-resistant paper, the booklet is produced in English and Spanish, fits into a pocket, and withstands field conditions.
- Hydration Analysis Chart: Company project geographies range from the humid climates of South Texas to the dry heat of the Arizona desert. To ensure that employees were aware of the symptoms of heat exhaustion and heat stroke, we created a hydration analysis chart. We also have wall charts for our job trailers and a similar design has been created for key chains and badges.
- Require Level 3 cut-resistant sleeves for anyone working above ceiling grid and we require goggles and a hard hat above

- ceiling grid even in occupied buildings.
- Use a CATR corrective action tracking system to make sure identified hazards are tracked to completion.
- Fleet Safety - recognized that tight right turns are a big exposure...they promote that their drivers must own both lanes, not just their own.
- Use the Corps EM 385 standards on all their work, Federal or not.
- Have 360 walk-around program before starting a company vehicle.
- Developed a “blind spot” monitoring program for large heavy vehicles and equipment.
- Use voice recognition technology to conduct pre-task planning...they found that get much better participation this way.
- Lessons Learned from working with the Corp of Engineers; “Master your paperwork. You can’t overkill in this area. Document everything”.
- Projects are stopped twice daily to talk about safety hazards; employees perform 3 safety inspections per day, and twice daily safety hazard review.
- Pre task plans are used as a leading indicator - the hazards the crew forecasts each day are tracked and used as a guide to formulate safety training.
- The ratio of frequency of inspections to who performs them is Safety manager - weekly; Project manager - twice/month; Superintendent and foremen - 3 times each per day!
- Pictures of the project’s competent people are posted so others recognize them as someone they can go to for assistance.
- Steps and handrails are installed on frequently used truck/equipment to allow safer access.
- Safety audits performed at job set-up and
- 75% completion to make sure nothing has changed - and if it has, that the mishap prevention plans are updated and adjusted accordingly.
- STA - Safety Task Analysis process. The tasks are planned each morning, and the Supervisor and Superintendent complete a daily post task analysis and coaching session at the end of the day.
- Daily time is built into the project schedule to clean up, remove construction waste, and organize the work areas on a shift-by-shift basis.
- Encourage employee participation through Safe, Time saving installation methods “Pick of the Month” with a monetary award. Approved methods are placed on the company intranet’s Best Practices online manual.
- 2-sided pocket pre-task planning card to keep in the work area for changes throughout the day
- Safety Academy is made up of young engineers to educate these folks.... They study the topic for a month and then take an exam at the end of the month.
- Best Practices Catalog that is used to be the standard bearer of best safety procedures above and beyond OSHA
- To address age issues, we match younger employees with older employees, and stipulate limits to lifting materials, tools, etc. – no weight over 50 pounds lifted by one person.
- Single page safety procedure talking points for low frequency operations.
- Redesigned Hard Hat – Looked Sharp – No unnecessary stickers allowed.
- Brains over Brawn program for working smarter with ergonomics and more recently employee health and wellness efforts.
- “Minimum Global Requirements” – minimum standards based on known best practices and risk mitigation strategies that are set by an international firm for their

- global workforce.
- Applying human performance principles during preconstruction provides a strong foundation for developing clear work packages, conducting effective pre-task planning, and assigning the right people to the right tasks. By anticipating error traps and aligning work with worker capabilities, organizations promote safer and more reliable execution.
- Integrating GPR-equipped excavator buckets into excavation operations provides real-time detection of buried utilities, serving as a critical last line of defense against costly and dangerous utility strikes — significantly reducing risk during subsurface work.
- Establishing a formal wet-work program — modeled after the structure and rigor of a hot-work permit — ensures that any activity involving water, liquids, or potential flooding is proactively assessed, authorized, and controlled. This prevents property damage, protects building systems, and maintains strict quality and safety standards.
- Deploying an AI platform to review critical lift plans functions as an automated redundancy check that flags any gaps as a ‘no-go’ before work begins. The Crane Committee — comprised of lift directors, operations personnel, crane professionals, and safety members — is immediately notified to convene, review, and resolve all identified deficiencies prior to proceeding.
- Maintaining a clearly marked physical fire line, enforced through a daily fire-safety checklist, prevents flammable and combustible materials from being stored within the restricted boundary. This approach provides a constant visual reminder and documented control that protects the structure from builder’s risk fire hazards in compliance with NFPA 241 and NFPA 1.
- RiskTalk is a customizable, voice-powered safety platform that captures real-time risk assessments, safety conversations, and hazard reports simply by speaking into a device. Its automated voice-to-text system and AI insights flag missing components, enable field coaching, and provide managers with real-time oversight and verification — strengthening overall safety performance.
- Implementing a third-party maintenance program with a set PM schedule for the entire fleet ensures vehicles are consistently maintained to manufacturer and regulatory standards, reduces mechanical failure risk, and removes the burden of maintenance management from operations.
- Deploying ANSI-rated smart glasses (e.g., Meta Oakley) enables hands-free, first-person documentation of project walks for real-time quality control, safety observations, and teachable moments. Future capabilities include hazard recognition, live-stream sharing, and real-time field coaching.
- When entering a new jurisdiction, partnering with a reputable local contractor provides immediate access to regional expertise, local labor, applicable codes, and established relationships — enabling efficient, compliant market entry with significantly reduced operational and safety risk.
- When expanding into a new market, establishing a local office, joining regional associations, hosting community and networking events, and hiring area-specific experts builds organizational credibility, strengthens relationships, and positions the contractor for safe and successful long-term operations in that region.
- Maintaining a baseline ratio of one safety professional for every 25 workers ensures adequate supervisory coverage for rapid emergency response. Higher-risk project profiles — including complex scope, challenging jurisdictions, demanding owners, or high contract values — warrant additional safety resource deployment beyond the baseline.

- Load charts for typical equipment and material loads are provided to equipment operators, riggers and on construction sites to ensure material handling does not exceed the capacity of the equipment being used
- Ironworker Safety Playbook designed, shared and updated with ironworker specific hazards. Taught to all project ironworkers to ensure craft specific safety
- Incorporation of NAVFAC P-307 (https://ncc.navy.mil/Portals/73/Documents/NCC/Main/P307/P-307_JANUARY_2025.pdf) Weight Handling Program Manual as corporate standard for safe weight handling operations
- Completely shut down field operations several times a year to provide one of a kind Fall Protection and rescue Training, empowering our employees to understand their potential and value.
- “Take 30” – with a 5 question thinking checklist before beginning any task or coming back from a break or other duty - Take 30 seconds to identify any potential hazards
- SWP – “Standard Work Practices” a step-by-step guide for each work activity which integrates the right methods for Production, Quality, and Safety into one document
- Fall protection training for special/building inspectors so they can safely inspect work at heights
- “Safety Store” for ordering PPE, Traffic Control devices, first aid supplies, confined space equipment, and more at no cost to the project - Safety Store costs come out of the Safety and Risk Management department budget
- Flash Drives loaded with all company safety information that project management can plug into their computer for up to date safety information, forms, safety manual
- Using course of construction design ideas in the Design/Build process to maximize safe construction
- Orange Safety Buckets with accident and emergency equipment strategically located throughout project
- Safety program and safety practices are measured and evaluated annually by independent consultants: judged for compliance and relevance.
- Company has grown significantly over the last 2-3 years, hired many new employees, and working in new geographical locations across the US. The development and implementation of our Life Critical Rules have been a huge driver in developing a consistent safety culture across the nation.
- Foreman is the Competent Person and Safety Coordinator on all projects and they are explicitly evaluated on their safety performance and documentation of their daily safety activities.
- We go above OSHA standards e.g., Cold Weather, Hot Weather, Crane Verification Process, Fatigue Management, Concrete Pump Inspections and First Move Forward.
- Do LOTO training each and every time it is utilized by a crew and it is a topic of that days JSA as well. Same procedure with overhead or underground power lines.
- Produced customized job hazard analysis safety training videos where onsite interviews, script development, and hands-on involvement was used to fully capture the unique and subtle elements of the particular craft.
- To improve operators and their safety awareness of equipment usage a team of senior operators and subject matter experts are evaluating a simulator based training tool that allows for initial screening, retraining and skill improvement for select pieces of equipment. The simulator is able to put operators in challenging positions without risk of damage or injury. Like an aircraft cockpit simulator, new and existing operators can be inserted into situations which allow the operator to be challenged so that in actual conditions, they will be

able to recognize and avoid these same situations.

- Muscle Stain risks were significantly reduced when the Superintendent designed and implemented a ramp and pulley system to bring in materials to the basement of a courthouse remodeling project which eliminated the need for workers to carry and maneuver large bags of grout and other material.
- All General Foreman and Foreman go to Competent Person safety training every other year
- Members of the Safety Advisory Committee makes unannounced, monthly jobsite visits and completes a Site Inspection Report Form.
- New hire supervisors are required to complete OSHA 30 in the first 90 days.
- “All supervisors receive the following competent person training: trenching/excavation, confined-space entry, and fall-protection.”
- Hand signals are posted on all cranes. Rigger and spotter trained employees carry bilingual handbooks which assist with signals.
- Health and Safety Program is reviewed by all levels of management and updated on an annual basis
- Developed a 50/100 rule. No single employee is allowed to lift over 50 pounds and all equipment found to be over 100 pounds must be lifted mechanically.
- New and existing employees are taught proper lifting procedures by a medical professional.
- Proper lifting techniques are taught at employee onboarding, project orientation, toolbox talks and company academy training. Have a 35 lb. maximum lift limit for employees
- Created Job Hazard Analysis covering each scope of work that is regularly performed. The JHA's and safety resources are available electronically via Smartsheet for everyone..... <https://www.smartsheet.com/>
- Use HCSS Construction Software. This software allows us to more efficiently track data and gives our employees access to all of our safety documents such as pre-task planning and daily jobsite inspection forms.... <https://www.hcss.com/products/construction-safety-software/>
- Take 5: Daily Safety Work Plan
- Developed a craft level Mini-Risk Evaluation. In conjunction with the Pre-Task Plan the Mini-Risk process encompass the entire task not just identification of hazards. Helped create a more complete task planning tool that integrates safety-quality-productivity into task planning.
- Cranes clearly display the Universal Hand Signals, hazards warnings, and barricades around the swing radius of the equipment.
- Pre-task and activity hazard analysis utilize in-house developed RED (Recognize, Eliminate and Discuss) book. It is a task specific AHA is a pocket sized checklist and planning tool intended to challenge employees by thinking and planning out each task by breaking down the hazards and corrective actions and/or PPE required.
- Established both a Glove Use Matrix and a Respirator Matrix which identifies and helps individuals understand which size and type of PPE is best for them.
- Craft workers compete and are recognized for producing the best Job Hazard Analysis on a weekly basis.
- Top out interior walls before MEPs are in place to minimize obstructions to access these hard-to-reach areas by a drywall craft workers.
- Iron workers are isolated within a designated work zone to eliminate overhead hazards and exposures
- Safety program is called “My Safety” and is designed to educate, encourage, and empower our employees to protect themselves and each another. Our leaders

- integrate our safety values into everything they do, making our projects safer by always doing what is right. 6 elements: Commit- Always to Safety Excellence, Educate- Employees so they make the right risk decisions, Plan- For evolving safety efforts, Empower- Employees' safe behavior so they stop at-risk behavior, Improve- By learning from mistakes, Celebrate- Safety successes.
- Craft and subcontractor safety educational resources include: My Safety On-boarding video and handbook highlights: My Life Saving Rules, My Stop Work Authority, Consequences for Rule Breaking, My Safe Work Practices FAQs, Workplace Substance Abuse, and My Personal Safety Check.
 - All new hire safety education includes the My Safety on-boarding video and handbook that covers: My Leaders' Responsibilities, My Personal Responsibilities, My Life Saving Rules, My Work Site Safety Rules, My Consequences for Rule Breaking, My Stop Work Authority, My Health, My Personal Protective Equipment, My Tool Inspection, My Safe Work Plan & Training, My Safe Work Practices FAQs, and My Personal Safety Check.
 - Leaders receive 40–100 hours of Safety Skills/HPI Training. (My Safety Leadership, BBS, Crane Management, Excavation-CP, Fall Protection-CP, Scaffold-CP, First-aid-CPR-AED-BBP, OSHA 10-Hour, Qualified Rigger/Signal Person and Supervisor Workplace Substance Abuse Awareness.
 - When negative behaviors are identified, they are assigned to a Project Manager or Vice President who then becomes the Single Point of Authority (SPA). Each SPA is trained as a competent person in several tasks such as confined space. The SPA is required to monitor the hazard until it is remediated by the safety division or project superintendent. Once the hazard is resolved, the SPA reports back to management actions taken to remediate the hazard. SPA process has assisted in bringing incident rate down from 3.02 in 2015 to 0 in 2017.
 - 5x5 program that requires craft workers to take 5 seconds and step back 5 steps to assess all tasks for hazards and risks
 - Management project audits identified step ladders as a high risk. Implemented belt buckle policy and pledge. Prohibit team members from moving beyond the third step on the step ladder or leaning outside the frame. Each team member signs a pledge to follow the belt buckle policy and correct other team members not in compliance.
 - Use Knaack DataVaults to collaborate with subcontractors on project documentation, to streamline safety orientation process, streamline JSA documentation, and to aid in safety meeting coordination. <https://www.knaack.com/products/featured-products/data-vault>
 - “Forward First” driving and parking policy to prevent back-overs
 - Safe Driving company vehicles - DDC-4 level training provided. Regional Safety Managers attended Smith System style “train the trainer” class in December 2017. <https://www.drivedifferent.com/about/our-history-mission/>
 - Connecting LEAN principles with safety performance because reduction of re-work reduces worker exposures
 - Utilizing an electronic JSA that has speech recognition and facial recognition so writing skills are taken out of the process to motivate better information.
 - Daily task safety plans are reviewed in the morning, lunch, and each break.
 - Using a construction project risk simulator tool (Augmented Reality) for initial screening, retraining, and skill improvement. The simulator inserts situations that mimic challenging tasks and measures reactions.
 - Management must sign the posted pre-work plan before walking into the work area. The sign off are audited each day. This brings management accountability into the

- pre-work planning process.
- Developed a “Forward First” driving and parking policy to reduce backing accidents in pick-up trucks and runover-backover accidents around heavy equipment. Redi-mix trucks are a good example. Off loading is planned and routed to eliminate backing.
 - Highway contractor developed task specific safe work zone procedure and templates which are large and colorful to use with crews for daily task planning.
 - Foremen perform a documented, annual inspection on all rigging equipment for which they are responsible. This includes inspection, removal of defective equipment and tagging with serial numbers. This process effectively removed/replaced 27 questionable tools before they became defective or caused a mishap.
 - Purchased and pre-loaded equipment on a tractor-trailer “safety gear trailers” which eliminate the multiple movement of equipment. Specific equipment is assigned to and stays loaded on a gear trailer until it is used. It is then reloaded and remains on that trailer until its next use. The loaded tractor-trailers are stationed in the yard and ready for future jobs.
 - There was a need to improve safety communication between operations and sales. The foremen created a feedback form for sales on the information they originally provided to execute the job. This has resulted in increased focus on getting in front of jobs to include Job Hazard Analysis completion when the job is booked. Safety is in front of a job, rather than only being managed during the job.
 - All foremen, superintendents and management attend a 20-hour supervisor safety training course. Attendees receive classroom and hands-on training that includes hazard analysis, employee interaction, mishap investigation, interpersonal communication.
 - Equipment qualification is a gated, two stage process. After receiving classroom and hands-on training, each student is issued a learners card. This is temporary authorization to operate equipment under the supervision of a trained supervisor. The supervisor evaluates performance in field conditions, until they feel that the student can operate safely and unsupervised. This process has reduced mechanical material handling mishaps by 50%.
 - Pull Planning scheduling system helps the trade partners be engaged and work can be planned safely using “Safety Hazard Alerts” during the planning sessions.
 - The company’s LEAN initiative is called 6S - Safety, Sort, Set in Order, Shine, Standardize, and Sustain
 - Developed a trackable tagging system to denote project risks and violations. Tags are completed, attached to the risky item, then photographed and sent to superintendent and subcontractors if applicable. Resolution is tracked through the tagging system.
 - Develop standardized project specific signage and provide contact information for both management and safety personnel to be reached 24/7 if needed vs standard signage.
 - Developed a system that requires workers to tie off while climbing scaffold ladders, and gang ladders. Ladders over 10’ have installed handles at the top of gang ladders to allow safe access while climbing on and off of them.
 - “No Hero” material handling policy - helping team members with lifts to prevent overexertion.
 - Safety Pocket Guide given to all employees, providing information about hazard recognition and best safe practices.
 - “RED Book” - ‘Recognize Eliminate Discuss’ - mini AHA book that includes a checklist for all hazards and steps to complete AHAs.
 - Over the years company has tried many, many safety related programs, ideas, and technology. Determined that they have too many programs, forms, etc. hitting the project leadership team. Developed a

requirement that they were going to first purge things that don't work or are less effective. They now require for every new safety related program/system/form, they must purge 2 others already in place.

- Foreman can choose their work method topic of observation and coaching from a menu tied back to company historical losses and risks
- Completed productivity study - Passive fall protection was more efficient than Active PPE
- Equipment operators are required to perform a 30 second walk around of their equipment each time before they move it. This is in addition to their daily pre inspection program.
- Daily ladder safety inspection tag for all types of ladders. Puts more responsibility and accountability in the ladder safety process.
- Housekeeping committee on the jobsites. Subs clean 30 minutes per day.
- Each Safety Manager carries a 4-gas monitor on the jobsites
- Each Safety Manager carries a heart defibrillator in their company vehicle
- Safety Committee includes the Fleet manager to review fleet safety issues and results
- Safety process improvement committee comprised of Executive management, Project Managers, Foremen, employees, and safety coordinators
- Quarterly required safety training on Fall protection, Electrical safety, and PPE. Safe behavior based on repeated proper method reinforcement
- Safety Sequence Plan that is reviewed with the Client and then finalized as the plan to reduce disruptions and surprises and showcases the safety planning process to Client
- "Safe Plan of Action" a daily work area safety inspection completed by foreman. All corrective action item are assigned a Risk Rating and fixed using a priority system
- Quarterly documented formal tool inspection program completed by a competent person insures safety of company tools. Extra set of eyes. Lessons learned completed and communicated after each quarterly inspection.
- Pandemic plan that has procedures to recover from anything that would disable the firm's ability to do work.
- Safety Manager "Us vs. Them" anti "Safety Cop" collaboration program. All Safety managers are required to make some deliveries, help erect scaffolding, help with trash runs, and help with material stocking
- Foreman documented assessments of worker attitude, demonstration, and engagement in safe work methods. Feedback given to evaluated employee.
- Mentorship meetings held monthly to discuss common "at risk" safety observations for the month and to have a team oriented focused approach and message for helping newer employees
- Company vehicle policy; driver must do a 30 second walk around vehicle to look for risks related to the vehicle and the ever changing construction site surrounding around the vehicle.
- Project Chart for all to see which shows who are the competent persons and what are their qualifications and cell phone number
- "Forward First" vehicle and equipment policy to prevent vehicle backing accidents and runover backover injuries to workers
- JSA's are completed but also "Work Plans" which outline safety, quality, and production goals along with the tools and materials needed and the specific means and methods that will be used to accomplish the task.
- Safety Task Force inspects jobs using

- weighted point system. The more risky observations like Falls from Heights and Excavations have a higher rating. Total point scores are added up and there is Housekeeping bonus at the end which can add or take away points from the overall score.
- Fall Protection program is measured by “Lives Saved” after someone falls with fall protection. 18 lives saved in the past 5 years including subcontractors.
 - Cooling stations are placed throughout structure for heat related illness
 - Every worker every day acknowledges via their signature their right to stop work on a specific section of the daily pre-task plan
 - Safe-D program consists of 3 interrelated segments; 1.) Mind set, 2.) Tool set, and 3.) Skill set
 - When PFPS’s are inspected in the field a color coded zip tie is attached to the harness. The colors are based on a time period and quickly tell others if the harness has been inspected and what time frame it was.
 - All Craft workers are required to carry their own Job Hazard Analysis Workbook which includes a checklist and a step-by-step plan for completing an effective analysis.
 - Bright Orange Safety Buckets are placed in all areas where workers are present. They contain 1st Aid kits, spare PPE, incident reporting/recording forms, and other safety items.
 - Use smart phone technology to with underground utilities to document precise location of utilities they install in case they have to work near them in the future.
 - As part of their pre-plan parking plan, they park such that they can pull forward when leaving
 - Safety 360 process for equipment/vehicle safety that requires a person walk around and inspect each piece of equipment/vehicles prior to use.
 - Developed a short list of Life Critical Rules that require complete buy in
 - Workspace Management that focuses on keeping workers on the ground safe by planning work to minimize heavy equipment backing with a focus on overlapping work zones.
 - All workers are required to complete the OSHA 10-hour course prior to employment onsite.
 - All site supervisors are required to complete the OSHA 30-hour course every 3 years
 - Experienced worker mentor program – All new hire employees, regardless of prior experience are assigned a veteran worker mentor to help acclimate new employee to the open communication of hazard controls. The program focuses on both hazard recognition and the actual “how to” openly discuss and correct identified safety hazards.
 - Life Critical Rules, a program developed to specifically approach high hazard exposures. This program requires thorough training to ensure all project personnel including subcontractors, fully understand how to safely execute these high hazard operations. Employees that choose to not abide by a life critical rule are immediately removed from the worksite.
 - Before the purchase of tools, equipment and even personal protective equipment (PPE), we gather employee feedback to ensure we are not only getting the best, we are getting the best fit for our employees. We also know PPE and equipment it is not one size fits all, so we also accommodate individuals to meet their specific needs.
 - New Employee Safety Training (NEST) program for all new and returning employees. NEST was designed by employees for employees to cover real-life safety, job hazards, and health awareness. The course allows new employees to gain hands-on training using the tools and completing the tasks they will see on the job. This not only gives them knowledge

of how to stay safe, it also allows them to get some practice and demonstrate to instructors they are retaining the knowledge.

- Safe Performance Self-Assessment (SPSA) process. Employees should stop before beginning any task and go through the following mental steps: 1. Assess the risk. What could go wrong? What is the worst outcome if something does go wrong?, 2. Analyze how to reduce the risk. Do I have the necessary training and knowledge to do this job safely? Do I have the proper tools and PPE?, 3. Act to ensure safe operations. Take the necessary action to ensure the job is done safely. Ask for assistance, if needed.
- Have evaluated for purchase multiple simulator training programs that can be utilized for initial screening, retraining and skill improvement for select pieces of equipment. Much like a cockpit simulator, the technology provides real life situations that allow our operators to experience unique challenges to enhance their confidence/skills and ultimately promotes peak performance. This will give us the ability to not only develop talent, but effectively screen the skills of potential candidates in a safe environment, before they ever step foot into an actual piece of equipment.
- Safety best practices is our philosophy because it is the right thing to do, it should be shared with all who can benefit. We accomplish this through several avenues. Involvement at construction affiliation summits, at project executive leadership team meetings or through other means of networking. Our innovations are openly shared with all who are interested. At times this could include our customers, our subcontractors and often even our competitors
- The unique hazard of the project was the labor force. Due to the excessive amount of construction ongoing in the Charleston, SC region, the labor pool often resulted in less experienced personnel. An extensive training initiative was implemented on hazard recognition, situational awareness and Pre-Task Planning/communication.
- Apprentice Mentorship Program (AMP) provides all apprentices with a mentor that works with and evaluates them each month on how safely they worked, their attitude, their communication skills, their attendance, and whether they are asking questions to clarify their tasks. Mentors discuss apprentices' current goals, progress toward achieving them, and what support they need to improve. Each apprentice and mentor share the responsibility to develop a safer, better and stronger electrician.
- Implemented a 50-100 rule: No single employee can lift more than 50 pounds. If the lifting of over 50 pounds is required, a tandem lift must be implemented. If lifting of over 100 pounds, a mechanical device must be used.
- OPERATIONAL RISK MANAGEMENT (ORM) DAILY WORK BRIEFING: The ORM briefing includes a five-step interactive process that involves all crew members in the discussion and developing work plan. The leader uses a whiteboard to illustrate five core functions - "Define the Scope of Work, Analyze the Hazards, Develop and Implement Hazard Controls, Perform Work Within Hazard Controls, Provide Feedback and Continuous Improvement" - to identify and document the process of hazard identification and controls.. It is generally conducted by the superintendent
- Our "Protect Your Hands" campaign has achieved a 28% reduction in hand injuries. This was achieved by identifying "caught-between" as the main cause of injury, adding focus inspection questions to our checklists, sourcing training and communicating that hand placement is more important than proper glove use.
- Our perspective is that humans simply perform better when they are directly involved with the risk assessment process and empowered with the ability to dynamically decide our work practices. Risk assessments become a real tool for planning, assessing hazards, and

controlling the hazards associated with our work, and not just a document that gets submitted to the owner in order to check the box.

- We provide and ensure employees use Kevlar body protective gear when using chain saws and concrete cutting saws.
- An AHA (Activity Hazard Analysis) is required for a given DFOW (Distinguishing Feature Of Work) and must be submitted and accepted prior to the commencement of work.
- Superintendents are held responsible as the onsite safety manager, conducting weekly safety meetings, weekly project safety and environmental inspections, and site-specific orientations for all subcontractors. Our project supervisors are the leading force in maintaining safety awareness on the jobsite and championing positive work attitudes.
- Implemented a policy for Safe Dig Practices. Each operator is required to complete a dig permit each day prior to engaging in any type of excavation or dirt movement. Furthermore, each Supervisor is required to complete an excavation permit daily that includes site locate information, soil identification, and specific hazards within their scope of work being performed. In order to reduce the exposure and heighten awareness of the utilities in the areas, we have also implemented a color coordinated cone policy. Each crew has color coordinated cones to match the locate colors of buried lines. The cones have been a critical illustrative tool when working around overhead lines and buried lines. They have proven to be very effective in minimizing strikes.
- We recently combined our daily work plan and JSA's into one document to encourage more discussion and input from crew members rather than the JSA simply being "something you have to sign". Daily work plans are production focused and JSA's are safety focused. Initially these were two separate documents; the two documents were combined because safety and production go hand in hand. You must know what you are going to do today, what tools you need to get the job done, and you need to know what you're doing to properly protect yourself and your crew members from any hazards.
- Our safety practices are built around the 21 elements of control and seven key conformance areas identified by the ANSI Z10 standard to provide a world-class occupational health and safety management system.
- We use USACE EM 385 1-1 model for Accident Prevention Planning
- We took the key features of ANSI Z10 and EM 385 1-1 to establish the concepts of Operational Risk Management (ORM) to ensure continued safety and health of our employees. The ORM structure includes a safety policy, safety objective, and safety management plan for success.
- Unique hazards and controls: a unique risk was the total exposure from high voltage utility substation construction to the entire building/structure installation on a fast track schedule. A "near energized" management system was developed to control the unique risk of working near (not on...) energized equipment and developing a strategy to control human performance and error in high-risk operations.
- Maintain a bank of more than 100 Standard Work Practices for some of our most common tasks. These documents are created, reviewed and regularly validated by experienced company craft professionals to provide guidance on how to perform these activities in the most safe, efficient and reliable manner.
- Another element of our safety program is a process called a "line break process". We follow this protocol any time a member of our crew will be tying into, or breaking open a live plumbing or piping line. In the work we perform, this type of line break could be anything from a hazardous chemical to high-pressure steam and loss of containment has a high potential for

physical damage to property or worse, personal injury. The form is a detailed review that walks the user through a series of checklists of items that require physical verification and sign off and a listing of all upstream or downstream systems that could be affected. It also identifies all work activities required before, during and after the line break as well as the timing and responsible party. Finally, this process requires numerous signatures from the facility representative, general contractor, and our team to ensure everyone is on the same page and back-up plans are in place before commencing work. In the case of anything dealing with high pressure (over 250 psi), Our COO or CEO must also sign off before work can proceed.

- We developed “A Better Way” program to assist with changing the means and methods that have been accepted by the construction industry, but have the potential to cause harm.
- We use a “Pocket JSA” that can be updated as tasks may change during the day. When the tasks do change, a “Take 5” briefing is held to update all crew members and to observe any hazards the new task might face.
- Improved Energized Work PPE to include Arc-Flash gloves and lighter, more comfortable apparel, along with lights and ventilation systems.
- After the morning huddle, employees utilize the “two-minute rule”, a checklist process for identifying and correcting issues for 2 minutes pre-task.
- Established a clear policy that prohibits texting and talking on a mobile phone while working on our project sites. At all our projects, we assign an area where it is designated “safe zone” to use a cell phone. We also understand that certain individuals are required to have a cell phone or an iPad for their work assignment; these individuals are issued a distinguishing hard hat sticker. Since enacting the policy less incidents and distractions have occurred.
- We conduct a 10% Progress Shutdown

Review with all our crew members who are directly involved with the task. When 10% of the work for a project is completed, the progress of the project is thoroughly reviewed before the next step of the project commences. This is a vital aspect of our program and one that has continued to keep our crew members engaged in safety management of our projects.

- Pre Construction Utility Identification/ Clearance Procedure identifies utility conflicts before construction begins. Project Manager, Safety Manager, General Superintendent, Survey, Project Superintendent and Craft Manager walk the entire job looking for known and unknown utilities by looking for obvious signs such as reviewing the project Utility Plans, identifying utility boxes and pedestals, to identify potential conflicts that could delay our operation. Once all utilities have been identified, all potential conflicts are potholed and brought to the owners attention for resolution before construction begins.
- 3D Lift Plan is a lift planning and crane selection application. We provided the weight and dimensions of the object we are lifting and the location and size of any obstructions on the job site. 3D Lift Plan will search the load charts for a selection of cranes to find the most economical crane configuration for the lift. We can also simulate the entire lift in 3D Lift Plan to save time and increase efficiency on the job site. 3D Lift Plan database has over 1400 cranes that contain accurate crane dimensions and load charts. 3D Lift Plan also provides hundreds of custom 3D objects, enabling us to deliver a realistic rendering of our lift plan to our customer.
- Life Critical Rules have been implemented in the areas of fall protection, lock out tag out, trenching and excavation, confined space entry, and equipment operator acknowledgement. The advancement of these life critical rules helps the organization to protect the safety of employees performing these critical work activities.
- Not only have STOP work authority, but

- have START work authority too. Once all stakeholders agree on a path forward.
- The dump truck spotter wears a different colored vest so the driver can easily identify the spotter and distinguish them from other workers.
- Company does not chargeback jobs for safety resources – all safety is tracked in a separate cost code and added to overall cost.
- Backing-up activities are monitored closely to be sure that back-up alarms are present and functional and adequately audible. If they are not, that piece of equipment or truck will be shut-down and red tagged.
- Task protocols, hazards, controls, PPE, equipment, and housekeeping are written on a 4.5” x 8” “Pocket-Card” that is double-sided and laminated. Given to each employee or the team leader to have in a pocket while performing the task.
- “SharePoint” website that was obtained early 2017 to provide a way to have access to all company policies, forms, safety information, SDS, and plans, and job information. Everything imaginable that might be needed in the field is loaded in this website. Information is general and job-specific. Access for all employees 24/7
- Safe work methods are constantly studied. Any time a new piece of equipment is purchased operator training is done by the manufacturer.
- Safety program and safety practices are measured and evaluated by independent 3rd party safety consultants annually
- Hourly personnel are OSHA 10 hour trained and salary personnel are OSHA 30 hour trained. Company has been an OSHA partner for 11 years.
- Pre-task planning that includes analyzing manpower, tools, and equipment needed for the task(s) to assure proper identification of hazards and safety precautions are employed.
- Developed a 2-3 day “onboarding” training program that trains all salaried employee-owners on company policies and procedures before they ever step foot on a project.
- The week a team is about to begin a new task, the task is discussed at the end of the Supervisors’ meeting to ensure project supervisors believe it is the correct approach and that the tools and trained personnel necessary are available.
- If anything unexpected occurs during performance of the task, the crew reevaluates whether the JHA should be altered/updated; this can sometimes include work stoppage. If an event does occur, a lessons-learned description is developed and distributed companywide immediately.
- Planning procedures are validated by a Key Activity Review which is a formal, sit-down review with the crew to see if the execution of the work activity can be improved for Safety, Quality and Production. It helps make sure our planning procedures are effective. These reviews are performed at the 10 percent completion stage of the activity. The craft and project teams attend and have a BBQ lunch after the review.
- Project team including PX drafts a site specific safety plan. It is a team “internal contract”, the entire group signs it with the responsibility of holding each other accountable for the implementation of the program.
- 8ft tall reminder to protect yourself. This sign is a photo of an actual team member who is wearing all of the proper PPE and illustrates what “Always Doing What is Right” resembles.
- Evaluated and selected the CAT “virtual reality” simulator that will be utilized for initial screening, retraining and skill improvement for select pieces of equipment. This is a cost-effective means to allow operators to experience a multitude of challenging scenarios without the associated risk. <https://www.equipmentworld.com/cat-unveils-its-first->

virtual-reality-trainer-simulating-workers-first-day-on-road-paving-crew/

- After an increase in non-injury utility strikes was noticed by Senior management the team created a new program called the Utility Strike Avoidance Plan (USAP). The USAP has two critical components: the Talk Before You Dig Plan (TBDP) and the Talk Before You Dig Log. Prior to underground work commencing, the Subcontractor performing the work is to review the TBDP with the Project Superintendent to identify the existence of existing or newly installed utilities in area. The Subcontractor and the Project Superintendent complete the information on the TBDL and open a permit by initialing in the Open Permit columns. Upon completion of the task, the Subcontractor is to immediately update the TBDP and both the Subcontractor and Project Superintendent are to close the Permit by initialing the Closed Permit columns. The permit is not to be closed until the Superintendent is satisfied the TBDP is accurate and completely updated. Utility strikes are down 72% in 2018.
- Developed a specific “Best Practice” method that specifically identifies crucial aspects of the site’s specific concrete forming system and work methods. This easily accessible document allows our superintendents and employees to understand all hazards associated with the formwork they will be installing.
- Developed the “Dusty Trades” program that takes an in-depth look and covers all PPE and respirators used on site and includes silica sampling to identify hazard areas and levels of exposure.
- Placards have been added to Gang boxes and office trailers demonstrating the required Silica exposure engineering controls for most commonly used tools.
- Implemented a 50-100 rule: No single employee can lift more than 50 pounds. If the lifting of over 50 pounds is required, a tandem lift must be implemented. If lifting of over 100 pounds, a mechanical device must be used.
- All leadership positions are required to take a 8 hour course on Energized Electrical Work and lock-out/tag-out.
- Pre-Activity Plans (PAP) are completed by the foreman to break down the overall JHA into a few days or weeks sub tasks which allows for the risk at hand to be addressed on an as-needed basis.
- “Enhanced Awareness,” program of eliminating headphones, earbuds and/or radios, to abate distraction.
- Developed a “News App” which allows employees to report safety observations from their mobile devices. We then analyze this safety data coming in from across our business. This allows us to tailor specific inspections, communications and training to help focus our efforts and drive specific injuries down that are currently occurring in the field. In one example this year, we reduced strains and sprains overall by 75% from 2016 to 2017 through this process along with our Motion Matters initiative.
- Risk information is communicated to our employees and subcontractors through daily pre-shift Take 5 meetings. Additionally, all employees are trained to conduct documented personal risk assessments in the field prior to performing their tasks.
- Creating new personal risk assessment (PRA) booklets which hold a month’s worth of PRAs and fit neatly in a safety vest.
- XMOP process ensures we do not hit underground utilities. Before mobilizing, projects must complete an Existing Utility Drawing (EUD). A EUD requires that a third-party locator, company staff, or other consultants place all known or discovered underground hazards on one drawing. New structures and proposed new utilities are placed on the EUD to enable conflict identification. We require daily excavation permits when penetrations are within 25 feet of known conflicts or hazards. Superintendents issue daily dig permits before ground penetration. Our XMOP program has reduced accidental utility strikes by 90 percent.

- Safety Procedure & Guidelines Fact Sheets - 98 documents developed on specific exposures
- STA (Safe Task Analysis). This is a four-fold card that covers their activity for the day and contains all appropriate forms (Trench inspection, hot-work permit, PPE checklist, lifting guide, confined space checklist, and safety rules). The foreman is responsible to make sure the STA is completed, to acknowledge that all necessary forms have been completed and to authorize permits.
- RED (Recognize, Eliminate and Discuss) book. This mini, task specific AHA is a pocket sized checklist and planning tool intended to challenge our employees by thinking and planning out each task by breaking down the hazards and corrective actions and/or PPE required.
- Established both a Glove Use Matrix and a Respirator Matrix which identifies and helps individuals understand which PPE is required.
- Use Hug Lights on boom lifts to effectively illuminate stripping operations
- Replaced key safety checklists in our program with full color, easy to follow flow charts, which has led to more effective execution of safety processes in the field
- Shift Prep! – and Joint Stabilization and Stretch Breaks! Program - Dynamic and static stretching program. – is designed to prevent and/or drastically reduce occupational musculoskeletal injury risk and severity, including strains/sprains and slip/trip injuries, among our employees.
- Silica Pocket Guide: OSHA's updated Respirable Crystalline Silica standards are dense, and this guide simplifies them. Printed on water-resistant paper, the booklet is produced in English and Spanish, fits into a pocket, and withstands field conditions.
- Hydration Analysis Chart: Company project geographies range from the humid climates of South Texas to the dry heat of the Arizona desert. To ensure that employees were aware of the symptoms of heat exhaustion and heat stroke, we created a hydration analysis chart. We also have wall charts for our job trailers and a similar design has been created for key chains and badges.
- Require Level 3 cut-resistant sleeves for anyone working above ceiling grid and we require goggles and a hard hat above ceiling grid even in occupied buildings.
- Use ring tracing, a process of attaching a ring over the pipe system and pushing it along the pipe to the cut location to avoid cutting the incorrect pipe.
- Use a CATR corrective action tracking system to make sure identified hazards are tracked to completion.
- RED program which means Recognize, Eliminate and Discuss...called a RED book and is essentially a JHA book that is completed each day.
- Fleet Safety - recognized that tight right turns are a big exposure...they promote that their drivers must own both lanes, not just their own.
- PDCA - Plan Do Check Act.... patterned after the ISO quality standard
- CHECK System – (Monitor and Measure), (Find and Fix), and Document results
- Use the Corps EM 385 standards on all their work, Federal or not
- Have 360 walk around program before starting a company vehicle
- Developed a “blind spot” monitoring program for large heavy vehicles and equipment
- Golden broom award is awarded monthly by the president to the jobsite with the best housekeeping
- Use voice recognition technology to conduct pre-task planning...they found that get much better participation this way.
- Lessons Learned from working with the Corp of Engineers; “Master your paperwork.

You can't overkill in this area. Document everything".

- Projects are stopped twice daily to talk about safety hazards; employees perform 3 safety inspections per day, and twice daily safety hazard review.
- Pre task plans are used as a leading indicator - the hazards the crew forecasts each day are tracked and used as a guide to formulate safety training
- The ratio of frequency of inspections to who performs them is: Safety manager - weekly; Project manager - twice/month; Superintendent and foremen - 3 times each per day!
- Pictures of the project's competent people are posted so others recognize them as someone they can go to for assistance
- Use of voice activated Pre-task-plan process
- Steps and handrails are installed on frequently used truck/equipment to allow safer access.
- Safety audits performed at job set-up and 75% completion to make sure nothing has changed - and if it has, that the mishap prevention plans are updated and adjusted accordingly.
- STA - Safety Task Analysis process. The tasks are planned each morning and the Supervisor and Superintendent complete a daily post task analysis and coaching session at the end of the day.
- Daily time is built into the project schedule to clean up, remove construction wastes, and organize the work areas on a shift by shift basis.
- Encourage employee participation through Safe, Time saving installation methods "Pick of the Month" with a monetary award. Approved methods are placed on the company intranet's Best Practices online manual
- 2 sided pocket pre-task planning card to keep in the work area for changes

throughout the day

- Safety Academy is made up of young engineers to educate these folks.....they study to topic for a month and then take an exam at the end of the month
- Best Practices Catalog that is used to be the standard bearer of best safety procedures above and beyond OSHA
- We uphold our best practices and work hard on our "next" practices
- To address age issues, we match younger employees with older employees, and stipulate limits to lifting materials, tools, etc. – no weight over 50 pounds lifted by one person.
- Single page safety procedure talking points for low frequency operations
- Redesigned Hard Hat – Looked Sharp – No unnecessary stickers allowed.
- Brains over Brawn program for working smarter with ergonomics and more recently employee health and wellness efforts
- "Minimum Global Requirements" – minimum standards based on known best practices and risk mitigation strategies that are set by an international firm for their global workforce.

WORKFORCE ENGAGEMENT, INVOLVEMENT, AND PARTICIPATION

- Created a video that simulates what would happen to the human body if a person were to fall from a height of 12, or 20 feet. Using ballistic dummies that are 95% direct recreations of the human body, the team was able to get real results in a controlled setting on camera. A doctor was also brought in to provide an onsite analysis of the injuries sustained immediately after each fall, what the possible cause(s) of death were, and to perform a mock autopsy in order to discover any internal damage to the body. The video includes statistical analysis of the force of a fall, how a fall effects the human body, and ways to ensure that our workers can keep themselves safe on a project site. The goal is to educate the industry on the importance of proper fall protection and how it can prevent severe injuries and/or death.
- PBI has a Line of Fire (LOF) program that allows all employees to record and submit any hazards requiring immediate attention and to recognize other fellow employees for working safely. Employees write and submit LOF cards daily for review by the Safety team onsite. Upon receiving three (3) positive interventions from an employee, the employee is given an incentive award which may include a company hat or shirt, thermos bottle, safety glasses or another similar item. The LOF program has been a great tool in engaging employees to recognize and speak up about safety.
- A communal whiteboard with markers is placed near the job trailers where anybody can write down a safety concern or issue anonymously - Issues are covered the next day during pre-work meetings and compiled for future analysis.
- Paying for employee families to receive CPR/First Aid Training and Discount AEDs are also provided for home use.
- All employees are assigned a week to complete a daily, written safety audit.
- “Field Workers Observation”. Each day field workers inspect their work area and make photos of each observation. They cover what they find in the next morning huddle. Observations and pictures are displayed for a week. Pictures also used in orientation to make orientation content a continuous improvement process.
- “Family Board” “Board of Life” pictures of contractor and subcontractor family members who are expecting them to come home every day.
- Tool Box Talks written and presented by field employees in their own words, captured and used later.
- “Take Five” program – anyone involved in a task who has a concern about a safety exposure may terminate the task until a management review.
- Employees carry “Stop Work” cards which empowers employees to stop work if anything in their mind is unsafe.
- Annual training required on healthy lifestyles and taking care of yourself.
- “Biggest Loser” wellness program where participants lost over 400 pounds collectively.
- The “Two Minute Time Out” to remind workers coming back to their work areas to STOP and take 2 minutes to evaluate what might have changed in their work area since they were there?
- Golden broom award is awarded monthly by the president to the jobsite with the best housekeeping.
- Safety Reward Point System that awards points for safe workdays, participation in daily, weekly, and monthly training, attitude, improvement suggestions, timely completion of training, leading Tool Box talks, etc.
- Incentive awards that consist of home

only use safety items like special gloves, chainsaw chaps, Harley Davidson safety glasses, and smoke and CO detectors.

- Provide inexpensive digital cameras to work crews for them to make pictures of what they think are hazards throughout the workday, then share with their manager and safety department, education, and prevention.
 - “20/20/20 Rule” – Take 20 seconds, every 20 minutes, in a 20-foot perimeter to see if anything has changed.
 - Close Call Reenactment
 - SOS (Safety Observation Signal) 30 item pre work safety checklist.
 - ROBO calls to home for safety related issues.
 - Safety look-ahead plan for week with coffee and donuts every Monday morning
 - “Zero Injury Perception” surveys
 - To ensure implementation of company policies and practices, safety performance is included in all annual employee evaluations. Results of the safety evaluation affect raises, bonuses, and continued employment.
 - Invited several manufacturers to present to our job site regarding proper use of fall protection gear and rigging components. This presentation was conducted in both English and Spanish.
 - Daily End-of-Shift Meetings validates the crews understanding of safe work practices and helps identify risks for the next day.
 - Project-wide meeting at the 10 percent completion stage of all projects. Opportunity for the Team to pause and review work processes and safety. During this meeting, project management receives feedback from crews to understand how to better protect people.
 - Informal leaders are identified to help communicate safety messages.
 - Signage at the entrance of all project sites
- reminds everyone of the requirements to protect yourself, and it is not just words. The sign is of an actual team member who is wearing all the proper PPE and displays what “Always Doing What is Right” resembles.
- Jobsite briefs are held 3 times each day. Each morning, after the lunch break, and at the end of each day. The final brief allows a recap of the day’s events, as well as a message to take home to the workers family and their community.
 - Retains a licensed counselor which allows for rapid response to personal worker issues. The licensed counselor helps alleviate those issues that construction workers don’t always want to discuss.
 - Every employee at the completion of each project is sent an anonymous Survey Monkey to provide feedback in regard to safety practices and their effectiveness.
 - Have a confidential safety hotline that is provided to every employee at their initial orientation.
 - When planning a project budget, field personnel will be asked for their opinion to assure project management can properly budget what is needed for safety.
 - 4-hour supervisory program: where managers learn about our relationship to risk; how the new worker and the experienced worker are prone to stepping off the safe path; and why it happens. How to plan and assign work – re-enforcing the importance and need for engagement and conversation between workers. Discuss how to talk to workers, engage them in discussion, and the need to listen. How our culture and values drive an individual’s actions.
 - Weekly newsletter, the “Safety Communicator”, is distributed to all employees and discusses the week’s leading and lagging indicators.
 - Senior leadership mentors the workforce by

engaging them in project management/JHA team activities such as “The Peanut Butter Sandwich” challenge that was presented at a Safety BBQ between two safety professionals making a peanut butter sandwich with their hands tied behind their back.

- Leadership incentivizes the workforce to demonstrate safety with special parking spaces, “Key Master of Port-o-Potty”, random gift cards with recognition at the “All Hands Safety Meeting.”
- Employees have input on PPE and tools provided so they automatically have buy-in because they help choose what they will be using.
- Any craftsman can recognize and recommend a reward like a t-shirt, to acknowledge another teammate that is performing a task safely. Successes are posted on social media for their friends and family to witness.
- The safety recognition program is in place to reward hourly employees for contributing to the safety program. Employees earn CHIPS (Construction Hazard and Injury Prevention System) for filling out their RED Books, leading and engaging in stretch and flex, attending weekly crew led safety audits, inspecting tools prior to use, etc.
- At the conclusion of any OSHA 10- and 30-hour training class all participants must present an idea to advance the safety culture to the group.
- Each project has an industrial hygiene board to show craft workers all sampling data including heat indexes, decibel levels, silica sampling, etc.
- Safety Discovery Lunches - trades provide a tradesperson to come for a lunchtime discussion on project safety. The discussion centers around what’s working well, what can be improved and what have they seen on other projects that could benefit this one. These representatives are then encouraged to go back to their teams and share the discussion.
- The “Safety Catch” program allows

employees send in a job site hazard along with a way to control or eliminate the hazard. One submission each week is selected for a safety lunch. All crew members of the employee who submitted the safety catch receive lunch from the safety department and a pocketknife. The “safety catch” that is selected is also featured in the next Toolbox talk.

- WorkFit is a daily job-site fitness program designed to help employees enhance flexibility through a specifically designed series of stretching exercises.
- Conduct Climate Surveys on all projects. All employees on site anonymously complete a brief survey with questions that allow the workers to share their perception of the safety climate on their job site. These results are summed up and shared with Senior Management and the project team for analysis, discussion and corrective action as needed.
- All workers go through a Project Orientation. The orientation introduces them to the project by letting them know what they are building, who they are building it for and the benefit to the community. The safety expectations are presented and reviewed, and a Q & A is ongoing throughout.
- Launched an Employer Assistance Program (EAP) this year to ensure that employees are not only kept safe physically, but also emotionally and mentally. The EAP provides support for personal goals as well as bouncing back from life’s hardships.
- Provide safety welcome kits for new hires.
- Upgraded fall protection training. We now have large tripods in each office where employees are taught how to properly wear their gear. They are lifted up with the tripod so they can feel the pressure points and better understand why they need to wear their gear correctly. This makes a difference when talking about rescue provisions. This also has reduced the number of fall exposures. The tripods are extremely effective at jobsites, as well as immensely

popular at the National Safety Stand-Downs.

- Housekeeping and Fall Same Level controls
 - Each contractor labels each piece of their equipment, tools, and materials. Each day GC divides the project up into 4 quadrants and assigns a team of mixed craft workers to clean their assigned quad. They clean up things that may or not be theirs because of their work that day. Promotes peer pressure between crafts to not make it hard on each other at the end of the day clean-up.
- Toolbox demonstration - A craft worker performs several tasks in front of the group with one hand tied behind their back. Demonstrates how important it is to protect your arms, hands, and fingers from crush and cut points.
- Large project banner with the handprints of craft workers children.
- When at-risk behaviors are observed inquire/discuss about the employees' emotional response if they are injured
- Relationship Based Safety (RBS) not Behavior Based Safety (BBS). Use the term "Leadership through Partnerships."
- Individual workers complete their own personal Pre-task plan.
- Use Craft workers to present various safety topics to their peers.
- Continuous improvements team are established at the project level consisting of upper and middle management and craft level workers. Teams are measured on their performance and coached to succeed. Management realized that the "people" dynamics and personalities determined how the teams worked together was the key to success.
- Provides all offices and projects with a roving company nurse to help promote wellness and speak with employees with personal health concerns including blood pressure and blood sugar free of charge.
- Monthly jobsite safety exam where 3 craft workers volunteer to write an exam on a

topic of their choosing. Exams are shared with subcontractors.

- Changed the safety manager led safety committee to a supervisor led committee called the "Supervisor Safety Forum."
- Craft workers receive a \$25 gift certificate when they volunteer to present a safety topic at the weekly "all hands" meeting. It was slow at first, but now many try to present a topic. To encourage people who have not presented to do a topic presentation, a \$50 gift certificate is given.
- When employees make a near miss report or make a correction to an unsafe condition without being told to by management, they are issued a card good for one paid time off hour.
- In addition to morning pre-work safety meetings, the company has a mandatory "End-of-Shift" meeting to debrief safety issues from the day and plan for the morning.
- A Top 10 Safety Items Banner was developed to focus on and remind all jobsite workers of required safety protocols.
- Hardhat stickers that state "I'm Bilingual."
- Designed worker areas for lunch and meetings outdoors with a canopy and water misters for cooling during hot summer months. Multiple tables are provided for workers to rest and eat lunch and break in a clean shaded area.
- LinkedIn company showcase page that is solely dedicated to safety education and acknowledgements.
- Open forum for workers to voice their concerns and feedback with monthly "Breakfast with the President" sessions.
- On a monthly basis a randomly selected single worker on each project is invited to the district office to meet and discuss with senior leadership what challenges they face on their project.
- Monthly Craft Safety Workshop where 20 craft workers are randomly selected to have

- an open conversation about strengths of the safety program and what can be done to improve safety on their projects.
- The company has a “safety hotline”.
- Company program to promote financial wellness.
- Peers nominated for the safety champion award.
- Biometric screening to include a wellness program to promote healthy meals and company-sponsored physical events.
- The “I Got Your 6” program allows project team members and subcontractor employees to stop any condition or situation which may pose a direct or indirect hazard and have a positive conversation with the individuals or group to effectively explain why they believe an unsafe condition or situation is present and how to correct it. A submission of this I Got Your 6 moment is placed into the electronic inspection software.
- Videotaped worker injury reenactments for review by all field employees. Categorized and kept in the Learning Library
- Workers who are injured are invited for a 3-month executive safety committee position.
- Weekly phone system for electronic affirmations that each employee feels like part of the safety process.
- Monthly recognition program for the employee who excels in safety performance. A \$500 AMEX gift card is given as the reward. The employee is also in the monthly newsletter explaining why they were recognized.
- Aim Zero, a 3rd party reporting hotline for anonymous reporting of improvement ideas, safety concerns, or near-misses.
- Monthly APB’s (Accident Prevention Bulletin) are sent to each employee’s home. The APB’s outlines all incidents and near misses and includes the root causes and corrective action.
- Health and Wellness committee which addresses the root cause of life habits that can affect employee safety and work methods. There is also an annual health fair where all family members are encouraged to attend.
- Jobsite warning and hazard signs with photos of team members along with the “Danger” or “Cautionary” language to make the warnings more personal. Signs referencing PPE show an actual team member with the PPE properly worn.
- Worked with snack machine vendor to only offer healthy snacks at a reduced cost.
- Strategic plan and schedule to talk to employees one-on-one about their personal life situations. Shows additional concern for not only the wellbeing of employees while on the job, but more importantly what affects employees off the job. Issues are strategically coordinated with the Employee Assistance Program, rather than just deal with it.
- “Innovation Incentive Program” - a \$50 cash award for any innovative idea that gets adopted in the safety or operations management process.
- “SOS Lifeguard” program where select craft workers receive the same safety and leadership training as project management. They act as a safety back-up closer to the work in case the project management team is not around.
- A construction safety quiz is sent out each day to all workers to help drip safety knowledge daily.
- Participation in the CDC’s National Healthy Worksite Program (NHWP)
- Monthly Jobsite Safety Exam. A volunteer worker develops a quiz based on current job conditions and hazards, and it is given to all employees. The answers reviewed as a group.
- Employees are digitally connected. Facebook & Twitter for employees and families

- Employee innovative ideas are posted on company hosted intranet site for all to benefit and spur more ideas.
- Company requires and pays for Fitness for Duty Exam for every field worker, also Prescription Safety Glasses
- Activity Hazard Analysis....one example resulted in having laborers sit in heavy equipment to understand blind spots to better understand the challenges of the operator.
- “Foreman of the Month” is selected by the safety committee and lists their specific proactive approach to safety.
- Sequence and Scope of Work Tool Box talks that are Craft designed.
- Workers complete their own individual pre-task plan with 35 task questions for each different scope of work on a weekly basis. Quality validated by Foreman and Safety Manager
- “What’s Wrong With This Picture”? Employee hazard awareness program where a large poster size photo is posted on project, and employees get a prize for identifying the hazard(s) and extra for knowing the controls.
- Employees are assigned to do a safety talk each day and must Google the subject and present it in a creative way on their own. Researching a safety subject leads to learning.
- Lunch and learn training sessions to cover new Federal safety standards and risk issues that need to be addressed based on incidents and observations.
- Use of Audience Response Apps to enhance training, culture surveys, and anonymous group answers.
- \$1,000 reward system for employees who submit innovative ideas for eliminating a risk or a better safer way of performing construction tasks.
- Electronic counter on company website that counts days real time since last incident. Reminder to all who sign in daily to the internet access point.
- Employee Only Group Facebook page which is closed to the public is used to communicate, discuss, and celebrate safety successes.
- Family oriented Tailgate parties at major local sporting events to celebrate safety and family.
- Sponsor family-oriented charity events to support and help the homeless.
- A large field whiteboard is used to complete daily pre-task plans. The board is completed by the craft group and encourages more participation in the process. The whiteboard remains in the work area so if things change the team can update the whiteboard.
- Company Investment partner provides ongoing one-on-one financial advice for employees on managing money, retirement planning, college savings, and debt control.
- Developed a company Safety Only email address (safety@callagc.com) so people could send issues or accomplishments to a central website. Increased employee participation in the safety management process.
- Use a voluntary Monthly Project Safety Exam to help identify future potential leaders. If someone volunteers for the exam that shows leadership qualities and that they are engaged in not only Production and Quality but also Safety. Participants who score high are asked to develop an exam question for next month’s exam. We have expanded the exam process to include a separate exam for Quality control.
- Every company employee is required to take 16 hours of intense communication “People Skills” training each year.
- Worker seniority (apprentice, journeyman, master/mentor) identified by varying hard hat colors.
- Use of Mobile Tablets and Face Time technology to speed up communication and sharing

- Invite the surrounding community onsite to conduct safety surveys with a close eye on Public Liability exposures.
- 20% savings in health insurance premium for non-smokers.
- Safety Observation Reports allow employees to give details on what safe and unsafe acts they are seeing when on site. Employees are required to turn in four observations a week and are encouraged to submit safe and unsafe observations. This also provides us with a great opportunity to reward employees who complete the best and most observations. This also allows us to prevent future incidents and focus our on-site safety training.
- Employees from the field are given time to sit and discuss what they would like to see from our safety department. We have used this committee to rewrite policies, plan safety events, review incidents, and develop a game plan to continuously improve our safety culture. Employees enjoy seeing into the corporate side of safety and like to be involved with decision making and brainstorming at a higher level.
- Handwritten cards are mailed quarterly to employees who our executives have recognized for going above and beyond expectations. These are sent along with a gift card to the employee's home address. The intent is that the employee's family will see the recognition and ask questions about the circumstances. Our desire is that the family of the employee will embrace the concept of safety as a beneficial journey.
- Implemented a process that we refer to as Dynamic Learning Activities (DLA's). DLA's have one simple objective - employee involvement. Edgar Dale's cone of learning states that after two weeks, people will only remember 20% of what they hear. However, after that same timeframe, people tend to remember 90% of what they say and do. DLA's provide visual aids, interaction and communication by all. Granted, weekly safety meeting material is generated and distributed to all projects. However, DLA examples for the topic are provided as options. Creativity is encouraged.
- Employees participate in various safety initiatives throughout the year such as Safe + Sound Week, National Safety Month, National Suicide Prevention Month, American Heart Month, and National Electrical Safety Month.
- Rolled out Mobile Escape Room to students all over Colorado to teach them about what it takes to be an electrician, and more importantly, what it takes to be safe around electrical construction. After hearing from an electrician about the trade, students are taken into an "escape room" which is a trailer with a series of puzzles designed and built by our team. They wear PPE and solve those puzzles with an eye toward learning what it is like to be in the trade. The construction industry is in crisis, and it is difficult to find talented people. This is one way to reach out to the next generation and let them know a career in a safe trade is a great choice for their future.
- A key initiative of our Strategic Plan was to improve craft workforce engagement. Re-branded as Craft Safety Connection (CSC) we formalized guidance for our safety teams and reemphasized the importance of including our craft workforce in decision making related to their safety. We strategically select leaders in the field to be the voice of safety for their coworkers. CSC Members are future leaders, often considered for advancement opportunities into supervisor roles. Craft Safety Connection builds confidence, aids employee development and provides much more deserved opportunities for our craft workforce.
- Our supervisors are trained to elicit employee responses through asking "open ended" questions, which are questions asked of employees that require an explanation instead of a simple "yes" or "no" response. The helps to ensure employees are authentically engaged in safe work processes and are not allowed to be disengaged.
- Each year, projects compete for the

Excellence in Safety Award (EISA). Project teams assemble presentations, vying for this highly coveted award. Requirements/ judging criteria include 100% team involvement in the site safety inspection program, site safety committee program, safety training program, 100% safety documentation, zero lost time incidents, OSHA total incident rate 25% below national average, and demonstrating the team's commitment to safety.

- Every supervisor is required to take several "safety breaks" per day. During the safety break the crew's safety behavior is observed. Then the supervisor gathers the crew together to discuss the good and bad safety behaviors observed and the necessary corrective actions.
- Launched a monthly safety and health magazine that promotes physical fitness, dieting, estate planning, managing of money and home, pet tips, etc. These programs are creating cultures of caring and the importance of safety on-site as well as home life.
- Our microlearning videos are a unique way to highlight innovative tasks and provide quick, effective training across the company on topics such as dust control and proper table saw use. They feature our employees and are published and distributed to our management and craft employees.
- Safety Advisory Council (SAC) is working. They wear neon green Safety Mentor shirts so they can be easily identified and approached with questions and concerns. The members now recommend their peers for SAC based on observed safety mindsets and safe work choices. All new foremen were promoted from within the SAC system.
- Have instituted monthly, quarterly and annual safety awards. Monthly, an employee nominated and elected by his peers is chosen as Safe Employee of the Month and awarded \$100, a hardhat sticker, and announced in a local newspaper advertisement.
- Bought a ballistic dummy for a project to

showcase the damage that can occur to the human body from a fall. The ballistic dummy had realistic internal organs and skeletal structure that could simulate traumatic force on the body. The dummy was dropped from a second story loading dock to simulate a fall protection scenario. Afterwards, it was presented to the field and in conjunction with a doctor who was presenting on fall trauma, talked about the realistic broken bones and ruptured organs from the fall. Afterwards the dummy was left on display for our employees to use as a learning tool.

- Another strategy we use for orienting new hires is what we call "pairing." We pair less experienced workers with experienced, safety-minded workers. In doing so, safety, work ethics and culture are passed on to all newcomers.
- The company provides an annual Safety Expo with ALL employees and key vendor partners. This is a full day of employee training that consists of interactive, station-based content based on actual project conditions and situations while still in complete compliance with the content requirements. This creates an awesome atmosphere for everyone involved to experience the training as well as take in the technical aspects. Teams are built with a strategic mixture of executives, mid-level managers, supervisors, support staff, and Field Operations. These teams then rotate through the training experiences, each led by manufacturer representatives and safety professionals, and interact via hands-on instruction that includes actual situations that are encountered in the field.
- Using the principle of Mindfulness to prepare workers for all day focus. <https://www.assp.org/news-and-articles/2018/03/08/what-is-mindfulness-and-how-can-it-improve-safety>
- Embrace employee wellness - at their office, they have a gym with personal trainers.
- Have implemented a Veteran's Hiring Program and is addressing /recognizing

common stressful mental health issues they may encounter.

- Company in process of adapting Toyota's Workers Health Platform to their own Corporate Wellness programs focusing on poor nutrition, fatigue, exercise, heart disease, aging workforce, high blood pressure, etc. This is being rolled out in each region across the company to over 600 craft workers. The analogy is to speak with them like athletes – we take baby steps and correlate it to increments on a ladder.
- Smoking and Vaping causes problems on many of the jobsites. The company decided to offer help to those workers that want to quit smoking/Vaping but say they cannot afford a treatment program. On a voluntary basis, any employee that wants to quit smoking/Vaping will have their initial doctor's visit paid for as well as four hours' time off from work to go to the appointment. If the Doctor prescribes a drug to help the employee quit Smoking/Vaping, the company will pay for up to a 90-day prescription.
- Have increased worker welfare by providing areas that have shelter, tables, and hand washing facilities.
- All lead employees received Dupont STOP training, which is tailored specifically for our work. Through STOP training, employees learn that all injuries are preventable; employee involvement is essential; management is responsible for preventing injuries; all operating exposures can be safeguarded; employee safety training is essential; working safely is nonnegotiable; safety observations are vital; all deficiencies must be corrected promptly; and every employee has the "stop work" authority.
- All employees who drive company vehicles are only to be operated by Defensive Driving trained personnel. Training is completed through the National Safety Council every three years.
- Each piece of equipment has its own specific inspection form that's specific to

the type of equipment. No longer use one inspection form for all equipment.

- 60-second employee-produced videos discussing relevant safety topics like stress and weather-related challenges.
- A special emphasis program targeting the prevention of head injuries associated with children who ride a bike or skateboard was initiated. The program involved the distribution of a free child's bike helmet from a specially designed web site for any employee having a child or grandchild. In placing the helmet order, a suggestion to donate to the company's Employee Assistance Fund (a tax-deductible contribution) was placed on the website.
- Employee Assistance Fund was developed to financially help employees who have fallen into hard times.
- Crews participate in daily warm-up and stretching prior to commencing work, which has shown significant results in reducing injury and increasing performance.
- All new apprentices are given new tools as they embark on their journey as an electrician.
- Accident Dummy "hired" Darwin, a crash test dummy, to provide more hands-on rescue. On all projects with roof work Darwin participates in actual fall and roof rescue practice, helping to improve the planning of that specific job, as well as, on future projects. The kind of real world, hands-on risk assessment Darwin provides makes us extremely proud, and the workers in the field love it when he shows up.
- Provide preventative care consultations with EMT's to workers with aches and pains on site. We modify their work, so they can get back to 100% thereby avoiding injuries and time loss.
- Community outreach - knock on doors of residences near jobsites to make them aware of the job and unusual noise.
- Launched program to address suicide

- prevention and opioid abuse.
- Use pictograms for signage that solves the language barrier for multiple cultural challenges.
- Operational excellence involves ...an idea is generated, a video is made, it is shared online and ultimately incorporated into company best practices.
- Offer free PPE to employees for their personal use off the job.
- Each day the foreman involves a different crew member in the creation of a JHA, aiding in crew bonding and reinforces buddy system.
- Different crew members are assigned as visitor escorts when A/E's or owners arrive.
- Safety mentorship program gives those interested in pursuing a career in safety with an opportunity to accompany corporate safety professionals to evaluate the career field.
- Tradesmen who no longer work with their tools are encouraged to accept positions in the safety department. Their dedication and knowledge are respected by tradesmen, and they can connect better than some non-trade background safety professionals.
- Safety Audit "Tag-a-Long" program - a list of all supervisors and subcontractor supervisors is maintained and on each safety audit completed by Risk Management/Safety an individual on the list is selected to tag a long on the audit for safety management training and development.
- 6 Hour New Hire Orientation
- Use Twitter and LinkedIn to stay connected with employees and their families and deliver periodic on the job and at home safety tips.
- Internet SharePoint interactive site that all company employees can access to ask questions and share best practice ideas. Highlights from the website are used in the monthly newsletter.
- On-site computers for employees and management to access safety related information and training.
- Teach the safety team how to train, how to teach, etc. before certifying them as competent.
- Non-English speaking safety committee with bi-lingual chair.
- Pre-Hire pre-promotion skills assessment. Problem solving, analytical, people, communication, etc. to find a better fit for job.
- 5+ year employees are designated and identified as "Senior Employees", and they receive a gold fiber hardhat. They are looked upon to help coach and guide less experienced employees.
- Rotating safety committee members — including Project Managers, Superintendents, QA/QC, and Safety professionals — through construction walks on other projects brings fresh, credible perspectives that strengthen hazard recognition, validate field conditions, and enhance organizational learning across the enterprise.
- Encouraging workers to display a photo of their loved ones on their safety vest reinforces a culture of personal accountability and purpose. This simple but powerful practice reminds every worker why safe choices matter — strengthening the emotional connection between daily decisions and returning home unharmed.
- Designating bilingual workers with a visible blue band hard hat marker creates an immediately accessible communication resource on every jobsite. This promotes inclusion, improves safety communication across language barriers, and ensures all workers can receive and convey critical safety information effectively.
- Identifying certified Mental Health First Aiders with a visible hard hat marker makes peer support resources immediately recognizable on the jobsite. This reduces stigma, normalizes help-seeking behavior,

and ensures workers know exactly where to turn during a personal crisis.

- Sending a daily good morning message with embedded safety elements reinforces a consistent safety mindset, keeps safety top of mind before workers arrive on site, and builds a sense of connection and leadership care throughout the workforce.
- A structured Crew Safety Coordinator program serves as both a developmental and educational pathway, transitioning experienced trades and crew members into safety roles. This builds internal safety capacity, rewards field expertise, and creates a credible bridge between the workforce and the safety organization.
- QR codes on hardhats and across the jobsite link to good catch/near miss reporting to increased employee participation and engagement in near miss program
- Provided a series of monthly health and wellness webinars for all its employees. The goal was to help lead employees to a healthier and more productive life. Each month a different topic was presented including topics such as Healthy Nutrition, Mindfulness, Physical Well-Being, Sleep, Ergonomics, Financial Well-Being, Prevention and Social Well-Being.
- PBI has a Line of Fire (LOF) program that allows all employees to record and submit any hazards requiring immediate attention and to recognize other fellow employees for working safely. Employees write and submit LOF cards daily for review by the Safety team onsite. Upon receiving three (3) positive interventions from an employee, the employee is given an incentive award which may include a company hat or shirt, thermos bottle, safety glasses or another similar item. The LOF program has been a great tool in engaging employees to recognize and speak up about safety.
- Under the “You Matter - We Care” motto we created a COVID-19 tracking system dedicated to looking out for our employees and their Families. Over 60 Families that

have been impacted during this crisis received at their doorstep a complete family honey-baked ham meal with all the fixings.

- Children of employees enter a “What Safety Means to Me” drawing contest and rewards are given and a calendar is distributed to all
- A communal white board with markers is placed near the job trailers where anybody can write down a safety concern or issue anonymously - Issues are covered the next day during pre-work meetings and compiled for future analysis
- “Great Safety Race” based on the TV show Amazing Race - Employees had to visit 10 stations and answer safety related questions and complete safety challenges
- Paying for employee family’s to receive CPR/First Aid Training
- All employees are assigned a week to execute a daily, written safety audit.
- “Field Workers Observation” Each day field works inspect their work area and make photos of each observation. The cover what they find in the next morning huddle. Observations and pictures are displayed for a week. Pictures also used in orientation to make orientation content a continuous improvement process.
- “Good Catch” program where employees are rewarded for identifying and eliminating work place hazards
- “Family Board” pictures of contractor and subcontractor family members who are expecting them to come home every day
- Tool Box Talks written and presented by field employees in their own words, captured and used later
- “Take Five” program – anyone involved in a task who has a concern about a safety exposure may terminate the task until a management review
- Employees carry “Stop Work” cards which empowers employees to stop work if anything in their mind is unsafe

- Annual required training on healthy lifestyles and taking care of yourself
- “Biggest Loser” wellness program where participants lost over 400 pounds collectively
- The “Two Minute Time Out” to remind workers coming back to their work areas to STOP and take 2 minutes to evaluate what might have changed in their work area since they were there
- Inside the hard Hat sticker with the names and phone numbers of 2 approved medical providers in case an injury occurs
- Safety Reward Point System that awards points for safe workdays, participation in daily, weekly, and monthly training, attitude, improvement suggestions, timely completion of training, leading tool box talks, etc.
- Incentive awards that consist of home only use safety items like special gloves, chainsaw chaps, Harley Davidson safety glasses, and smoke and CO detectors
- Provide inexpensive digital cameras to work crews for them to make pictures of what they think are hazards throughout the workday, then share with their manager and safety department, education, and prevention.
- Safety Huddles/Talks in the morning, after lunch, before a change in activity, and at the end of the work shift
- CI Teams – Continuous Improvement teams made up of a cross functional group of employees
- Hard hat sticker that has a photo of the workers family to help promote working safe to get home to the people who care about you
- “20/20/20 Rule” – Take 20 seconds, every 20 minutes, in a 20 foot perimeter to see if anything has changed
- SPOT awards program - workers reporting near misses, etc.
- ZIP Surveys (Zero Injury Perception)
- Fleet Safety Committee
- Safety Pyramid Metric using own data to show when more significant thing may happen
- Close Call Reenactment
- SOS (Safety Observation Signal) 30 item pre work safety checklist
- Chanting “1, 2, 3,... Be Safe”, at safety huddle meeting like sports
- ROBO calls to home for safety related issues
- WOW Program “Workers Observing Workers”
- Safety Briefing at the Beginning of Each Shift
- Safety First, Second is too Late
- Safety look ahead plan for week with coffee and donuts every Monday morning
- “Make it Safe” wallet cards
- “Zero Injury Perception” surveys
- To ensure implementation of company policies and practices, safety performance is included in all annual employee evaluations. Results of the safety evaluation affect raises, bonuses, and continued employment.
- Invited several manufacturers to present to our job site regarding proper use of fall protection gear and rigging components. This presentation was conducted in both English and Spanish.
- Use a jobsite employee-owner involvement process called Safety Performance Improvement Council to improve practices and reinforce the importance of safety.
- Safety goal setting and measurement to track progress of plan (published, communicated, and celebrated when appropriate)
- Foremen recognize their crew members with awards for exemplary safety performance above and beyond their normal duties. Exposing a job-site

“booby trap” like an unstable ramp or an unguarded hole are examples of how a crew member can earn a “Safety Performance Ticket” from a supervisor.

- Daily End-of-Shift Meetings validates the crews understanding of safe work practices and helps identify risks for the next day.
- Project-wide meeting at the 10 percent completion stage of all projects. Opportunity for the Team to pause and review work processes and safety. During this meeting, project management receives feedback from crews to understand how to better protect people.
- Implemented six Safety Improvement Groups which are employee led safety task forces assigned to recognize areas needing improvement and to develop “boots on the ground” solutions.
- Safety Awards banquet annually. A multiple tier points system is used to represent the years of safe service the employees have had. Employees use their points to select from a variety of company merchandise. Employees with Safety Violations are not eligible, but injured employees are. Also announce our safety Supervisors of the Year.
- Informal leaders are identified to help communicate safety messages.
- Signage at the entrance of all project sites reminds every one of the requirements to protect yourself, and it is not just words. The sign is of an actual team member who is wearing all of the proper PPE and displays what “Always Doing What is Right” resembles.
- Jobsite briefs are held 3 times each day. Each morning, after the lunch break, and at the end of each day. The final brief allows a recap of the day’s events, as well as, a message to take home to the workers family and their community.
- Retains a licensed counselor which allows for rapid response to personal worker issues. The licensed counselor helps alleviate those issues that construction

workers don’t always want to discuss.

- Every employee at the completion of each project is sent an anonymous Survey Monkey to provide feedback in regards to safety practices and their effectiveness.
- Have a confidential safety hotline that is provided to every employee at their initial orientation.
- When planning a project budget, field personnel will be ask of their opinion to assure project management can properly budget what is needed for safety.
- Daily “safety slogan” is emailed in the morning to everyone that has an email address and is used as a daily JHA topic of discussion. Slogan’s such as: “Safety is a full-time job - Don’t make it a part time practice”, “Shortcuts cut life short”, and “When It’s Hot, You Must Hydrate” are dripped regularly to all employees.
- 4-hour supervisory program: where managers learn about our relationship to risk; how the new worker and the experienced worker are prone to stepping off the safe path; and why it happens. How to plan and assign work – re-enforcing the importance and need for engagement and conversation between workers. Discuss how to talk to workers, engage them in discussion, and the need to listen. How our culture and values drive an individual’s actions.
- 4 LIFE. The “4” represents the 4 R’s of incident and injury free work: Reach out, do it Right, Raise your voice and Recognize hazards. Live Incident Free Every day represents “LIFE.”
- Safety Systems Improvement (SSI) Task Force collects feedback regarding development of procedures, accessibility of information, and near miss reporting from our employees in the field.
- Monthly Craft Safety Team Program - ideas and input from field employees
- Weekly newsletter, the “Safety Communicator”, is distributed to all

employees and discusses the week's leading and lagging indicators.

- Senior leadership mentors the workforce by engaging them in project management/ JHA team activities such as "The Peanut Butter Sandwich" challenge that was presented at a Safety BBQ between two safety professionals making a peanut butter sandwich with their hands tied behind their back
- Leadership incentivizes the workforce to demonstrate safety with special parking spaces, "Key Master of Port-o-Potty", random gift cards with recognition at the "All Hands Safety Meeting"
- Employees have input on PPE and tools provided so they automatically have buy in because they choose what they are using.
- Operation Zero promotes safety as a personal responsibility. Leaders and all project team members are challenged with making a human connection with every single worker on site and developing a stronger sense of empathy for the challenges that people face in working safely. This creates caring among all craft workers.
- Any craftsman can recognize and recommend a reward like a t-shirt, to acknowledge another teammate that is performing a task safely. Successes are posted on social media for their friends and family to witness.
- Safety recognition program is in place to reward hourly employees for contributing to the safety program. Employees earn CHIPS (Construction Hazard and Injury Prevention System) for filling out their RED Books, leading and engaging in stretch and flex, attending weekly crew led safety audits, inspecting tools prior to use, etc.
- Board of Life - employees bring in pictures of their family members to demonstrate why they work safe.
- At the conclusion of any OSHA 10 and 30 hour training class all participants must present an idea to advance the safety culture to the group.
- Each project has an industrial hygiene board to show craft workers all sampling data including heat indexes, decibel levels, silica sampling, etc.
- Safety Discovery Lunches - trades provide a tradesperson to come for a lunch time discussion of project safety. The discussion centers around what's working well, what can be improved and what have they seen on other projects that could benefit this one. These representatives are then encouraged to go back to their teams and share the discussion.
- "Safety Catch" program allows employees send in a job site hazard along with a way to control or eliminate the hazard. One submission each week is selected for a safety lunch. All crew members of the employee who submitted the safety catch receive lunch from the safety department and a pocket knife. The "safety catch" that is selected is also featured in the next tool box talk.
- WorkFit is a daily jobsite fitness program designed to help employees enhance flexibility through a specifically-designed series of stretching exercises.
- Conduct Climate Surveys on all projects. All employees on site anonymously complete a brief survey with questions that allow the workers to share their perception of the safety climate on their job site. These results are tallied and shared with Senior Management and the project team for analysis, discussion and corrective action as needed.
- All workers go through a Project Orientation. The orientation introduces them to the project by letting them know; what they are building, who they are building it for and the benefit to the community. The safety expectations are presented and reviewed and a Q & A is ongoing throughout.
- Launched an Employer Assistance Program (EAP) this year to ensure that employees

- are not only kept safe physically, but also emotionally and mentally. The EAP provides support for personal goals as well as bouncing back from life's hardships.
- Provide safety welcome kits for new hires
- Upgraded fall protection training. Now have large tripods in each office where employees are taught how to properly wear their gear. They are lifted up with the tripod so they can feel the pressure points and better understand why they need to wear their gear correctly. This makes a difference when talking about rescue provisions. This also has reduced the number of fall exposures. The tripods are extremely effective at jobsites, as well as immensely popular at the National Safety Stand-Downs.
- Housekeeping and fall same level controls
 - Each contractor labels each piece of their equipment, tools, and materials. Each day GC divides project up into 4 quadrants and assigns a team of mixed craft workers to clean their assigned quad. They clean-up things that may or not be theirs as a result of their work that day. Promotes peer pressure between crafts to not make it hard on each other at the end of the day clean-up.
- Toolbox demonstration - Ask a craft worker to perform several tasks in front of the group with one hand tied behind their back. Demonstrates how important it is to protect your arms, hands, and fingers from crush and cut points.
- Changed project safety meeting terminology from Stand Down (Negative) to Stand Up (Positive)
- Large project banner with hand prints of craft workers children.
- When at-risk behaviors are observed inquire/discuss about the employees emotional response if they are injured
- During 1st week of employment new hires formally meet with their Foreman, General Superintendent, and Safety each day to recap concerns.
- Relationship Based Safety (RBS) not Behavior Based Safety (BBS). Use the term "Leadership through Partnerships"
- Individual workers complete their own personal Pre-task plan
- Use Craft workers to present various safety topics to their peers
- After a highway landslide that killed 43 people, the contractor helped establish a community memorial where area residents and families came together to plant 43 trees - one for each life lost in the landslide.
- Continuous improvements team are established at the project level consisting of upper and middle management and craft level workers. Teams are measured on their performance and coached to succeed. Management realized that the "people" dynamics and personalities determined how the teams worked together was the key to success.
- Zero Injury perception surveys where 70% of the employees voluntarily participate. The #1 comment for 2016 was "employees setting a personal goal of achieving zero injuries".
- Opportunity for Improvement Program encourages employees to submit improvements by rewarding them with a \$50 gift card for the idea, and are entered into an annual drawing for \$1,000 for the best overall idea.
- "Don't Walk By" program is a stop work program where all employees the authority to stop work and get unsafe conditions corrected.
- Provides all offices and projects with a roving company nurse to help promote wellness and speak with employees with personal health concerns including blood pressure and blood sugar free of charge.
- Monthly jobsite safety exam where 3 craft workers volunteer to write an exam on a topic of their choosing. Exams are shared with subcontractors.
- "Spot the Trap" employee hazard

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- identification program
- Changed the safety manager led safety committee to a supervisor led committee called the “Supervisor Safety Forum”
- Safety committee meetings are conducted via video teleconference, during monthly company calls. This helps to ensure all employees have an opportunity to participate. During the meetings designated employees share their safety concerns, and they celebrate the accomplishments of their workforce, and welcome new employees.
- Craft workers receive a \$25 gift certificate when they volunteer to present a safety topic at the weekly “all hands” meeting. It was slow at first, but now many try to present a topic. To encourage people to present that have never presented before a \$50 gift certificate is given.
- Company has a system using “Survey Monkey” that requires daily input from each employee to give praise/recognition to crew members who have been observed performing work safely that day.
- When employees make a near miss report or make a correction to an unsafe condition without being told to by management, they are issued a card good for one paid time off hour.
- In addition to morning pre-work safety meetings, the company has a mandatory “End-of-Shift” meeting to debrief safety issues from the day and plan for the morning.
- A Top 10 Safety Items Banner was developed to focus on and remind all jobsite workers of required safety protocols.
- Hardhat stickers that state “I’m Bilingual”
- Designed worker areas for lunch and meetings outdoors with a canopy and water misters for cooling during hot summer months. Multiple tables are provided for workers to rest and eat lunch and break in a clean shaded area.
- LinkedIn company showcase page that is solely dedicated to safety education and acknowledgements
- Open forum for workers to voice their concerns and feedback with monthly “Breakfast with the President” sessions
- On a monthly basis a randomly selected single worker on each project is invited to the district office to meet and discuss with senior leadership what challenges they face on their project.
- Monthly Craft Safety Workshop where 20 craft workers are randomly selected to have an open conversation about strengths of the safety program and what can be done to improve safety on their projects.
- Have bi-annual safety appreciation dinners where successes are celebrated and trust and respect between craft workers and division managers is perused.
- Company has a “safety hotline”.
- Company program to promote health, wellness, and financial wellness all together.
- Peer nominated safety champion award
- Biometric screening to include a wellness program to promote healthy meals and company-sponsored physical events
- The “Why I work safely” board is a motivating item for the workforce.
- Zero Injury Perception (ZIP) program provides a direct conduit to the entire employee base to provide suggestions and opportunities for improvement.
- Own Your Zone (personal empowerment).
- Reporting a jobsite “booby trap” like a unstable ramp or an unguarded hole are examples of how a crew member can earn safety performance tickets from a Supervisor or from a Customer.
- “I Got Your 6” program allows project team members and subcontractor employees to stop any condition or situation which may pose a direct or indirect hazard and have a positive conversation with the individuals

- or group to effectively explain why they believe an unsafe condition or situation is present and how to correct it. A submission of this I Got Your 6 moment is placed into the electronic inspection software.
- ‘Stand Tall’ program, designed to promote and reward team members for standing up, speaking out and taking personal responsibility for their safety and the safety of those around them.
- “Get Awkward” program encourages craft engagement for risk reduction and prevention
- Company has designed their 12 commitments to safety. Developed a large Velcro board with Velcro text blocks that outline each commitment. Board is posted on each project and crews assemble at the end of each work shift and force rank the commitments every day.
- Videotaped worker injury reenactments for review by all field employees. Categorized and kept in the Learning Library
- Workers who are injured are invited for a 3 month executive safety committee position
- Weekly phone system for electronic affirmations that each employee feels like part of the safety process
- Each foreman is given their daily scope of work. The crew assesses the scope and ID’s and documents additional safety concerns
- Daily TRACK - Employee Level Risk Assessment - Think - Recognize - Assess - Control - Keep
- Every Monday, on every project, there is a company wide safety stand down where all incidents from last week are discussed and the critical activities for the upcoming week are reviewed. These are completed in English and Spanish.
- Monthly recognition program for the employee who excels in safety performance. A \$500 AMEX gift card is given as the reward. The employee is also in the monthly newsletter explaining why they were recognized.
- Aim Zero, a 3rd party reporting hotline for anonymous reporting of improvement ideas, safety concerns, or near-misses
- Monthly APB’s (Accident Prevention Bulletin) are sent to each employee’s home. The APB’s outline all incidents and near misses and includes the root causes and corrective action.
- Health and Wellness committee which addresses the root cause of life habits that can affect employee safety and work methods. There is also an annual health fair where all family members are encouraged to attend.
- Jobsite warning and hazard signs with photos of team members along with the “Danger” or “Cautionary” language to make the warnings more personal. Signs referencing PPE show an actual team member with the PPE properly worn.
- Worked with snack machine vendor to only offer health snacks at a reduced cost
- Jobsite huddles are held 3 times per day. Once in the morning to focus on the risks for the day, after lunch to discuss what has changed since the morning huddle and re-focus, and at the end of the day to review lessons learned from the day and remind employees to drive home safe and be safe around the house
- Strategic plan and schedule to talk to employees one-on-one about their personal life situations. Shows additional concern for not only the well being of employees while on the job, but more importantly what affects employees off the job. Issues are strategically coordinated with the Employee Assistance Program, rather than just deal with it.
- Stop and Call Program where a Red STOP sign shaped sticker inside of each employee’s hard hat that has a phone number to report any safety related issue of concern on the project.
- “Innovation Incentive Program” - a \$50 cash award for any innovative idea that gets adopted in the safety or operations management process.

- 100 days of Summer safety campaign which focuses on heat exhaustion, hydration, more people on the roads, kids out of school, etc.
- “SOS Lifeguard” program where select craft workers receive the same safety and leadership training as project management. They act as a safety back-up closer to the work in case the project management team is not around
- A construction safety emailed quiz it sent out each day to all workers to help drip safety knowledge on a daily basis
- Participation in the CDC’s National Healthy Worksite Program (NHWP) - <http://www.cdc.gov/nationalhealthyworksite/index.html>
- Monthly Jobsite Safety Exam. A volunteer worker develops a quiz based on current job conditions and hazards, and it is given to all employees. The answers reviewed as a group.
- Supervisors’ vote on PPE to be worn
- Employees are digitally connected. Facebook & Twitter for employees and families
- Employee innovative ideas are posted on intranet site for all to benefit and spur more ideas
- Company requires and pays for Fitness for Duty Exam for every field worker & Prescription Safety Glasses
- “We are all safe today” phrase tweeted out by Safety Mangers. Company uses social media tools to enhance constant company communication.
- Company using all aspects of social media for communicating and training - TV, YouTube, links to safety processes, intranet, internet, Facebook, Twitter, etc. Great way to shout out kudos or great job guys.
- CVIS....Craft Voice in Safety ...a communication tool
- Why I work Safety is a campaign to promote the emotional reasons of why we work safe. Also use campaign style buttons with loved ones pictures to promote awareness.
- Activity Hazard Analysis.....one example resulted in having laborers sit in heavy equipment to understand blind spots to better understand the challenges of the operator
- Employee safety bracelets with sayings that remind them that workers lives matter.
- “Foreman of the Month” is selected by the safety committee and lists their specific proactive approach to safety
- Sequence and Scope of Work Tool Box talks that are Craft designed
- Workers complete their own individual pre-task plan with 35 task questions for each different scope of work on a weekly basis. Quality validated by Foreman and Safety Manager
- C.A.R.E. In-House wellness program administrator who guides company and employees toward optimal health and healthy lifestyles. Creates personalized health plans for employees, health promotional programs, and organizing health related events
- PIP “Personnel Improvement Plan” process employees identified to have a lack of safety commitment is reviewed by a panel of peers and a team based improvement strategy is developed.
- The corporate “Safety Tripod” consists of Safety, Quality, and Production. All 3 supports company goals and if any leg comes up short the tripod will topple.
- The “Family Board” or “Board of Life” on every project reminds company workers and subcontractors who is expecting us to come home every day
- “What’s Wrong With This Picture”? Employee hazard awareness program where a large poster size photo is posted on project and employees get a prize for identifying the hazard(s) and extra for knowing the controls

- Employees are assigned to do a safety talk each day and must Google the subject and present in a creative way on their own. Researching a safety subject leads to learning
- Lunch and learn training sessions to cover new Federal safety standards and risk issues that need to be addressed based on incidents and observations
- Use of Audience Response Systems to enhance training, culture surveys, and anonymous group answers. www.turningtechnologies.com
- \$1,000 reward system for employees who submit innovative ideas for eliminating a risk or a better safer way of performing construction tasks
- Electronic counter on company website that counts days real time since last incident. Reminder to all who sign in daily to the internet access point
- Employee Only Group Facebook closed to the public page used to communicate, discuss, and celebrate safety successes
- Provide family members with First Aid, CPR, and AED training. Discount AED's are also provided for home use
- Family oriented Tailgate parties at major local sporting events to celebrate safety and family
- Sponsor family oriented charity events to support and help the homeless
- A large field whiteboard is used to complete daily pre-task plans. The board is completed by the craft group and encourages more participation in the process. The whiteboard remains in the work area so if things change the team can update the whiteboard
- Inside of hard hat stickers with the cell phone of the regional safety manager should an "at-risk" situation need attention. Also, company 3rd party anonymous Hotline. Part of our stop work program
- Every 60 days all new hires who were hired in the last 60 days attend a group new hire meeting where their initial impressions about the safety culture on the project are communicated in a no-fear environment. Suggestions from these group meetings have been valuable and their suggestions have been incorporated into our Safety SOP's
- Company Investment partner provides ongoing one-on-one financial advice for employees on managing money, retirement planning, college savings, and debt control
- "Paid Safe Holiday Benefit" Employees who demonstrate safe work behavior and have not exhibited "at risk" behavior since the last holiday get paid for the upcoming holiday. B179
- Developed a company Safety Only email address (Safety@callAGC) so people could send issues or accomplishments to a central website. Increased employee participation in the safety management process.
- Use a voluntary Monthly Project Safety Exam to help identify future potential production leaders. We figure if someone volunteers for the exam that shows leadership qualities and that they are engaged in not only Production and Quality but also Safety. Participants who score high are asked to develop an exam question for next month's exam. We have expanded the exam process to include a separate exam for Quality control.
- Designed a free form "Survey Monkey" questionnaire asking employees to describe the company culture. Took all the words from the survey and made a Word Cloud banner for the project sites
- Every company employee is required to take 16 hours of intense communication "People Skills" training each year
- Wellness program developed for company employees and extends wellness program benefits and participation to family members

- Worker seniority (apprentice, journeyman, master/mentor) identified by varying hard hat colors
- Use of Mobile Tablets and Face Time technology to speed up communication and sharing
- Mindset of “No Name - No Blame - No Shame” to encourage reporting and sharing of incidents and events
- Bought into a true “safety culture” where all employees participate (everyone is a safety person)
- Invited OSHA site visits
- In the field days for all staff for safety
- Monthly “call-in” safety meetings for all employees
- Use a near miss email address but are in the end stages of developing a near miss phone app
- Invite the surrounding community onsite to conduct safety surveys with a close eye on Public Liability exposures
- Developed a Short Service Worker Safety Program...to manage safety for employees new to the company...30 day mentor program. After 30 days and an acceptable evaluation by the mentor, there is a graduation ceremony at the jobsite.
- 20% savings in health insurance premium for non-smokers
- Supervisors encourage worker input to supplement their daily and weekly site safety inspections. That input increases their ability to recognize issues, modify site operations and protocols, and effectively update their site safety plan.
- Safety program is not a rules and regulations compliance manual, but rather designed as a total employee health program, focusing on risk elimination and control at work, as well as at home. The program engages all levels of the workforce. Participation expectations are clearly designed for workers from new hire employees to executive management.
- Stop work authority for all employees on the worksite is paramount, and is continually reinforced in orientation and weekly at the required toolbox training in order to provide each worker with a voice in the risk mitigation process.
- “Uncompromised Safety” is our motto and reinforces that there is never a task so vital to risk the health and safety of our workers.
- Safety Observation Reports allow employees to give details on what safe and unsafe acts they are seeing when on site. Employees are required to turn in four observations a week and are encouraged to submit safe and unsafe observations. This also provides us a great opportunity to reward employees who complete the best and most observations. This also allows us to prevent future incidents and focus our on-site safety training
- Employees from the field are given time to sit and discuss what they would like to see from our safety department. We have used this committee to rewrite policies, plan safety events, review incidents, and develop a game plan to continuously improve our safety culture. Employees enjoy seeing into the corporate side of safety and like to be involved with decision making and brain storming at a higher level.
- Have adopted a phone app that we were able to build our safety audit into that allows employees to attach pictures and document hazards in a more in depth manner.
- Our belief is that it is not enough to focus on zero incidents and injuries, but to focus on each team member’s wellbeing.
- “Stand Tall” program promotes and rewards our team members for standing up, speaking out and taking personal responsibility for their safety and that of their fellow team members. The program emphasis is on individual responsibilities, which reinforce proactive safe procedures

and behaviors. Employee engagement in these four key principals are what drives safety on and off our projects: (1) Safe Work Practices: (2) Proactive Safety Engagement: (3) Safety Leadership: (4) Safety Training.

- Implemented the Safety Innovation Award Program (SIAP.) We believe the field crews know best how to implement changes to make their work safety and more efficient. Each quarter, an employee has an opportunity to receive a \$500 bonus for their submission which is voted on by the safety committee.
- Click-Fix-Win program. Driven by top leadership, the program encourages employees to identify and correct safety hazards on the job by sending in their fixes each month. We on an average give out \$2,500 in cash to our winners. In 2019, over 200 near-misses were reported through Click-Fix-Win.
- Changed the company's focus from not just being 'committed to safety' but working towards all employees being engaged in our safety processes.
- Project crew safety briefs are conducted three times per day; morning, mid-day and end-of-day. Each brief is similar in nature but unique providing the opportunity to focus on specific relative elements. These briefs allow us to plan our work (morning), address any changes in that plan or the work environment (mid-day), and recap the events of the day, as well as provide a message to take home to our families and communities (end-of-day).
- Team members are rewarded for near miss reporting. Near miss reporting is one element in our employee incentive program and allows team members to earn points for each near miss that's reported. Points can be used to purchase merchandise from our online store. In addition, the team who reports the "best" near miss each month receives a larger incentive point award for the team, as well as a safety luncheon where they are thanked for their contribution and awarded our "Near Miss" trophy that will remain

at the site until the next presentation the following month.

- Wellness program exceeds the standard "healthy lifestyle" approach. We offer discounted insurance premiums for participating in the wellness program, but also offer much more. We retain a licensed counselor/chaplain to assist with personal issues and help our team achieve emotional and spiritual wellness. In addition, our teams have access to a third party, financial consultant who, at no cost to the team member, will provide counseling to assist is achieving financial wellness.
- Hand written cards are mailed quarterly to employees who our executives have recognized for going above and beyond expectations. These are sent along with a gift card to the employee's home address. The intent is that the employee's family will see the recognition and ask questions about the circumstances. Our desire is that the family of the employee will embrace the concept of safety as a beneficial journey.
- Our values clearly state that "the employees are the solution, not the problem," and we facilitate a vision of "servant leadership,"
- Our employees are incentivized for participating in our safety program. On the other side of the coin, our management personnel are required to recognize our employees for participation. Participation has a focus on being truly involved in the process and not just being present with no input.
- Implemented a process that we refer to as Dynamic Learning Activities (DLA's). DLA's have one simple objective - employee involvement. Edgar Dale's cone of learning states that after two weeks, people will only remember 20% of what they hear. However, after that same timeframe, people tend to remember 90% of what they say and do. DLA's are providing visual aids, interaction and communication by all. Granted, weekly safety meeting

material is generated and distributed to all projects. However, DLA examples for the topic is provided as options. Creativity is encouraged.

- Employees participate in various safety initiatives throughout the year such as; Safe + Sound Week, National Safety Month, National Suicide Prevention Month, American Heart Month, and National Electrical Safety Month.
- Each employee is given the “Safe Work Guarantee Card” upon new hire orientation. It is the commitment from the president, and EHS director, that they will work to find a safe solution with anyone who has concerns. Our supervision are all fronted with the expectation of the card and take it seriously if someone raises a concern.
- Rolled out Mobile Escape Room to students all over Colorado to teach them about what it takes to be an electrician, and more importantly, what it takes to be safe around electrical construction. After hearing from an electrician about the trade, students are taken into an “escape room” which is a trailer with a series of puzzles designed and built by our team. They wear PPE, and solve those puzzles with an eye toward learning what it is like to be in the trade. The construction industry is in crisis, and it is difficult to find talented people. This is one way to reach out to the next generation and let them know a career in a safe trade is a great choice for their future.
- Company philosophy of “People Producing Safely” illustrates the commitment to everyone in and around jobsites returning home safely...every day.
- Provide employees with an in-house Wellness Program Administrator, who guides the company and employees in the journey toward optimal health. Creating personalized health plans for employees, developing health promotional programs, and organizing health-related events are among some of her responsibilities.
- We use Bucketlist, an online employee

recognition and rewards program that works like Facebook. Employees can post shoutouts to each other and award up to 50 points a month. These points are redeemed for events, donations and/or gift cards. We encourage shoutouts to include how someone has demonstrated our core values or gone above and beyond. Managers also have a “safety” and a “manager” spot award they can issue monthly for \$25 each. <https://bucketlistrewards.com/employee-incentives/>

- A key initiative of our Strategic Plan was to improve craft workforce engagement. Re-branded as Craft Safety Connection (CSC) we formalized guidance for our safety teams and reemphasized the importance of including our craft workforce in decision making related to their safety. We strategically selected leaders in the field to be the voice of safety for their coworkers. CSC Members are future leaders, often considered for advancement opportunities into supervisor roles. Craft Safety Connection builds confidence, aids employee development and provides much deserved opportunities for our craft workforce.
- Our supervisors are trained to elicit employee responses through asking of “open ended” questions, which are questions asked of employees that require an explanation instead of a simple “yes” or “no” response. The helps to ensure employees are authentically engaged in safe work processes, and are not allowed to be disengaged.
- Plan of the Day (POD) meetings are held every afternoon and bring together the project leader and the subcontractor leaders currently working onsite. This is a concise conversation to evaluate daily performance, review any safety or logistics concerns, discuss identified barriers and highlight daily successes. PODs foster higher levels of communication and collaboration with the project team, driving better and more predictable results.
- Each year, projects compete for the

Excellence in Safety Award (EISA). Project teams assemble presentations, vying for this highly coveted award. Requirements/ judging criteria include 100% team involvement in the site safety inspection program, site safety committee program, safety training program, 100% safety documentation, zero lost time incidents, OSHA total incident rate 25% below national average, and demonstrating the team's commitment to safety.

- We use the moto "PPE is more personal than you think" to remind our teams that safety is everyone's responsibility and to put safety first.
- "CARES" program. Craft Awareness, Recognition and Engagement in Safety (CARES) creates a culture where everyone has a role in our safety culture. Craft work in partnership with management through ownership, communication and prevention to achieve our goal of zero accidents. CARES is a craft driven program that ensures they have a voice in their safety and the safety of their fellow craftsmen and women. The CARES program bridges the gap between craft and supervisors.
- Continuous Improvement Process (CIP) allows all employees to improve processes for future activities. Employees are encouraged to offer suggestions for changing procedures, processes, or practices to improve safety, production and quality. Our CIP empowers all employees to examine each aspect of how their job is performed and provides a resource to bring potential improvements to management's attention.
- Every supervisor is required to take several "safety breaks" per day. During the safety break the crew's safety behavior is observed. Then the supervisor gathers the crew together to discuss the good and bad safety behaviors observed and the corrective actions necessary.
- Launched a monthly safety and health magazine that promotes physical fitness, dieting, estate planning, managing of money and home, pet tips, etc. These

programs are creating cultures of caring and the importance of safety on-site as well as home life.

- During our Safety Day event in December, we hand out a Safety Perception Survey (in three languages) to find out what is going well and what the workers think would be best to do to help improve the company. Upper management collects all of the surveys, reviews them, and communicates the results along with an improvement strategy back to the workers.
- In 2019 were establishing the foundation for a consistent flow of proactive communication, developing a safety charter focused on delivering value to project teams, standardizing site-wide morning huddles, bringing a renewed focus to housekeeping and project organization, and improving collaboration among our Craft force, Operations teams, Subcontractors and Safety Department.
- Our microlearning videos are a unique way to highlight innovative tasks and provide quick, effective training across the company on topics such as dust control and proper table saw use. They feature our employees and are published and distributed to our management and craft employees.
- Safety Advisory Council (SAC) is working. They wear neon green Safety Mentor shirts so they can be easily identified and approached with questions and concerns. The members now recommend their peers for SAC based on observed safety mindsets and safe work choices. In 2019 all new foremen were promoted from within the SAC system.
- Company website includes a Safety page summarizing the major elements of our safety program and the results for the world to see. Under Company News on the website we share photos and stories of our safety activities, accomplishments, and awards with everyone
- Have instituted monthly, quarterly and annual safety awards. Monthly, an

employee nominated and elected by his peers is chosen as Safe Employee of the Month and awarded \$100, a hardhat sticker, and announced in a local newspaper advertisement.

- Bought a ballistic dummy for a project to showcase the damage that can occur to the human body from a fall. The ballistic dummy had realistic internal organs and skeletal structure that could simulate traumatic force on the body. The dummy was dropped from a second story loading dock to simulate a fall protection scenario. Afterwards, it was presented to the field and in conjunction with a doctor who was presenting on fall trauma, talked about the realistic broken bones and ruptured organs from the fall. Afterwards the dummy was left on display for our employees to use as a learning tool.
- Developed a “Thumbs Up” Program, that rewards workers for finding and eliminating hazards, and suggesting safer work methods. The project management team is responsible for reviewing the suggestions and implement the changes. When a safety suggestion is implemented, the worker’s photo is published and shared with his / her company and given an award during the weekly toolbox meeting.
- With Speak Up! Listen Up! training offered during mandatory orientation, workers are provided the tools and language to use to keep themselves and their co-workers safe and alert to risky behavior.
- We promote “Good Catches” instead of near misses. This allows a worker the opportunity to display their knowledge by sharing a time where they fixed a problem prior to a incident or accident taking place.
- Company has a “right to refuse” unsafe work policy and procedure that is communicated to all employees not only in their new hire orientation, but throughout their time with the company. During the new hire orientation each individual is given a refusal of unsafe work card which has the call in number in the event that there is a task they feel is to dangerous.
- Another strategy we use for orienting new-hires is what we call “pairing.” We pair less experienced workers with experienced, safety-minded workers. In doing so, the safety, work ethics and culture are passed on to all newcomers.
- Company provides an annual Safety Expo with ALL employees and key vendor partners. This is a full day of employee training that consists of interactive, station-based content based on actual project conditions and situations while still in complete compliance with the content requirements. This creates an awesome atmosphere for everyone involved to experience the training as well as take in the technical aspects. Teams are built with a strategic mixture of executives, mid-level managers, supervisors, support staff, and Field Operations. These teams then rotate through the training experiences, each led by manufacturer representatives and safety professionals, and interact via hands-on instruction that includes actual situations that are encountered in the field.
- Social safety: The safety team is even using hashtag safety campaigns to help with addressing targeted safety issues and trends by using keyword items such as #SIF or #EyesUpScreensDown, which involves performing safety observations when stopping Partners who are walking and texting or unsafely distracted by their mobile device or when alerting to SIF potential hazards.
- Using the principle of Mindfulness to prepare workers for all day focus. <https://www.assp.org/news-and-articles/2018/03/08/what-is-mindfulness-and-how-can-it-improve-safety>
- Short Service Employee (SSE) program to focus loss prevention efforts on newer employees.
- Safety program is based on not only worker safety, but also worker financial, emotional and social health as well. It’s about work life balance and total worker health.
- We embrace the core values of WeCare, We

Listen, We Share, We Innovate and We Excel

- Embrace employee wellness - at their office, they have a gym with personal trainers.
- Company has communication that goes out to employees and spouses in weekly emails.
- Company recognizes the Veterans who work for them by offering appreciation lunches.
- Have implemented a Veteran's Hiring Program and is addressing /recognizing common stressful mental health issues they may encounter.
- Company in process of adapting Toyota's Workers Health Platform to their own Corporate Wellness programs focusing on poor nutrition, fatigue, exercise, heart disease, aging workforce, high blood pressure, etc.) This is being rolled out in each region across the company to over 600 craft workers. The analogy is to speak with them like athletes – we take baby steps and correlate it to increments on a ladder.
- Employees participate in the “Weekly Walk-around Safety Audit” where they give their perspective on site hazards observed and controls and processes to mitigate them. They give peer to peer input from spot inspections of the subs work and their equipment fitness.
- “Weekly Walk-around Safety Audits” are monitored to: 1) be sure that they are being completed, 2) to be sure that they are not boiler plated, and 3) that team members other than just supervisory are being utilized to conduct the audit in order to get a fresh outlook and to give others an opportunity to be involved.
- Employees are encouraged to share safety ideas with their families such as safety protocol if encountering a downed high voltage powerline and safe work practices with chemicals.
- Smoking causes problems on many of

the jobsites. In 2018 company decided to offer help to those workers that want to quit smoking, but say they cannot afford a treatment program. On a voluntary basis, any employee that wants to quit smoking will have their initial doctor visit paid for as well as four hours time off of work to go to the appointment. If the Doctor prescribes a drug to help the employee quit smoking, the company will pay for up to a 90 day prescription.

- Provide our front-line leaders with the interpersonal skills to successfully practice empathetic accountability with their crews; “Empathetic Accountability” is the ability to hold others accountable to achieve results without making an enemy.
- Field employees are integral to identifying training needs and developing materials rather than simply passive recipients.
- Retain a licensed counselor/chaplain to assist with personal issues and help our team achieve emotional and spiritual wellness.
- Have increased worker welfare by providing areas that have shelter, tables, and hand washing facilities.
- All lead employees received Dupont STOP training, which is tailored specifically to our work. Through STOP training, employees learn that; all injuries are preventable; employee involvement is essential; management is responsible for preventing injuries; all operating exposures can be safeguarded; employee safety training is essential; working safely is nonnegotiable; safety observations are vital; all deficiencies must be corrected promptly; and every employee has the “stop work” authority. <https://www.training.dupont.com/dupont-stop>
- All employees who drive company vehicles are only to be operated by Defensive Driving trained personnel. Training is completed through the National Safety Council every three years.
- Employees are rewarded regularly with weekly gift-cards for safe behavior, safety

leadership, safety innovation, or stopping the job.

- In the past year we began utilizing shade trailers and mobile water wagons to significantly improve employee welfare
 - Annual all employee Safety Fair. Employees get to preview new state of the art safety equipment while fraternizing with one another and their families. Fair activities and refreshments are provided so while training is taking place, the families can watch and have a good time. Believe that by inviting family to attend this annual event the point is driven home “safety is of the utmost importance”.
 - A daily “safety slogan” is texted/emailed in the morning to every company employee that has an email address/cell phone number
 - Each piece of equipment has its own specific inspection form that’s specific to the type of equipment. No longer use one inspection form for all equipment.
 - ‘force multipliers’. We don’t rely on a single person to identify hazards on our projects. With an educated, empowered, and motivated workforce we have over 95 hazard identifiers.
 - Safety Xchange’, an information tool that has been shared with employees, subcontractors, associates, and clients. The database contains over 1,200 subscribers and is growing; it has proven an effective mode of communication. The email blasts contain pertinent safety issues encountered in the field.
 - Safety Systems Improvement (SSI) Task Force collects feedback regarding the development of procedures, accessibility of information and near miss reporting from our employees in the field. We used this feedback to invest in technology, simplify requirements, and improve the way we engage with our employees.
 - Our perspective is that humans simply perform better when they are directly involved with the risk assessment process
- and empowered with the ability to dynamically decide our work practices.
 - 60-second employee-produced videos discussing relevant safety topics like stress and weather-related challenges.
 - Special emphasis program targeting the prevention of head injuries associated with children who ride a bike or skateboard was initiated. The program involved the distribution of a free child’s bike helmet from a specially designed web site for any employee having a child or grandchild. In placing the helmet order, a suggestion to donate to the company’s Employee Assistance Fund (a tax-deductible contribution) was placed on the web site.
 - Off-the-job safety and health is part of the overall program which has involved activities such as guest speakers presenting programs on cancer, heart illness and diabetes.
 - Employee Assistance Fund was developed to financially help employees who have fallen on hard times
 - Safety captains are craft-level leaders chosen by each crew who facilitate open communication between crews, discussing near misses, hazards, and lessons learned.
 - Instituted the TEAM concept; Together Employees Accomplish More. Each employee signs a pledge and takes a safety promise certificate home so their significant other can participate in committing their loved one to safety on the job.
 - Crews participate in daily warm-up and stretching prior to commencing work, which has shown significant results in reducing injury and increasing performance
 - All new apprentices are given new tools as they embark on their journey as an electrician.
 - Hosts “Open House” events throughout the year. During these hands-on, interactive workshops employees at all levels are given

the opportunity to learn how to use and safely operate tools and equipment within our industry.

- Each month, an “Observations Scorecard” is sent to all employees and posted on job sites. The scorecard includes top submitting employees, most recognized hazards, number of at-risk and safe observations recorded, and participation from various projects. Through the implementation of the scorecard, employee participation has increased 250% with over 9,000 at-risk and safe observations recorded this year.
- During Safety Week 2018 more than 5,000 people our project sites participated in safety training, stand-downs, and appreciation events. Every site held a safety event every day of Safety Week. Area leadership participated in these activities and provided face-to-face support for every site in their coverage area.
- Utilize a S.A.F.E Card hazard identification “game”, and individuals that participate received public recognition.
- Weekly, crew led safety audits are conducted with an employee and management to encourage employee involvement and buy-in to our safety culture. Employees are chosen weekly at random to participate in a safety audit. Employees participating in these audits have proven value by pointing out hazards and/or best practices that they may or may not have felt comfortable discussing without a mandatory invitation or in a large group. These are tracked monthly for completeness and participation.
- Company-wide Safety Week heightens safety awareness through activities that engage employees and, at an award-winning Touch-a-Truck weekend event, their families and the greater community. Attendance topped 1,200 at our most recent Touch-a-Truck.
- Management pays for dinner safety meetings for each division quarterly and companywide annually. Elevating safety in such a way elevates safety in every employee’s eyes. Guest speakers go beyond OSHA compliance to best practices. One speaker, for instance, was a decorated Navy SEAL who likened his experiences training for combat in Iraq with the readiness and awareness construction workers must exercise to stay safe.
- In 2018 “hired” Darwin, a crash test dummy, to provide more hands-on rescue. On all projects with roof work Darwin participates in actual fall and roof rescue practice; helping to improve the planning on that specific job, as well as, on future projects. The kind of real world, hands-on risk assessment Darwin provides makes us extremely proud, and the workers field love it when he shows up.
- Provide preventative care consultations with EMT’s to workers with aches and pains on site. We modify their work, so they can get back to 100% thereby avoiding injuries and time loss.
- Line of Fire (LOF) program that allows all employees to record and submit any hazards requiring immediate attention and to recognize other fellow employees for working safely. Employees write and submit LOF cards daily for review by the Safety team onsite. Upon receiving three (3) positive interventions from an employee, the employee is given an incentive award.
- All job tasks are completed around the idea that “would I put my child in this situation?”
- Public Safety & Community Outreach recognition program – A crew demonstrates concern for the public’s safety/welfare and is courteous/professional to the traveling public and business owners.
- Community outreach - knock on doors of residences near jobsites to make them aware of the job and unusual noise
- Heavily promote a physical and mental health wellness program.
- Use a poster board that displays each jobsites commitment to safety that is very large and the workers on-site sign.

- A safety promise is signed by all employees AND their significant other...
- Use a Safety Crew of the Month recognition program to promote safety
- Launched program to address suicide prevention and opioid abuse
- Have a Caught in the Act program that rewards people who do everything right. Short term employee where red vests and when able to answer questions about safety are given spot rewards.
- Use pictograms for signage that solves the language barrier for multiple cultural challenges.
- Use a “Coaches Playbook” that focuses on the 6 C’s. Hold a coach’s clinic that has resulted in better planning and employees having better soft skills of coaching for performance and avoiding unforced errors. The 6 C’s include Care, Communicate, Consistency, Challenge, Committed, Culture
- Have a Discovery day for potential new hires for both existing employees and prospective employee.
- Employees don’t have Stop work authority, but they have Start work authority. The concept is that planning work before one starts and doing it right is the key.
- EMAD - a program called Everyone Makes A Difference
- Operational excellence involves ...an idea is generated, a video is made, it is shared online and ultimately incorporated into company best practices.
- Have a spiritual advisor on staff to help combat the high suicide rate in the construction industry.
- Offer free PPE to employees for their personal use off the job.
- “Ideas for Success” program where employees are rewarded for submitting innovative ideas
- We continue to add new employees each year (25) We still feel like a small company even though we have grown because of our caring culture. Our people go home safe every day. Great place to work.
- Use observations during daily pre-planning sessions to drive training topics, content, and/or frequency
- Field employees are invited to deliver a presentation to an audience of their peers on their project safety programs.
- The company News App allows employees to report safety observations in real time, which is then analyzed and trended by the safety department
- An orientation video titled Make it Personal-Take it Personal features field employees commitments and testimonials
- Each day the foreman involves a different crew member in the creation of a JHA, aiding in crew bonding and reinforces buddy system
- Crew ride-along: a different member of the crew rides along with safety professional to identify safety hazards and controls throughout the job site
- Different crew members are assigned as visitor escorts when A/E’s or owners arrive.
- A weekly newsletter goes to all employees, featuring updates about recent incidents, a root cause analysis of each incident and corrective measures. It also includes a 60 second employee produced videos discussing relevant safety topics like stress and weather challenges.
- CSEP program (Craft Safety Empowerment Program) - members are working field employees identified by wearing a different color vest. Each member is a mentor, available to answer questions regarding safety, quality, production, quality of life on the project, etc. Every 2 weeks the CSEP team meets with the PM and discuss what they’ve seen and heard from craft employees. Agenda includes: what are we doing well? What do we need to improve upon? what bothers them?

- Worker engagement surveys - in English and Spanish - are anonymous and online and provide senior leadership with actionable information to improve the company's safety culture.
- Safety professionals help in business development and project bid processes to ensure projects include accurate estimating for mishap prevention and risk mitigation strategies
- Safety mentorship program gives those interested in pursuing a career in safety with an opportunity to accompany corporate safety professionals to evaluate the career field
- Management engages family members, high school students, college students, and tradespeople by offering free safety training such as OSHA 10 and 30 hour courses, wellness tips, and health screenings.
- Employment of bi-lingual safety advisors to ensure entire workforce understands safety protocols and can be provided with accurate information in their native language.
- "Extra Effort Bucks" program to catch employees in the act of doing their job safety.
- "Maintenance Bucks" program to recognize employees for going above and beyond with the proper care and safe use of motorized or non-motorized equipment.
- "Useful Slogans: o "My Brother's Keeper" – Watch out for fellow worker, vendor, subcontractor and public.
 - o "If you see; You own it". Never walk past an unsafe condition without addressing the issue.
 - o "Slow down to see safety". Don't rush and fall into unsafe practices.
 - o "Leave a Legacy of Safety" – Make an impact on others how important safety is to you. Are you making a memorable positive difference?
 - o "Walk with Determination" – be confident about what you know is the safe way to do things and don't be deterred.
 - o "Embark on a Journey" – How can you learn do to something safer?
- o "Change happens at a personal level" – What motivates you; What are you passionate about? Use that to set the elevated standard for your commitment to safety.
- o "Safety is a Lifestyle" – Are you "Living" the safety you are preaching?
- o "Focus on the Basics" – complexity can complicate construction activities – break the activity into tasks and focus on making each task safe.
- o "Can't hand out Safety Culture like PPE. It needs to be developed". – Are you advancing the safety culture within your organization and on your project"? "
- Anonymous Near Miss reporting program. When an employee reports a near miss or misses during a month they receive a numbered stub which goes into a monthly drawing for \$100. The senior management team reviews all near misses as a group to learn from the process.
- "Project Comment Boxes" allow for a more project focused employee feedback process. Subcontractors are also part of the process.
- Field employees attend the corporate safety review meetings each month.
- Annual Safety Academy Award program for all employees. 20 finalists from nominations. Recognition and public reward by CEO for winner. The story behind each nomination is shared with all.
- Employee involvement in the safety process like giving presentations, designing tool box talks, suggesting improved ways to complete a job safely are tallied, measured, and used as a basis for promotions and pay increases.
- Tradesmen who no longer work with their tools are encouraged to accept positions in the safety department. Their dedication and knowledge is respected by tradesmen and they can connect better than some non-trade background safety professionals
- Safety Audit "Tag-a-Long" program - a list of all supervisors and subcontractor

supervisor is maintained and on each safety audit completed by Risk Management/Safety an individual on the list is selected to tag a long on the audit for safety management training and development.

- Gym memberships to in and out of town workers
- “Monthly Safety Role Model” process where an employee is nominated, selected, gets a call from the president, and a monetary award. Selection is based on proactive safety behavior. Photo is placed on corporate office Safety Wall of Fame
- “Employee Bonus Dollars” program which rewards employees for any of: Safety, Training, Attitude, Efficiency, Planning, Accountability, Goals, Team Player, Leadership, and Innovative thinking.
- 6 Hour New Hire Orientation
- Use of Twitter and LinkedIn to stay connected with employees and their families and deliver periodic on the job and at home safety tips.
- Internet SharePoint interactive site that all company employees can access to ask questions and share best practice ideas. Highlights from the website are used in the monthly newsletter.
- On-site computers for employees and management to access safety related information and training.
- Have a safety week where the craft workers highlight safety for an entire week. One example is employee generated an idea to get management to back a towed generator on a jobsite. The point being that it is hard to do a job for which one is not trained.
- Worker participation through “design a sign”
- Reward workers financially for good safety ideas. We love field feedback.
- Safety program isn’t changed by executives without collaborative input from craft workers
- Teach the safety team how to train, how to teach, etc. before certifying them as competent
- Non-English speaking safety committee with bi-lingual chair
- Pre-Hire pre-promotion skills assessment. Problem solving, analytical, people, communication, etc. to find a better fit for job.
- Develop and use safety example word problems to have small groups of employees discuss what is wrong. Interactive training.
- 5+ year employees are designated and identified as “Senior Employees” and they receive a gold fiber hardhat. They are looked upon to help coach and guide less experienced employees.

SAFETY TRAINING AND VALIDATION OF TRAINING

- Pre- and post-training assessments are administered and documented to gauge knowledge retention.
- Verifying and delivering training within 24 hours of identification of a previously unidentified jobsite hazard (i.e. asbestos, lead, etc.)
- Specialized soft skill courses (i.e. leadership, communication, conflict resolution) are required for supervisors and craft workers and completion is a condition of promotion.
- The Acme Academy we are conducting all-day EH&S and NFPA 70e (2021) - Qualified Persons training. This workshop is an interactive program that navigates our leaders utilizing technology, best in class PPE, along with hands-on class participation.
- Loaner laptops are provided to employees so they can complete safety training at the convenience of their home with pay.
- PACE “Properly Approved Certified or Educated” program gives supervisors immediate verification of employee’s certifications and training via a photo ID card with company emergency protocols on the back of the card.
- New Hire 8-hour Safety orientation and personal tour of several projects with safety director
- Orientation Safety training which is conducted 90% in the field and 10% in the classroom. People learn by seeing and doing.
- Use of Rosetta Stone foreign language training to remove language barriers to safety
- New hires are identified by an orange Class 2 vest with “Safety 1st” screen-printed on the back. All other employees wear a green Class 2 vest.
- Weekly “Safety Playbook” which documents all crew related safety activities for the week - Must be kept up to date and in possession of each foreman.
- “Rookie Play Book” a book which records the 60-day safety orientation requirements for each new employee. Over the 60-day period the foreman must work one-on-one with the new employee and sign off on the 19 safety requirements in the book certifying the new employee understands and accepts the concepts.
- “20 or 2 Program” to help prevent Run Over back Over accidents requires workers that are 20 feet or less from a piece of equipment, must have 2 eyes on the machine.
- Classroom audience participation App to have an interactive training environment that compels attendee retention and participation.
- Written test for non-English speaking workers to see if they are literate in their own language. If not, they are paired up with a mentor to help them understand the safety requirements needed for job safety.
- Run Over-Back Over Hazard awareness Tool Box demonstration – 10 workers have 10 large, numbered cards and get in several spots around a large piece of mobile equipment. The equipment operator calls off all the number cards that can be seen until the remaining cards he can’t see are still standing.
- Equipment Rollover prevention program and demonstration
- Comprehension oral and written test after orientation.
- Draw a picture if they can’t demonstrate they understand.
- All site supervisors are required to complete OSHA 30-hour courses, conduct safety orientations for craft workers, and utilize Toolbox Talks to instruct and remind trade workers about safe practices.

- All craft workers are required to complete OSHA 10-hour courses, before employment on-site.
- Weekly Toolbox Talks to remind workers of the importance of using safe lifting practices to avoid muscle strains.
- Web-based safety training system which allows delivery of consistently high quality, verifiable, industry recognized curriculum to all our employees including targeted trade specific topics.
- Right to Know - utilize scannable decals on hard hats that take you right to the SDS database.
- All forklift and equipment operators are certified using the IVES training and certification on-line system.
<https://www.ivestraining.com/>
- The barcode system allows scanning a barcode, which provides information regarding an employee's training and certifications.
- After the initial orientation a safety professional conducts a 30-day review with each new employee to ensure that they understand their role in creating and maintaining safe work areas.
- "End-Of-Year" Annual training for all hourly employees consists of an 8-hour day with training provided by 8 vendors. Each vendor has a station setup that provides one hour of training at each station. This is probably the most productive training we have provided because the hands-on training allows the workers to visually understand the hazards they encounter daily and safe work practices that are required.
- All new hires are required to take an online safety orientation course from the Health & Safety Institute, (HSI) online training. A score of 80% is required to pass. This has allowed management to identify the level of safety experience a new hire brings to the company.
- Orientation process (Safety orientation I & II) which is valid for up to 90 days. When employees hit the 90-day mark they will be evaluated by the project manager (Safety orientation III) and will be asked open ended questions to have an open dialog. Information that is captured and used to improve or monitor the safety culture efforts to guide future safety training and program efforts.
- Training records are available on mobile devices. This allows foremen to check if an employee has completed necessary training prior to assigning the specific task. Training is validated through observation while the employee performs the task and during incident reviews.
- Every project worksite is required to have a laminating machine. Use a "signs" program to quickly print regulatory hazard notifications for GC and Subcontractors.
- Recruits, new to construction and/or our trade, enter the Workforce Development Program (WFD) trainee Program. Coaches are accredited WFD trainers.
- New hires are evaluated during orientation by company trainers on their ability to use power hand tools, use of ladders, knowledge of proper PPE etc. After completion of orientation each team member receives a score, and their knowledge is passed on to the field Superintendent so that they can place the team member with the proper mentor. Once they are placed, they are evaluated every week on their retention of safety and vocational knowledge. After 90 days a final evaluation is done, and they are placed with a permanent superintendent according to their scores.
- Every new Craft hire goes through a Craft Task Training Orientation. The craft training program is nationally certified and offered at the in-house Center for Craft Excellence and at all individual jobsites. The Journey-Level Skills Assessment Program is designed to verify and document a participant's craft knowledge and skills. The program adheres to the standards of the National Center for Construction Education and Research (NCCER). <https://www.nccer.org/>

- Surprise employees with unannounced pop quizzes! These pop quizzes appear in the form of a text message or email sent out to all employees by the company president based on hypothetical situations. Each employee is given an exact time frame to formulate a response using information they learned from the meeting or by utilizing the safety data sheets (SDS) mobile application to search for product information.
- Have a hands-on practice board to validate the operational aspects of the energized work program.
- Worker Training Incentive - Employees who complete 16 hours of safety skill development/continuing education each year receive a \$150 gift card.
- Use UPC Bar Code technology to provide information on individual worker training and certifications on the spot.
- Developed a new hire orientation program that varies the way adult craft workers learn. Rather than 8 hours of verbal instruction with PowerPoint slides the training is mixed with completing a detailed online computer driven safety orientation course covering 36 different safety related subjects requiring the worker to pass a quiz at the end of each section before moving on to the next. Questions where the worker struggled are cataloged and a personal follow-up plan is developed for each person to make sure they retain the items they missed.
- Partnership with HCSS software to provide tracking of skills and certifications, run real time reports on company customized leading indicators.
<https://www.hcss.com/>
- Developed a new employee mentor program for the first 60 days. Company loss analysis showed most injuries and turnover occurred during the first 60 days. Mentors are paid for their work. They are also paid for daily notations and answering questions in their "Mentor Book."
- Hard hat color change after 90-day orientation period signifies that the craft worker has completed orientation and now has the authority to correct any unsafe condition.
- Utilize a 2-day orientation system using C-Stop a Contractors safety and Orientation Program which is expanded to include hazard identification and mitigation practices.
<https://www.cstop.org/>
- Use of voice over PowerPoint safety training topics that are part of the on-line learning management system. Can be accessed and reviewed 24/7. makes good topics for safety meetings.
- Training records are maintained in an Online storage system. It is accessible by any smart phone using a Quick Reference (QR) Code reader. Employees, customers and auditors have immediate access to qualifications.
- Supervisor and manager development includes the Foundations for Safety Leadership program developed by the Laborers of North America.
<https://www.liuna.org/leadership-education-series-construction>
- Identified vehicle accident exposures as a key risk for the company. Utilized a 3rd party training resource called SWERVE to provide training to all that drive company vehicles. <https://goswerve.com/> System allows training for all new drivers and existing drivers who need additional coaching based on reports from the in-vehicle GPS units.
- After initial on-boarding for safety. All new hires are brought back in 30-45 days to receive more intense re-training. The company found that bringing employees back after some on-the-job experience that they had a better understanding of the company. They also feel more comfortable asking questions and discussing concerns.
- General Superintendent has an OSHA 500 training certification.
- Mobile training facility which trains

thousands of workers in multiple states.

- Measure the forces involved with falls regularly with dynamometers, then use the data and photos in company training.
- Worker task specific “pocket guide” for the specific tasks they will be performing. Laborers may get just one guide for the scope of their task, others like equipment operators may get several pocket guides. Guides must be kept on their person and produced upon request by supervisor. Workers are required to verbally explain the safe way to do their key assigned tasks. During morning meetings workers are called upon to lead the meeting using their pocket guide.
- The company You Tube series of safety videos that can be accessed through, desktop and smartphone <https://www.youtube.com/watch?v=DBsqpXmstQk>
- Aside from the morning stretch and flex program, 10-15 second “Micro Breaks” are used to keep stretched and comfortable.
- Training Badge - QR Code program provides instant access to training records for GC and all subcontractors. Smartphone scans the code for access.
- 2 separate training programs for Pre-Task Hazard Analysis; One for the crew, and one specifically designed for 1st line supervision which has leadership and group discussion best practices.
- Monthly ongoing safety training through “Lunch and Learn” program. Craft workers make 30min presentations on a pre-determined safety topic.
- The company credential system revised to fit into plastic pocket of safety vest. Employees wear color-coded badges that display their training and are visible to everyone. Temp laborers use the same system and view pocket vests.
- Cross training for electricians, mechanics and pipe fitters. Each will look at tasks from a different perspective. They become lead supervisors some day and will manage multiple trades.
- ROI for Training question “What if you train them and they leave.... Ask what if you don’t and they stay”?
- Provided NFPA 70E training to Clients to help them understand their work and the GC’s instructions to bidders. Promoted safety after turnover to Clients employees.
- Electrical hazard training facility which includes multiple streaming interactive touch screen monitors, mock-up switch gear room, newest power distribution equipment including dry type transformers, disconnects, panel boards, and actual working clearances and distances.
- Safety Training matrix for all employees which visually shows completed and needed safety training in colors.
- Learning and Development Department who work in conjunction with Safety department and focus on the specific learning challenges and solutions faced by all age groups of employees.
- Drivers of company vehicles are required to have a 30-day waiting period and pass a practical and on-line driving exam before being assigned a vehicle.
- OSHA 10 and OSHA 30 classes are required every 2 years instead of 3. Keeps issues fresh and on managements and employee minds.
- All company safety managers/coordinators are OSHA 500 authorized trainers. This significantly improved the quality of training done in the field. These guys do a lot of training and certification has improved the quality and effectiveness of what they do.
- During orientation all workers are issued a personalized business card that contains specific information about the worker, their qualifications/certifications, and contains other project specific information. It is laminated and must be produced while on site if requested by management.
- All field employees must have and maintain an STP “Safety Training Passport”. STP is

equivalent to the OSHA 10 + 6 additional hours. Ohio based training program.

- “Green Band” new employee hard-hat identification and paired with a mentor until they can demonstrate knowledge and execution of working safely.
 - Safety managers must be OSHA 500 certified and must be certified to teach safety courses through the National Center for Construction Education and Research (NCCER) www.NCCER.org
 - The fleet safety program has been updated with an extensive section on cargo securement. The accompanying training requires a hands-on demonstration of securement procedures and a written test to validate understanding of the training and on-road procedures.
 - Contacted the Masonry Institute of Michigan to conduct masonry bracing and scaffold awareness training to help workers who had not worked around masonry “Fall Zones” to understand the risks and be proactive in the way they worked around the zones.
 - Mid-term exams to test knowledge retention of safety program.
 - Developed a solo warm up routine quite aside from a stretch n flex that a worker can use by him/herself after sitting for a few hours.
 - Use of a rearview mirror sticker to heighten awareness of backing accidents.
 - Utilize a mobile training center (bumper pull trailer) to take the training out of only lecture style training, and into the worker’s actual work environment. This allows practical, hands-on training to supplement the material for better worker retention for each subject.
 - One recent improvement that we have made is through a partnership that we have developed with SafetySkills, a company specializing in interactive, trackable and relevant courses in safety. Personnel are provided monthly on-line safety courses
- catering to the individual and designed for their job duties.
<https://safetyskills.com/>
- Created a safety orientation video specifically for temporary labor and labor brokers and have partnered with a few of the local temp agencies to provide those workers with safety training and knowledge to understand the hazards they may face on the job.
 - In-house training has changed to detailed/ more specific training in class sizes not to exceed 15 people. This has proved effective offering a more comfortable environment for asking questions and increased opportunity for one-on-one instruction. This method has resulted in accelerated learning growth and retention.
 - Employees are required to take monthly safety courses as part of their continuing education.
 - Have invested heavily in Intalex (<https://www.intalex.com/>) and Vivid Learning Systems (<https://vividlearningsystems.com/>) to support our professional training staff to deliver quality safety training to all employees.
 - Recently revised our subcontract requirements for a subcontractors designated on-site competent person to have obtained or possess a minimum of an OSHA 30-hour Construction course within the last 3 years, versus an OSHA 10-hour course within the last 3 years.
 - Created a “2 eyes 20 feet” rule. If you do not have two eyes locked with the operator you should maintain 20 feet from the machine. We created hard hat stickers, as well as stickers for windows on each machine with pictures of 2 (eyes) and 20 (feet).
 - We utilize engineered and manufactured fall protection systems; we also design and test our own fall protection systems by performing drop tests with dynamometers to understand the forces to the anchorages and fall distances an employee may be subjected to during a fall. We test engineered components to

understand how they react during a fall to ensure our employees are protected in the event of a fall. The drop tests are videoed and documented for sharing with our employees during our fall protection training.

- The IT Department has helped with safety innovation. We have a growing need for MEWP (Mobile Elevated Work Platform) training and our team sought out new ways to incorporate more virtual reality (VR) training. Employees receive classroom training, and they also go through a course on the VR system covering limits and functionality of the equipment, along with possible scenarios that operators may encounter on a construction site or warehouse setting. Once the employees have completed the course with a passing score, they are then re-evaluated on the equipment they are operating to verify that they understand the functionality and manufacturers' recommendations.
- Data Center University training program is a 3-tier course which educates electricians on the sensitive and high-risk environment of live data processing facilities. Topics include emergency backout planning, Method-of-Procedure, and working safely with complex systems.
- Airfield University program is comprised of four training videos and in-class discussion, which addresses the unique environment of airfield work and associated hazards which are significantly different than standard construction environments.
- Most training programs are centered around OSHA codes and violations. While meeting the standards of training, we developed our program around Employee Exposure to Hazards rather than OSHA violations.
- We have developed a learning management system — NextCode — that standardizes training, tracks trainees and confirms that training is consistent across the board. By educating our teams on our safety policies, procedures and our corporate safety values, as well as integrating best practices and lessons learned over the years,
- iScout's 20/20 training program is being incorporated into our training processes to assist the organization with real-time tracking of course completion and to provide an interactive training format.
- Recognize the need to use Human Organizational Performance as opposed to something in the worker needs to be fixed.
- Focus on education and not simply the training of people.
- Use CAM (Comprehensive Advance Metrics) a tool for knowing the skills and education of each worker.
- There is a difference between training and education. You "train dogs" but should focus on "educating employees."
- Safety "Flash Drives" were initiated last year. They are populated with all the information that is on the company safety "SharePoint" site. They provide access when the internet and data reception are not available.
- If someone, when asked, cannot explain the risks and the safe aspects of performing the task, they don't know it. We leverage the power of simply asking open-ended questions to engage in quick effective knowledge and coaching tests. For example, our Foremen are coached to ask employees "What are the tasks being performed today?", "What could go wrong? How could we get hurt?", "What controls do we need to keep those hazards or risk in check?"
- LMS (learning Management System) was developed to provide consistent/customized training including onboarding, annual, refresher and specialized training. This ensures everyone receives the knowledge of safety/health requirements and familiarization of risks.
- Developed a "Heavy Equipment Operator Qualification" program by utilizing CATERPILLAR e-Learning CD software for

classroom training. The key component of CATERPILLAR e-Learning software is the equipment walk-around segment. This portion of the training is very detailed from pre-start, mid-day and end-of-shift inspections.

- All new hires are required to take an online safety orientation course from the Health & Safety Institute, (HSI) Online training. A score of 80% is required to pass.
<https://www.hsi.com/>
- Anyone who enters a trench, confined space, uses fall protection equipment, or operates motorized equipment must also present a certificate of training. In addition to a certificate, our trade partner must prove it has met or exceeded our company's minimum training standards.
- Provide safety support to clients and contractors on projects, such as facilitating the OSHA 10 and 30-hour classes at no cost.
- Frequently Asked Safety Questions - top 10 safety questions asked and answered.
- Motor vehicle accidents are classified as "preventable" or "non-preventable". Employees involved in a preventable or non-preventable motor vehicle accident are required to take a defensive safe driving class within 30 days of the accident.
- Saw deficits in providing ANSI-compliant lift training. Owners committed to take the lead with an industry best training program. While most IPAF training centers are rental companies, we now have that capability in-house and is Connecticut's only IPAF-Certified Training Center. International Powered Access Federation (IPAF) <https://www.ipaf.org/en>
- Provide monthly safety training for all employees using a state-of-the-art, web-based training and validation system called Vivid Learning. With Vivid, we can now provide required training and validation in English and Spanish along with over 100 optional courses. This gives us the confidence to know that everyone who reports to our sites has the competence necessary to work safely regardless of what language they speak.
<https://vividlearningsystems.com/>
- Have a licensed physical therapist provide one-on-one training with each new employee on proper lifting and body positioning so they can safely lift and perform the job.
- Speak Up! / Listen Up! for Construction program – this training course is attended by all employees within 30 days of hire. The program is designed to foster safe work environments by helping employees overcome the anxiety that can be associated with giving or receiving safety-related feedback.
<https://www.masoncontractors.org/education/speak-up-listen-up-for-construction/>
- Designed in-house Diver and Tender training, focuses on diver fatigue/alertness/readiness and provides hands-on, real situation training.
- Have established an in-house NCCER Accredited Assessment Center (Crane Certifications)
- Use language conversion software to allow employees to complete online forms, etc. in their native language and then it gets converted to English for management review.
- Equipment Mechanics – developed a work order timecard system that asks a few hazard recognition questions before than can submit a timecard.
- Use a safety training software App development program called Kahoot.
<https://kahoot.com/>
- 12-month driver training program using simulators and interactive modules
- Invested heavily in virtual reality technology and have created VR scissor lift and man basket training.
- Hands on safety training validation makes it impossible to cheat or "fake it."
- Fall protection training provided to employees via a mobile fall protection

training tower.

- CEO and Operational managers make monthly job visits and interview all employees who have been on the job for less than 30 days to evaluate the quality of their orientation and to solicit suggestions for orientation improvement.
- All workers who will be exposed to Falls greater than 6 feet must attend a site-specific fall protection orientation where they are tested and certified before they begin work.
- “Safe Man” mannequin at the entrance to each project to demonstrate proper PPE needed on site.
- Company Safety professionals are routinely tested using written exams and field performance observations for evaluation of competence and knowledge of safe work practices.
- Foreman/Supervisor conducts weekly documented safety meetings with their crews. The subject must apply to the 3-week Look Ahead schedule. The quality of the meeting is scored on a scale of 1-5 and is used as a Leading Indicator Measurement.
- Monthly jobsite safety exams designed by a team of workers and given to all site personnel. The exams are graded and an interactive meeting to discuss the results is completed after scoring. Results are posted project wide.
- When we train and the EE doesn’t get it, we don’t look at him as being the problem, we look inward to see what we did wrong presenting the training.
- 140 supervisors attended a 5-day intensive training session led by former Navy seals to deal with teamwork, communication, and performance.
- “First Move Forward” training program to focus on run over and back over hazards around heavy equipment.
- Focus on a particular area for safety training, like hands and feet. Once that is

well-engrained, pick another focused topic.

- Employees are encouraged/incentivized to achieve competency certification (CHST, OHST, STS, CSP, etc.)
- Designing and communicating with employees the company’s professional and career development ladder – identify positions available in the company and minimum training/experience requirements needed to get there.
- Operating an accredited in-house training center allows organizations to deliver fully customized, role-specific safety content while earning Continuing Education credits — saving time, controlling quality, and ensuring training is directly relevant to the hazards workers actually face.
- Recognizing that first-year and inexperienced workers represent a significantly higher operational risk, organizations should implement a focused first-year boot camp program that includes structured mentor shadowing, regular check-ins, competency evaluations, and scenario-based practical training to build early proficiency and reduce incident rates.
- Educating general contractors on trade-specific hazards strengthens their ability to plan effectively, coordinate safely with subcontractors, and prevent incidents by ensuring all parties understand the unique risks associated with each scope of work — not just their own.
- Documenting the expertise of seasoned tradespeople into a structured trade-knowledge book preserves critical skills, techniques, and lessons learned for the next generation of workers — ensuring that institutional knowledge is not lost as experienced leaders transition out of the workforce.
- Embedding mental health awareness into every new worker orientation reinforces a culture where all team members feel supported from day one. This approach reduces stigma, ensures workers are aware of available resources, and signals that their well-being — on and off the job — is a

- genuine organizational priority.
- Partnering with the state to bring teachers on-site for construction and safety education empowers educators to carry that knowledge back to their classrooms and integrate it into curriculum — inspiring the next generation, promoting a safety-first mindset, and building awareness of career opportunities in the construction industry.
 - Estimator included in employee orientation to highlight costs and impacts of incidents, quality escapes, property damage and other operations outside planned controls
 - The Moore Academy we are conducting all-day EH&S and NFPA 70e (2021) - Qualified Persons training. This workshop is an interactive program that navigates our leaders utilizing technology, best in class PPE, along with hands-on class participation.
 - 2020 health and safety events that were put on hold did not deter us from achieving our goals and implementing robust programs. We discovered creative and innovative ways to better safeguard our people. Through Microsoft Teams and Bamboo we kept our people informed by conducting five town-hall touchpoint meetings led by our President and his leadership team.
 - Loaner laptops are provided to employees so they can complete safety training in the convenience of their home with pay
 - PACE “Properly Approved Certified or Educated” program gives supervisors immediate verification of employee’s certifications and training via a photo ID card with company emergency protocols on the back of the card
 - New Hire 8 hour Safety orientation and personal tour of several projects with safety director
 - Orientation Safety training which is conducted 90% in the field and 10% in the classroom. People learn by seeing and doing
 - New Employee Safety Shadow – New employees spend a full day with an experienced “safety leader” crew member only observing what they do, and talking about safe work procedures
 - RLW Daily Team Focus Books – Keeps all supervisor required documentation in one place
 - SULU “Speak Up Listen Up” training within the first 3 months of employment then every 2 years to empower employees to speak up and be assertive when faced with an unsafe condition. The 2nd part is “Listen Up” when someone has input about your safety
 - Use of Rosetta Stone foreign language training to remove language barriers to safety
 - New hires are identified by an orange Class 2 vest with “Safety 1st” screen-printed on the back. All other employees wear a green Class 2 vest.
 - Weekly “Safety Playbook” which documents all crew related safety activities for the week - Must be kept up to date and in possession of each foreman
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 - “20 or 2 Program” to help prevent Run Over back Over accidents requires workers that are 20 feet or less from a piece of equipment, must have 2 eyes on the machine.
 - Classroom audience participation hardware to have an interactive training environment that compels attendee retention and participation <http://www.turningtechnologies.com/>
 - Written test for non-English speaking workers to see if they are literate in their

- own language. If not, they are paired up with a mentor to help them understand the safety requirements need for job safety
- Run Over-Back Over Hazard awareness tool box demonstration – 10 workers have 10 large numbered cards and get in several spots around a large piece of mobile equipment. The equipment operator calls off all the number cards that can be seen until the remaining cards he can't see are still standing.
- RED book (Recognize, Eliminate and Discuss) safety
- Red Alerts – Info sent out to all projects when something happens on one of the company's projects
- Equipment Rollover prevention program and demonstration
- Comprehension oral and written test after orientation
- Mentoring college students in safety so they enter the industry with better knowledge and attitude towards safety
- All site supervisors are required to complete OSHA 30-hour courses, conduct safety orientations for craft workers, and utilize Toolbox Talks to instruct and remind trade workers about safe practices.
- Weekly Toolbox Talks to remind workers of the importance of using safe lifting practices to avoid muscle strains.
- New employees go through a three day on boarding process with a major focus on company safety culture.
- Skilled craft workers, regardless of their experience level, are assigned a red hardhat so they can be quickly recognized and mentored. Based on performance, the Superintendent will determine when the company white hardhat is justified
- 18 in-house training courses dedicated to safety and incident prevention offered through company managed University system
- Implemented cloud based Safety Management and Safety Training systems for safety leadership and innovative training delivery
- Web-based safety training system which allows delivery of consistently high quality, verifiable, industry recognized curriculum to all our employees including targeted trade specific topics.
- Supervisors' Safety Training Retreat which consists of three full days of safety training every year.
- Right to Know - utilize scannable decals on hard hats that take you right to the SDS database.
- Once the mentoring process is complete and documented new employees graduate from the safety mentoring program, which can take up to 6 months. Anyone during the 6 month period who violates a safety policy is automatically kept in the program the full 6 months.
- Validate that knowledge transfer has been successfully achieved in the field by; undertaking safety situational pre-planning and conducting regular risk assessments
- All forklift and equipment operators are certified using the IVES training and certification on-line system <https://www.ivestraining.com/>
- Our local AGC chapter has an excellent safety training program with classes that management and tradesman utilize to stay current with the latest issues.
- Superintendent and foreman review all SDS sheets with tradesman prior to starting a new task to ensure they understand the PPE requirements and any unique hazards applicable to the work.
- Barcode system allows scanning a barcode, which provides information regarding an employee's training and certifications.
- After the initial orientation a safety professional conducts a 30 day review with each new employee to ensure that they understand their role in creating and

maintaining safe work areas.

- “End-Of-Year” Annual training for all hourly employees consists of a 8 hour day with training provided by 8 vendors. Each vendor has a station setup that provides one hour of training at each station. This is probably the most productive training we have provided because the hands-on training allows the workers to visually understand the hazards they encounter daily and safe work practices that are required.
 - All new hires are required to take a online safety orientation course from Health & Safety Institute, (HSI) online training. A score of 80% is required to pass. This has allowed management to identify the level of safety experience a new hire brings to the company.
 - New employees learn to identify ways to avoid accidents and injuries from receiving 16 hours of orientation in our University classroom and are trained to be prepared for any safety situation that may arise.
 - 39,000 - “safety minute” updates published and read per year
 - Orientation process (Safety orientation I & II) which is valid up to 90 days. When employees hit the 90 day mark they will be evaluated by the project manager (Safety orientation III) and will be asked open ended questions to have an open dialog. Information that is captured and used to improve or monitor the safety culture efforts to guide future safety training and program efforts.
 - Use a “Safety Blast” (in-house toolbox) from the lessons learned and share company wide.
 - Onboarding process each employee; 4 hour safety orientation and 8 hours of Incident and Injury Free training for a total of 12
 - Training Incentive Program that encourages each employee to complete 16 hours of skill advancement/continuing education courses each year. Made a commitment valued at over \$20,000 towards completing
- the goal where each employee that successfully completes their training receives a \$150 gift card.
- Training records are available on mobile devices. This allows foremen to check if an employee has completed necessary training prior to assigning the specific task. Training is validated through observation while the employee performs the task and during incident reviews.
 - Every project worksite is required to have a laminating machine. Use a “signs” program to quickly print regulatory hazard notifications for GC and Subcontractors.
 - Superintendent provides close oversight for the first few days after a new worker comes on the project. A daily written evaluation of the workers compliance to Safety and Site Hazards is done by the Superintendent.
 - Use project fence signs to reinforce the site Orientation, project hazards, and GC’s beyond OSHA requirements. Designed to enhance and reinforce GC’s commitment to elimination of work site hazards.
 - Basic Safety Orientation (BSO), is a mandatory 8-hour class with general job site safety components, videos, hands on practice, and trade specific hazards and risks. Focus on the war on falls, proper use of tools and equipment while performing routine tasks customary to the trade. Delivered in English and Spanish and includes customized “Quick Reference Visual Guides” to clarify customary exposures.
 - Recruits, new to construction and/or our trade, enter the Workforce Development Program (WFD) trainee Program. Coaches are accredited WFD trainers.
 - Orientation: all workers go through training center which covers 17 demonstration/ training stations including, fall protection, ladders, hand and power tools, scaffolds, flagging, electrical hazards including power lines, equipment safety & blind spots.
 - New hires are evaluated during orientation

- by company trainers on their ability to use power hand tools, use of ladders, knowledge of proper PPE etc. After completion of orientation each team member receives a score and their knowledge is passed on to the field Superintendent so that they can place the team member with the proper mentor. Once they are placed, they are evaluated every week on their retention of safety and vocational knowledge. After 90 days a final evaluation is done and they are placed with a permanent superintendent according to their scores.
- “Center for Craft Excellence” where Craft workers are motivated by the desire to learn, improve, and perform their work safely. They are provided access to all of the necessary tools and training.
 - Every Craft new-hire goes through a Craft Task Training Orientation. The craft training program is nationally-certified and offered at the in-house Center for Craft Excellence and at all individual jobsites. The Journey-Level Skills Assessment Program is designed to verify and document a participant’s craft knowledge and skills. The program adheres to the standards of the National Center for Construction Education and Research (NCCER). <https://www.nccer.org/>
 - Surprise employees with unannounced pop quizzes! These pop quizzes appear in the form of a text message or email sent out to all employees by the company president based on hypothetical situations. Each employee is given an exact time frame to formulate a response using information they learned from the meeting or by utilizing the safety data sheets (SDS) mobile application to search for product information.
 - Have a hands-on practice board to validate the operational aspects of the energized work program.
 - Worker Training Incentive - Employees who complete 16 hours of safety skill development/continuing education each year receive a \$150 gift card.
 - Use UPC Bar Code technology to provide information on individual worker training and certifications on the spot.
 - Safety on-boarding can be from 2-10 days based on assignment. A member of executive management meets with new employee before 1st assignment.
 - Hired a Training Coordinator who is dedicated solely to training the crafts people in their respective disciplines both in safety and work methods.
 - Toolbox talks are personally written by the management staff and safety director that relate to the specific work coming up in the next 6 weeks. The safety director has craft workers and managers complete a quiz every 6 weeks to validate retention of key items mentioned in the talks.
 - Safety orientations for all employees are 2 full days. Part of the orientation is a customized OSHA 10 hour construction course with heavy emphasis on the specific not generic type of work employees will be doing.
 - Developed a new hire orientation program that varies the way adult craft workers learn. Rather than 8 hours of verbal instruction with PowerPoint slides the training is mixed with completing a detailed online computer driven safety orientation course covering 36 different safety related subjects requiring the worker to pass a quiz at the end of each section before moving on to the next. Questions where the worker struggled are cataloged and a personal follow-up plan is developed for each person to make sure they retain the items they missed.
 - Partnership with HCSS software to provide tracking of skills and certifications, run real time reports on company customized leading indicators. <http://www.hcss.com/>
 - 3 phase safety orientation process. Orientation 1 and 2 are good for 90 days. At the 90 day mark Superintendent evaluates training key points and retention by asking a series of open ended questions to truly evaluate whether additional training or

- retaking Orientation 1 and 2. information from the Superintendent 90 day interviews is used to modify and enhance Orientation 1 and 2 programs and the culture of the company the new employee experienced the first 90 days
- Developed a new employee mentor program for the first 60 days. Company loss analysis showed most injuries and turnover occurred during the first 60 days. Mentors are paid for their work. They are also paid for daily notations and answering questions in their “Mentor Book”
 - Hard hat color change after 90 day orientation period signifies that the craft worker has completed orientation and now has the authority to correct any unsafe condition.
 - Utilize a 2 day orientation system using C-Stop a Contractors safety and Orientation Program which is expanded to include hazard identification and mitigation practices. <http://www.cstop.org/>
 - For the past 27 years all Supervisors attend a 3 day “Supervisors Training Retreat” in 2016 225 supervisors attended the retreat.
 - “Short Service Employee” program for all newly hired people. They remain a short service employee for one year until they complete the 12 month operations and safety program.
 - Use of voice over PowerPoint safety training topics that are part of the on-line learning management system. Can be accessed and reviewed 24/7. makes good topics for safety meetings.
 - Training records are maintained in an Online storage system. It is accessible by any smart phone using a Quick Reference (QR) Code reader. Employees, customers and auditors have immediate access to qualifications.
 - Electrical incidents and risks were trending up. President called for an Electrical Safety Stand down for all projects. Electrical training tool place using the NFPA 70E standard.
 - Orientation includes: Starting day one 1, all new hires are required to attend a 45 minute site-specific safety orientation meeting on day one. The safety orientation includes a Building Information Modeling (BIM)/visual presentation that outlines our partnership with OSHA with the Voluntary Protection Program (VPP), emergency action plan with contact names and numbers, hazard communication (GHS), serious injury and fatality (SIF) prevention, personal protective equipment requirements, incident investigation and reporting structure, safety and health requirements (electrical, falls, scaffolding, trenching, mobile and heavy equipment, demolition, and hot work). A Q&A session follows the presentation.
 - Supervisor and manager development includes the Foundations for Safety Leadership program developed by the Laborers of North America. <http://www.liuna.org/leadership-education-series-construction>
 - Identified vehicle accident exposures as a key risk for the company. Utilized a 3rd party training resource called SWERVE to provide training to all that drive company vehicles. <http://goswerve.com/> System allows for training for all new drivers and existing drivers who need additional based on reports from the in-vehicle GPS units.
 - After initial on-boarding for safety. All new hires are brought back in 30-45 days to receive more intense re-training. Company found bringing employees back after some on-the-job experience that they had a better understanding of the company. They also feel more comfortable to ask questions and discuss concerns.
 - Utilize an anonymous post-training evaluation form to allow employees to give feedback on the training they have attended. The intent is to receive feedback on what training techniques work and what they can do to improve training and safety topic content.
 - New employee orientation is interactive and consists of 2 parts; 1) 3 hours of

classroom training 2) 3 hours of HOTT (Hands ON Tool Training) a written and demonstrated tool safety exam are administered after the orientation process to solicit feedback and continuous improvement of on-boarding process

- General Superintendent has an OSHA 500 training certification
- A four-step safety orientation and training program. In step one, the employee is given an overview of the programs, and expectations are set forth that their performance review will include working safely at all times. Step two is a ladder safety program which includes rules and regulations regarding ladder use. Step three is a scaffolding safety program which thoroughly explains how to use scaffolding and avoid potential accidents. Step four is a fall protection program that covers rules regarding safety nets and handrails. Each year, every employee goes through the same complete refresher safety course.
- Does not use a one size fits all orientation training program have developed a customized training program based on past field experience.
- Mobile training facility which trains thousands of workers in multiple states.
- Measure the forces involved with falls regularly with dynameters, then use the data and photos in company training.
- “Foreman 40” training program where each foreman gets 30 hours of general safety training and 10 hours of project specific training each year
- Weekly Foreman and Superintendent Safety Training session for 1 hour
- “Sponsor Buddy” program. Sponsor and supervisor evaluate new hire’s application of training for 30 days after orientation. Both must sign off that worker is ready to work w/o buddy or process continues.
- Worker task specific “pocket guide” for the specific tasks they will be performing. Laborers may get just one guide for the scope of their task, others like equipment operators may get several pocket guides. Guides must be kept on their person and produced upon request by supervisor. Workers are required to verbally explain the safe way to do their key assigned tasks. During morning meetings workers are called upon to lead the meeting using their pocket guide.
- All company employees from the top down are required to take 20 hours of annual training, 5 of which must be safety.
- Company You Tube series of safety videos that can be accessed through, desktop and smartphone - <https://www.youtube.com/watch?v=DBsqpXmstQk>
- 10 hour orientation program for all new hires including temporary labor and labor from labor brokers. Part of the orientation is a series of photos depicting common and not so common (lightning-weather) hazards on projects that trainees are quizzed to recognize and then the orientation group discusses how to control and/or eliminate. Interactive Hazard recognition and group discussion on controls.
- Mentorship Meetings (monthly) where crafts of varying tenure meet to help each other understand and discuss safety related procedures and processes and lessons learned. Results are summarized, documented, and shared with senior management.
- 40 hours per year of mandatory management training - leadership education, communication and listening, understanding and dealing with conflict and confrontational issues, and safety.
- Aside from the morning stretch and flex program, 10-15 second “Micro Breaks are used to keep stretched and comfortable.
- Training Badge - QR Code program provides instant access to training records for GC and all subcontractors. Smartphone scans the code for access.
- 2 separate training programs for Pre-Task Hazard Analysis; One for the crew, and one specifically designed for 1st line

- supervision which has leadership and group discussion best practices.
- Monthly ongoing safety training through “Lunch and Learn” program. Craft workers make 30min presentation on a pre-determined safety topic.
- Lead men attend Foreman Core Training in preparation for a future leadership role. Foremen attend a developed Leadership in Safety Excellence certification course which is 2 days and 4 modules.
- 3 part orientation process: Level 1 Initial Orientation, Level 2 30-60 days after Level 1, and Level 3 60-90 days after Level 2
- Company credential system revised to fit into plastic pocket of safety vest. Employees wear color-coded badge that displays their training and visible to everyone. Temp laborers use same system and view pocket vests.
- Cross training for electricians, mechanics and pipe fitters. Each will look at tasks from a different perspective. They become lead supervisors some day and will manage multiple trades.
- Provided NFPA 70E training to Clients to help them understand their work and the GC’s instructions to bidders. Promoted safety after turnover to Clients employees
- Electrical hazard training facility which includes multiple streaming interactive touch screen monitors, mock-up switch gear room, newest power distribution equipment including dry type transformers, disconnects, panel boards, and actual working clearances and distances.
- Safety Training matrix for all employees which visually shows in colors completed and needed safety training
- 16 hour per year annual training incentive program. Each employee who completes their training receives a \$150 gift card and a chance for five drawings of \$1,000 each
- 8 hour “Safety Onboarding Day” where new employees go through extensive safety training and hands-on use and practical application of their company issued fall protection system
- Learning and Development Department who work in conjunction with Safety department and focus on the specific learning challenges and solutions faced by all age groups of employees.
- Less than 6 month employees have a gold hard hat sticker and an assigned safety mentor for the entire 6 months
- Orientation has a PowerPoint presentation which takes new workers on an actual journey though a construction project pointing out the significant hazards they need to watch out for.
- Monday morning “Breakfast and Learn” safety training sessions for all employees using a PowerPoint and 6 question quiz
- Number of total safety training hours excluding site orientation safety training hours are tracked as a leading indicator
- Drivers of company vehicles are required to have a 30 day waiting period and pass a practical and on-line driving exam before being assign a vehicle
- Partnered with Rosetta Stone to provide language training to field personnel
- OSHA 10 and OSHA 30 classes are required every 2 years instead of 3. Keeps issues fresh and on management’s and employees minds
- All company safety managers/coordinators are OSHA 500 authorized trainers. This significantly improved the quality of training done in the field. These guys do a lot a training and certification has improved the quality and effectiveness of what they do.
- During orientation all workers are issued a personalized business card that contains specific information about the worker, their qualifications/certifications, and contains other project specific information. It is laminated and must be produced while on site if requested by management.

- All field employees must have and maintain an STP “Safety Training Passport”. STP is equivalent to the OSHA 10 + 6 additional hours. Ohio based training program <http://www.local18training.com/classes-offered/safety-training-passport>
- “Green Band” new employee hardhat identification and paired with a mentor until they can demonstrate knowledge and execution of working safely
- Safety managers must be OSHA 500 certified and must be certified to teach safety courses through the national center for Construction Education and Research (NCCER) www.NCCER.org
- Fleet safety program has been updated with an extensive section on cargo securement. The accompanying training requires hands on demonstration of securement procedure and a written test to validate understand of the training and on-road procedures.
- Contacted the Masonry Institute of Michigan to conduct masonry bracing and scaffold awareness training to help workers who had not worked around masonry “Fall Zones” to understand the risks and be proactive in the way they worked around the zones.
- Creation of a YouTube Channel for wide spread communication of information and training
- Internal full-time training team
- Extensive orientation program (2 to 3 days)
- Rainy day training, safety “workshops”
- Mid-term exams to test knowledge retention of safety program
- Developed a solo warm up routine quite aside from a stretch n flex that a worker can use by him/herself after sitting for a few hours.
- Use of a rearview mirror sticker to heighten awareness of backing accidents
- Annual training with minimum training hours according to work discipline are tracked and are included on the annual merit review of each worker
- Produce and lead micro training sessions for common construction safety mistakes to ensure that good safety information is presented at a high frequency to all workers. Each foreman is outfitted with an electronic tablet that allows for viewing and assessing each micro training module with their individual work crew on the project.
- Utilize a mobile training center (bumper pull trailer) to take the training out of only lecture style training, and into the worker’s actual work environment. This allows the practical, hands on training to supplement the material for better worker retention for each subject.
- Employee training certificates are accessible electronically through smart phones and tablets using employee ID cards, with QR codes, giving project team’s instant training verification prior to task assignment.
- One recent improvement that we have made is through a partnership that we have developed with SafetySkills, a company specializing in interactive, trackable and relevant courses in safety. Personnel are provided monthly on-line safety courses catering to the individual and designed for their job duties. <https://safetyskills.com/>
- Created a safety orientation video specifically for temporary labor and labor brokers and have partnered with a few of the local temp agencies to provide those workers with the safety training and knowledge to understand the hazards they may face on the job.
- In-house training has changed to detailed/ more specific training in class sizes not to exceed 15 persons. This has proved effective offering a more comfortable environment for asking questions and increased opportunity for one-on-one instruction. This method has resulted in accelerated learning growth and retention.

- New hire orientation begins with 3-days at our corporate office; regardless of individual's prior experience. The 3-day process allows for 1-day of basic safety training and meeting with all department heads to learn of expectations and standard company processes. Each person is paired with a Mentor for a duration of at least 6-weeks to aid with continuous learning of our company processes, culture and safety expectations. We have multiple check-ins with the new employee to validate training; at 2-weeks, 30 days, 45 days, 60 days and 90 days.
- Employees are required to take monthly safety courses as part of their continuing education.
- Training for employees is accomplished through a multi-tiered approach which involves in-house training, third-party accredited training providers, and online training modules. Training is tracked and monitored through the use of online software
- In 2019 we kicked off a Safety Question of the Day, which is emailed directly to every field employee. Employees who respond to at least 75% of the daily questions and maintain a minimum score of 75% are eligible for a monthly cash incentive. The key advantage of this program is that we are connecting with nearly 2,000 employees daily, and each is on an individualized program, with questions tailored to improve on needed reinforcement. This initiative has created a welcome increase in the number of safety discussions with our field employees – they are challenged and take a lot of pride in getting these questions correct.
- Safety begins in the interview process, where safety-related questions are asked of each candidate. Safety training starts with new employee orientation, continues with our Short-Service Employee (SSE) six-month mentorship and is maintained throughout each employee's career, with a mandatory 20+ training hours annually.
- We enhanced our JSA process to include validation using what we call our Daily Understanding Plan (DUP)
- During week 2 of orientation field employees participate in a Quick Start class where they are introduced to site-specific tasks/tools and are trained on how to safely perform these tasks prior to going out to a project.
- Have invested heavily in Intalex (<https://www.intalex.com/>) and Vivid Learning Systems (<https://vividlearningsystems.com/>) to support our professional training staff to deliver quality safety training to all employees.
- Recently revised our subcontract requirements for a subcontractors designated on site competent person to have obtained or possess a minimum of an OSHA 30 hour Construction course within the last 3 years, versus an OSHA 10 hour course within the last 3 years.
- Created a “2 eyes 20 feet” rule. If you do not have two eyes locked with the operator you should maintain a distance of 20 feet from the machine. We created hard hat stickers, as well as stickers for windows on each machine with the pictures of 2 (eyes) and 20 (feet).
- New hires are assigned a red hard hat and are mentored for the first six months to ensure that safe work practices become routine. At the end of the six-month period, the employee receives a white hard hat, which is replaced with a gold hard hat at the end of five years of employment with the company. The five-year employee provides guidance to our less-experienced employees.
- Use Human Performance Improvement strategies while analyzing processes notated in the Good Catch/Near Miss reports. Focused safety education based on Leading and Lagging Indicators are then provided to all team members for future improvement. The in-person education and training are then converted into a video available for all team members on our online Learning Management System.

- Craft employees complete an average of 42 hours of safety training per person per year
- We utilize engineered and manufactured fall protection systems, we also design and test our own fall protection systems by performing drop tests with dynameters to understand the forces to the anchorages and fall distances an employee may be subjected to during a fall. We test engineered components to understand how they react during a fall to assure our employees are protected in the event of a fall. The drop tests are videoed and documented for sharing with our employees during our fall protection training.
- IT Department has helped with safety innovation. We have a growing need for MEWP (Mobile Elevated Work Platform) training and our team sought out new ways to incorporate more virtual reality (VR) training. Employees receive class room training, and they also go through a course on the VR system covering limits and functionality of the equipment, along with possible scenarios that operators may encounter on a construction site or warehouse setting. Once the employees have completed the course with a passing score, they are then re-evaluated on the equipment they are operating to verify that they understand the functionality and manufactures recommendations.
- We print a personal QR coded decal that goes on the hard hat of the new employee allowing us to track their training and is available in real time.
- Healthcare Environment Training is a 3-tier course which educates electricians on the intricacies of live healthcare environments, with an emphasis on prioritizing patient safety.
- Data Center University training program is a 3-tier course which educates electricians on the sensitive and high-risk environment of live data processing facilities. Topics include emergency backout planning, Method-of-Procedure, and working safely with complex systems.
- Airfield University program is comprised of four training videos and in-class discussion, which addresses the unique environment of airfield work and associated hazards which are significantly different than standard construction environments.
- Most training programs are centered around OSHA codes and violations. While meeting the standards of training, we developed our program around Employee Exposure to Hazards rather than OSHA violations.
- We have developed a learning management system — NextCode – that standardizes training, tracks trainees and confirms that training is consistent across the board. By educating our teams on our safety policies, procedures and our corporate safety values, as well as integrating best practices and lessons learned over the years,
- iScout's 20/20 training program is being incorporated into our training processes to assist the organization with real-time tracking of course completion and to provide an interactive training format.
- “When a new employee begins their career with our organization they attend an interactive safety orientation of 3-4 hours (training Room) and 2-3 hours of H.O.T.T. (Hands-On-Tool-Training). At the conclusion of the orientation a written exam is administered. The written exam is used to solicit feedback and allow the employee to demonstrate their understanding of the company safety policies, topics, tools trained on and various safety requirements applicable to the type work they will be performing. It's a time to re-emphasize the role they'll play in helping build a stronger safety culture within our company. The safety materials are presented in a win-win atmosphere, where, new employees are indoctrinated into a safe way of looking at their everyday job(s). “
- Use mobile apps to provided access to all safety materials a worker would need... Including JHA's, safety huddle topics, etc.

- and document training using mobile apps.
- Recognize the need to use Human Organizational Performance as opposed to something in the worker needs to be fixed.
- Use CAM (Comprehensive Advance Metrics) a tool for knowing the skills and education of each worker.
- Utilize a mobile craft training with an education trailer for hands on training.
- Since 1953, the company's commitment to Workforce Development and Apprenticeship Training has grown to now over 250 apprentices who work up and down the east coast.
- Required to complete an instructor led OSHA 10 hour outreach program within 30 days of hire.
- Encourage DOT employees and inspectors to be a part of the safety of each project by requiring them to use all appropriate PPE and be engaged in weekly progress meeting's safety topics and joining our "Weekly Tool Box Talk" meeting.
- Safety "Flash Drives" were initiated in 2018. They are populated with all of the information that is on the company safety "SharePoint" site. They provide access when internet and data reception is not available.
- Employee safety orientation and other safety topics like tool operation, safety concepts, and processes are trained by an "Alpha Dog". who is anyone qualified to train on a specific subject because of their knowledge and experience.
- New employees go through two days of orientation, then on the job training with a company designated trainer. Field Operators have OSHA 10 and OSHA 30 training, National Safety Council Basic Plus and Confined Space training, First Aid & CPR training as base training. Depending on job assignment employees complete several Site/Task Specific training programs and other job required training each year. Training records are kept on each employee to show the tasks and jobsites they are qualified for.
- Implemented TEXO's Safety First program on the project. The Safety First program was introduced to provide standardized safety information suitable for construction personnel at all levels. The safety culture on the project was very notable. The team worked diligently to create a safe and health conscious culture that resounded through every work activity.
- If someone when asked can't explain the risks and the safe aspects of performing the task, they don't know it. We leverage the power of simply asking open-ended questions to engage a quick effective knowledge and coaching test. For example, our Foremen are coached to ask employees "What are the tasks being performed today?", "What could go wrong? How could we get hurt?", "What controls do we need to keep those hazards or risk in check?"
- LMS (learning Management System) was developed to provide consistent/ customized training including onboarding, annual, refresher and specialized training. This ensures everyone receives the knowledge of Safety/Health requirements and familiarization of risks.
- Developed a "Heavy Equipment Operator Qualification" program by utilizing CATERPILLAR e-Learning CD software for classroom training. The key component from CATERPILLAR e-Learning software is the equipment walk-around segment. This portion of the training is very detailed from pre-start, mid-day and end-of-shift inspections.
- All new hires are required to take a online safety orientation course from Health & Safety Institute, (HSI) Online training. A score of 80% is required to pass. <https://www.hsi.com/>
- Provide each employee with over 16 hours of safety training before they leave the corporate office to go to a job site. This training reviews the tools and equipment employees will use in the field. It covers all regulatory issues required and seeks a personal commitment from each employee to work safe.

- Our responsibility is to provide the highest level of safety orientation and craft safety training possible. We are moving from a two-day orientation to a three-day safety boot camp. This will be especially helpful to the non-traditionally trained craft workers entering our industry.
- Using QR codes stickers on our hard hats which identify a person by photo and their training and qualifications
- Anyone who enters a trench, confined space, uses fall protection equipment, or operates motorized equipment must also present a certificate of training. In addition to a certificate, our trade partner must prove it has met or exceeded our company's minimum training standards.
- We focus on quality of training and verification rather than catch, punish and release.
- Provide safety support to clients and contractors on projects, such as facilitating the OSHA 10 and 30-hour classes at no cost.
- Motor vehicle accidents are classified as "preventable" or "non-preventable". Employees involved in a preventable or non-preventable motor vehicle accident are required to take a defensive safe driving class within 30 days of the accident.
- provide a set of stickers to new hires help communicate to everyone that they are new. The sticker looks like a yellow street sign and it says "Caution I'm New" which helps everyone support them and train them. They get up to speed with how things are done. The stickers are all marked with an expiration date of ninety days following their hire date.
- Developed Top Drum Training for our ready-mix drivers and Top Wheel Training for our aggregate drivers
- STOP - Safety Training and Orientation Program. Is a site specific, one-on-one orientation with a project manager. New hires must achieve a 100% on the multiple choice exam following the on-line training to verify comprehension. Completion is tracked and certifications can be printed out via a LMS (Learning Management System).
- Saw deficits in providing ANSI-compliant lift training. Owners committed to take the lead with an industry best training program. While most IPAF training centers are rental companies, we now has that capability in-house and is Connecticut's only IPAF-Certified Training Center. International Powered Access Federation (IPAF) <https://www.ipaf.org/en>
- New hire training center is especially effective for addressing workers new to the construction trade. It includes 18 modules or work stations and is a hands-on learning center. This portion of the safety orientation takes around 3 hours to complete. All workers who are new to the site receive a red vest for 90 days this alerts other workers to assist in coaching and mentoring the new worker to the site.
- Provide monthly safety training for all employees using a state of the art, web-based training and validation system called Vivid Learning. With Vivid, we can now provide required training and validation in English and Spanish along with over 100 optional courses. This gives us the confidence to know that everyone who reports to our sites has the competence necessary to work safely regardless what language they speak. <https://vividlearningsystems.com/>
- Training staff discovered that people learn and respond to visual presentations far better than bulleted PowerPoint slides. All of our training is very visual and always includes an engagement activity to further foster comprehension.
- Have a licensed physical therapist provide one on one training with each new employee on proper lifting and body positioning so they can safely lift and perform the job.
- Speak Up! / Listen Up! for Construction program – this training course is attended by all employees within 30 days of

- hire. The program is designed to foster safe work environments by helping employees overcome the anxiety that can be associated with giving or receiving safety-related feedback. <https://www.masoncontractors.org/education/speak-up-listen-up-for-construction/>
- All supervisors receive Osha 30-hour training, plus 8 hours of continuing education safety training each year
 - Designed in-house Diver and Tender training, focuses on diver fatigue/alertness/readiness and provides hands on, real situation training
 - Have established an in-house NCCER Accredited Assessment Center (Crane Certifications)
 - Use QR codes specific to each employee and will show the employees training history
 - Use language conversion software to allow employees to complete online forms, etc. in their native language and then it gets converted to English for management review.
 - Equipment Mechanics – developed a work order time card system that asks a few hazard recognition questions before than can submit a time card.
 - Use a safety training software development program called Kahoot. <https://kahoot.com/>
 - 12-month driver training program using simulators and interactive modules
 - Company shuts down for three days at the beginning of each year for all employee safety meetings
 - They use a language neutral safety orientation video.
 - Invested heavily in virtual reality technology and have created VR scissor lift and man basket training.
 - Three important aspects of our safety program: Honest Reporting, Synergy Training, and Cross Training
 - Training records are available via foreman mobile devices, so they can verify competency before assigning tasks
 - “Know Safety/No Injury” where workers are randomly quizzed on current safety topics from company newsletter or current safety campaigns - when a worker answers correctly he receives a gift card.
 - All employees are required to take a minimum of 12 hours of training a year in their LMS, but are encouraged to take 25 hours.
 - use of QR coded stickers on hard hats which link back to employee training records, accessible to supervisors assigning work
 - Hands on safety training validation makes it impossible to cheat or “fake it”
 - Training effectiveness is validated by performing a 30-day performance review with all employees after completion of mandatory training
 - A follow-up summary sheet of information presented in training classes is provided to employees after 30-days as a reminder of course content.
 - Fall protection training provided to employees via a mobile fall protection training tower (Photo)
 - CEO and Operational managers make monthly job visits and interview all employees who have been on the job for less than 30 days to evaluate quality of their orientation and to solicit suggestion for orientation improvement.
 - Employee level team has a the task of designing orientation safety training and ongoing training for company
 - All workers who will be exposed to Falls greater than 6 feet must attend a site specific fall protection orientation where they are tested and certified before they begin work.
 - GPS monitoring and driver safety training on all company owned vehicles
 - Supervisory educational and emphasis

- program that focuses on 4 key groups of workers: 1) New to the Trade 2.) New to the Project 3.) New to their tools/equipment 4.) New to the company
- “Safe Man” mannequin at the entrance to each project to demonstrate proper PPE needed on site.
 - Trained competent persons wear a badge on the outside of their high visibility vest noting what they are competent in.
 - Mid-term training exams. Employees with hazard specific/competent person training greater than 2 years ago must take an exam and score 85% or better or training must be completed again.
 - Company Safety professionals are routinely tested using written exams and field performance observations for evaluation of competence and knowledge of safe work practices.
 - Foreman/Supervisor conducts weekly documented safety meetings with their crews. The subject must apply to the 3 week Look Ahead schedule. The quality of the meeting is scored on a scale of 1-5 and use as a Leading Indicator measurement.
 - Monthly jobsite safety exams designed by a team of workers and given to all site personnel. The exams are graded and an interactive meeting to discuss the results is completed after scoring. Results are posted project wide.
 - IMPACT: Immediately Making Progress Aggressively Creating Teamwork which uses iPad technology to immediately show demonstrate unsafe/safe behavior using a photo/media.
 - Safety college, starting with personality and character
 - When we train and the EE doesn't get it, we don't look at him as being the problem, we look inward to see what we did wrong presenting the training
 - Sent 140 supervisors to a 5 day intensive training session led by former Navy seals to deal with teamwork, communication, performance
 - 45 day mentoring program
 - “First Move Forward” to focus on run over and back over hazards around heavy equipment.
 - Experienced employees training other employees.
 - Focus on a particular area for safety training; like hands and feet. Once that is well engrained pick another focused topic
 - Employees are encouraged/incentivized to achieve competency certification (CHST, OHST, STS, CSP, etc.)
 - [“XYZ Construction University”] A library of training courses is offered to employees, who are encouraged to take them on their own time for skills, knowledge, and ability enhancement. The dissociated learning environment enables employees to learn on at their own pace and at a time that is convenient for them
 - Designing and communicating with employees the company's professional and career development ladder – identify positions available in the company and minimum training/experience requirements needed to get there.

SUBCONTRACTOR MANAGEMENT

- All Sub-tier/specialty contractors complete an annual Sub-tier safety questionnaire measuring all facets of safety and training, plus COI, 3 year 300-A summary; EMR insurance broker validity, and any contractor over 1.0 EMR is required to submit formal responses by both the contractor and carrier. A vendor approved rating scorecard ranks risk factors. EH&S manual section addresses the Sub-tier Contractor program.
- “Safest Subcontractor” program - Each Subcontractor is scored each month based on certain criteria including the riskiness of their work and given an award and recognition lunch.
- Provide OSHA 10-hour class (English and Spanish) for subcontractors free of charge.
- Teach subs how to measure safety (e.g. workers comp costs per work hour, etc.)
- Require site-specific safety plans from each subcontractor and hold planning meetings for hazardous activities. Subcontractors agree to our safety policy terms and sign a Safety Annex at project start. Superintendents enforce the Safety Annex: for contractor violations, written notification is provided, and corrective action is followed up.
- Host an annual subcontractor safety summit that all subs must attend and send representatives from safety and management.
- Three strike policy. 1-written warning, 2-minimum 2 days off, 3-termination. Step three can be used at any time in the process.
- Each subcontractor is required to provide reports with their safety inspection checklists before performing work.
- Subcontractor must provide translator to accompany non-English speaking workers.
- Developed a scoring system based on subcontractors’ performance. When subcontractors are found to be not performing, they are not hired for future projects.
- Each subcontractor is required to complete a questionnaire prior to buyout. Included are performance indicators such as EMR, incident rates, hours of safety training, OSHA forms, etc.
- Subcontractor OSHA 10- and 30-hour training. Offer a free instructor but pass along the charge for the cards.
- Written financial penalties and removal from a project are included in our subcontract.
- Require subcontractors to submit their safety activity electronically to better protect us from liability and the multi-employer act.
- Subcontractors must meet minimum performance requirements to be allowed to bid on the project unless they are placed on a corrective action plan. The corrective action plan is designed to involve Senior Management, including the Senior Project Manager, General Superintendent and Safety Director in safety improvements. In conjunction with the subcontractor’s owner, actions are developed to improve the subcontractor’s safety program and performance in the long run.
- Preconstruction Safety Go-No-Go with each trade partner prior to mobilization. This meeting includes Project Management from both GC and the trade partners to review the overall Site-Specific Safety Plan, the trade partner’s Job Hazard Analysis’ for all tasks to be performed and review any other safety-related questions associated with the project. The intent of the meeting is to instill in the trade partners the GC’s philosophy that through proper planning and preparation, all injuries are preventable.
- Subcontractors are required to complete weekly safety scorecards that track work

- hours, leading and lagging Indicators, and Tool Box topics.
- The third and final notice of safety violation requires a meeting between the subcontractor's owner and our President and CEO, to determine if the subcontract will be terminated.
- Provide recommendations for training outlets to subcontractors.
- Subcontractors must initially sign a GMP requiring commitment to maintain GCs above OSHA standards. When awarded a job, they must also sign the Site-Specific contracts and detailed safety requirements.
- Roofing subcontractors have additional requirements including a roof plan drawing with detailed protection identified.
- Use a progressive disciplinary policy except for imminent danger situations and Focus Four issues which have a zero-tolerance policy.
- Drug and alcohol testing policy includes reasonable suspicion, post-offer and random for both.
- Developed "Project Injury Risk Scorecard" that gives a numerical assessment of the risk based on historical data both in safety and production the subcontractor will bring to our project.
- Use ISNetworld to qualify sub-contractors and vendors hired to work on projects. <https://www.isnetworld.com/>
- Use Highwire to qualify sub-contractors and vendors hired to work on projects. <https://www.highwire.com/prequalification>
- GC's president calls subcontractor's president when an employee is injured. Expresses care and concern from the GC and allows coaching and role modeling of the sub.
- When utilizing MWBE partners. The company realizes MWBE's may lack funding for safety training. GC provides training and resources to help them better protect their employees.
- Visitors and parties not involved in day-to-day construction activities – Examples include contract haulers or truckers, vendors, suppliers, architects, engineers, and professional services firms are required to review the project site specific safety plan for their work and sign a document that they understand the requirements.
- All subcontractors are required to submit their safety manual, but also, they must submit a method statement for each type of hazardous work as defined by the project team.
- Subcontracts during the pre-con are informed about the subcontractor "Safety Warning" program. This program requires any identified hazard to be corrected within 24 hours or the subcontractor will not be granted access to any work area until the problem is corrected and a plan for prevention of reoccurrence is approved by the project team.
- Project orientation not only includes safety requirements but also gives workers an education on what they are building, who they are building it for, and how it will benefit the community.
- All subcontractors are vetted through a third-party system, AVETTA Inc. The basic criteria are set, and the auditors provide a grade. The safety department then validates written programs submitted during field audits. <https://www.avetta.com/>
- All subcontractors must submit training documentation for all craft workers and people identified as competent persons for high hazard tasks.
- Utilize C3 The Construction Career Collaborative to validate proof of training for subcontractors. C3 is an alliance of Owners, Contractors, and Specialty Contractors that help with issues facing the craft worker for the commercial construction industry. To be an accredited employer one must pay workers by the hour and have an in-house program to develop a capable workforce. This is an

attempt to stop the abuse of independent contractors to dodge safety responsibilities. <https://www.constructioncareercollaborative.org/>

- A database was developed that can track all types of training for all workers, including subcontractors. This helps us to know whether workers are qualified for certain tasks on our jobs or if they need initial or refresher training.
- Subcontractor safety seminars for 1/2 day and are held throughout the year. Company president kicks off and has closing comments. OSHA participates with a presentation, and members of the local university construction school attend and do presentations.
- RFID badging system that tracks employee training, safety violations, certifications, actual hours worked on site, and emergency contact information. Operations can track headcount and manpower in real time to improve production.
- All subcontractors must submit a JSSP (Job Specific safety Plan) not their safety manual before they arrive on the project.
- 3 strike programs where on the 3rd safety issues the owner of the subcontractor must come and meet face to face with the owner of the GC.
- In-depth detail subcontractor safety training which exceeds the content in the OSHA 30 is provided by the GC free of charge to help subs improve their safety management process skills.
- Bi-annual 3-hour “Safety Summits” with all subcontractors. Various safety topics are discussed. Improves subcontractor safety knowledge, builds trust and improves GC-sub relationships. Over 300 attended.
- 4-hour Mock/OSHA inspections by the Safety Director and President. All typical OSHA related paperwork and site walk protocols are followed. A mock closing conference w/citation review is completed with all project management in attendance. Provides an interactive training experience and better prepares the project team for potential future visits by OSHA.
- Each subcontractor contractually required to provide a foreman that is fluent in English and Spanish. This requirement is validated by successful completion of an orientation meeting in both languages.
- Site safety inspection software captures pictures, and other positive or negative safety issues. The report is distributed automatically to the project team. If the issue involves a subcontractor an electronic copy of the report is automatically sent to the Subcontractors executive leadership team. The Subcontractors data and response is also tracked for the future subcontractor prequalification bid process.
- Use construction safety outreach services of the University of South Florida to help subcontractors evaluate and upgrade their safety program.
- Developed an “Over OSHA” policy based on loss trends of GC and Subs and amended subcontracts to reflect standards above OSHA.
- Developed 3 targeted safety videos. Each aimed at subcontractors, employees, and visitors. All visitors must go through a structured orientation.
- Crisis management plan has a severity rating system of 1, 2, or 3 with different response and management criteria.
- Subcontractor “Unlearning Bad Practices” identification, remediation, and rewards program.
- Subcontractors complete a 6-page Pre-Construction safety document and assign a Superintendent mentor for the first 90 days after they begin work. Each subcontractor also receives a weekly safety audit by the GC.
- Use anonymous Subcontractor perception surveys to measure the safety process effectiveness of the GC project leadership team.
- Specific safety requirements above

and beyond OSHA are listed on all subcontractors' Bid Forms. The additional requirements are also reviewed at the pre-award conference with every responsive bidder.

- Asked a major subcontractor to take a deep dive into their current safety program by entering the national CSEA competition, which they did. The sub said they learned a lot about themselves and received 1st place in their division.
- Invested in employing a full-time dedicated Subcontractor Safety Manager who focuses solely on subcontractor work and building a database of subcontractor issues that can be used for future contracts and future work by the same subcontractors. Works very hard with the identified "Competent" persons identified by the subs and validates their ability to be in that role.
- Subcontractor "Video Exchange" program where periodically they video work under progress with active employees working. They review the video with project management and have a conversation about risks and controls.
- Conducting safety surveys to include subcontractor comments (safety committees)
- Focused temporary worker program and collaborated with temp agencies to provide a minimum level of training for this workgroup.
- GC hosts an annual subcontractor safety summit to promote alignment with core safety principles. The executive leadership of each subcontractor company is represented.
- Trade Partner management - added a robust section of our contract called Trade Partner Health, Safety & Environmental Performance Requirements that ties our Trade Partner safety performance to our contract.
- Worked with local software developers to upgrade our Safety Operating System to include our Subcontractor Prequalification

process. Various approval elements are included, but their safety program/performance is a stand-alone section. The basics from submitting programs to past/present performance is captured (standard rates are automatically generated). Any comments made by our safety staff are neatly organized/stamped, with the capabilities to attach files. This information is housed, and evaluations are averaged over multiple projects that a particular subcontractor has performed work. East accessible by estimators, PM's, Superintendents, etc.

- Use Bid Smart to grade clients and customers to ensuring they have the same high safety standards as we do
- Subcontractors are graded accordingly, which results in green, yellow, or red ratings. Green are those contractors who may proceed with work; Yellow contractors must submit a site-specific action plan to be approved by the Safety Manager. If they do not, we will find another subcontractor; Red means they are not considered for our work pending improvement in all areas.
- We developed a custom inspection checklist in HCSS to help manage and track the safety of our subcontractors.
- Hired a pre-qualification coordinator who works with EH&S, pre-construction and operations. Utilize pre-qualification software, iSQFT, where subcontractors supply their financial and safety qualifications. Subcontractors' programs are reviewed for quality. The EH&S team works with subcontractors to help them develop their programs if areas of weakness are identified pertaining to their scope of work. Drug and alcohol screening, new employee orientation, EMR, OSHA logs, citations, and safety statistics are all used as part of the subcontractor qualification process. iSQFT is also used to track subcontractor performance after a project is completed. Allowing us to track a subcontractor's performance over several projects and base future decisions on historical performance data.

<https://www.isqft.com/start/general-contractor/>

- We conduct Executive Safety Culture Charrettes where our executives engage trade partner executives to share the best practices and lessons learned. These meetings focus on safety for the upcoming areas of construction activities and are held at appropriate time points throughout the project with all involved trade partners to be proactive and partnering.
- Along with the contractually required daily reports, subcontractors submit a comprehensive monthly safety report which includes safety statistics; accident investigation reports; S.A.F.E. summary; new AHAs; safety meeting documentation; log of safety training for all employees and trade partners; and job site audits and inspection reports. These reports are then discussed at the weekly meetings.
- Project Safety Leadership Team is intended to discuss upcoming risk with critical path work, mitigation of risk, potential schedule impacts to safety, man-power updates, positive indicators, logistics and reinforce leadership commitment to safety. The Safety Leadership Team is comprised of senior leadership from the Client, GC, and Trade Partners.
- Worked with our attorney and completely changed our subcontract language regarding safety. We added much clearer safety work requirements and contractual stipulations around failure to perform work safely. This has led to a much clearer understanding by subs on site and a dramatic reduction in on-site arguments about what is required or in the contract.
- The Safe Start Program allows us and the sub to review their scope of work 's hazards. Utilizing the safe start-up program, we can plan beforehand to identify specific risks and coordinate corrections, during the project should the scope change or when new obstacles arise. The safe start program is designed to be a living document and is reviewed and maintained at the jobsite. The scope of every safe start meeting is to best protect our employees, subcontractor's employees and the public.
- Housekeeping is managed by contractually back charging subs for housekeeping.
- Identified that falls were more caused by housekeeping than by working at heights. They responded with stronger contract language for housekeeping and just in time delivery of materials.
- Will invite an employee or subcontractor employee to take the day off after non-compliance.
- Developed a program called "SubCentral" that measures/scores subs in several categories, including safety, and it is transparent. Subs can see the metrics and what contributed to their score.
- We have an open-source policy on all our safety programs, testing, and documents. We are willing to share our resources with other businesses at no cost and will sit down and mentor them while they develop their safety program.
- Bid Books" provide project site-specific information: leadership names and contact information, plus subs and contact information, sub scopes of work, supplier information and addresses, phone numbers and pertinent company information for establishing vendor accounts.
- Subcontractor Prequalification was improved by developing a safety and risk potential scoring system. Lower scoring subs must have their president come in to discuss a corrective action plan before they perform work. Presidents discuss progress monthly. Used to help better the subcontractors who show a genuine interest in improving their safety programs. It is also an internal tool to help make sure there is adequate safety monitoring of the subcontractors.
- Encourage subcontractors to comment on our safety program and give us feedback on ways we can improve.
- All subcontractors are required to have a valid "SafetyFirst" orientation badge prior

- to starting work.
- Peer-to-peer safety inspections have replaced safety talks with foremen and managers who, hopefully, disseminate the message through their ranks. All subcontractors attend monthly safety training meetings. Afterwards, taking turns each month, one trade will walk the entire site, not just their own work zones, to inspect and reward safe practices with gift cards.
- Conduct a post-job safety performance review on each subcontractor and assign each subcontractor a GO/NO-GO rating for future work.
- If there are safety observations, both positive and negative, observations are documented in the BIM360 field software system and opened as safety issues and they are emailed directly to the subcontractor to correct, document the corrective action, and then close the issue so we know it was corrected in a timely manner.
- Created safety requirements for new temp labor agreement.
- CEO Subcontractor Summit. The senior company leaders of all subcontractors attend and discuss communication, relationships, ideas, and how to work together effectively on safety, productivity, and quality. Allows better alignment of GC's safety program to specific subcontractors, rather than a blanket safety program aimed at all subcontractors.
- Teamed with colleges or universities with a safety and construction curriculum to conduct research on safe decision making. 1,000 + internal and external surveys were completed on GC, subcontractors, and their employees. Totally redesigned how GC communicates with Subs on a daily, weekly, and monthly basis.
- Subcontractor Management Skills University to help subs understand their role in conducting safe work. Costs money, but develops a higher quality, more loyal subcontractor.
- When repeated subcontractor issues take place the GC calls for a supervisor replacement. This requirement is communicated up front in the safety section of the subcontract agreement.
- Subcontractor Safety Culture Evaluation Matrix - 10 item Subcontractor questionnaire is completed by all levels of project management including safety professional.
- The estimating department uses a predictability matrix of hazards by trade and specific necessary controls are listed in the subcontract.
- CFO, operations, and safety are required to sign off on pre-qualification before a sub can work. Subcontractor is issued a "Safety Passport" upon final sign-off to indicate their acceptance to work on site.
- Random drug testing 2x per year... including subs.
- Implementing quarterly subcontractor scorecards that highlight top and bottom performers strengthens accountability, promotes continuous improvement, and provides transparent, data-driven feedback. This drives safer, higher-quality, and more predictable project execution across the subcontractor base.
- Every project requires a fresh prequalification review — regardless of past performance — as subcontractors may be evaluated and requalified multiple times throughout the year. This ensures that each contractor's capabilities, safety performance, and available resources remain aligned with the specific demands and risk profile of each individual job.
- Prequalification criteria includes specific selection criteria based on trade partners experience with mitigating water intrusion and water damage. Frequency and severity of claims are key evaluation criteria
- Trade partner performance is assessed quarterly and partners with less sub-standard performance discuss corrective actions needed to reverse any negative

trends

- Prequalified trade partners are required to re-qualify for every project to ensure certifications and qualifications are current and reflect most recent performance
- The only electrical trade partner member on the C4 group (Charlotte Commercial Construction Coalition) that provides insightful safety recommendations through our specialized lens. Programs we've created have been veered as "best in class" & adopted - WB Moore 2020 COVID-19 Pandemic Incident Workflow.
- All subtier/specialty contractors complete annual subtier safety questionnaire measuring all facets of safety and training, plus COI, 3 year 300-A summary; EMR insurance broker validity, and any contractor over 1.0 EMR is required to submit formal response by both the contractor and carrier. A vendor approved rating scorecard ranks risk factors. EH&S manual section addresses Subtier Contractor program.
- "Safest Subcontractor" program - Each Subcontractor is scored each month based on certain criteria including the riskiness of their work and given an award and recognition lunch
- Teach subs how to measure safety (e.g. workers comp costs per work hour, etc.)
- Require site-specific safety plans from each subcontractor, and hold planning meetings for hazardous activities. Subcontractors agree to our safety policy terms, and sign a Safety Annex at project start. Superintendents enforce the Safety Annex: for contractor violations, written notification is provided, and corrective action is followed up.
- Safety Alert notification practice recently prevented a possible accident. Concrete subcontractor was observed attempting to remove their scaffolding from the roof with a tower crane using a handmade wooden box. They were immediately stopped. The same subcontractor was on another company project, the project team was immediately informed of what was happening on the first project and upon inspection, the subcontractor was preparing to repeat the same activities on the second project – using a similar handmade wooden box. It may have delayed the job but after the proper skip pan that was rated for the correct weight was brought on site, they proceeded to safely remove their scaffolding from the roof.
- Annual subcontractor safety summit that all subs must attend and send representatives from safety and management.
- Three strike policy. 1-written warning, 2-minimum 2 days off, 3-termination. Step three can be used at anytime in the process.
- All subcontractors must first prequalify which includes the submission of their Injury and Illness Prevention Plan (IIPP). If it does not meet the standards of our IIPP, we work with them on an individual basis to develop and improve their safety practices and plans.
- Require that every company have a site-specific orientation as well as an integrated orientation for all subcontractors, vendors and support personnel for each project.
- Subcontractor must provide translator to accompany non-English speaking workers.
- Developed a scoring system based on subcontractors performance. When subcontractors are found to be not performing they are not hired for future projects
- Each employee, regardless of tenure is not permitted access beyond the project office without having first received safe work practice instruction, viewed the required the site specific orientation, and passed a competency test.
- Each subcontractor is required to complete a questionnaire prior to buyout. Included are performance indicators such as EMR , incident rates, hours of safety training,

OSHA forms, etc.

- Prior to any onsite work activities all personnel are required to complete a site specific orientation and pass the comprehension test.
- Discipline starts with a verbal warning then written warning and removal. Includes retraining or re-orientation before return to work. May also require leading toolbox talks on the subject
- Subcontractor OSHA 10 and 30 hour training. Offer a free instructor but pass along the charge for the cards.
- Written financial penalties and removal from a project are included in our subcontract.
- Coach to Correct program and 12 Lifesaving Commitment violations and procedures are reviewed with subcontractors.
- Require subcontractors to submit their safety activity electronically to better protect us from liability and the multi-employer act.
- Welcome” letters are distributed to subcontractor team upon contract award as a proverbial “olive branch” to introduce safety culture, provide tools and resources, and inform them of our jobsite processes and procedures. This is when an interactive relationship between Safety Leadership and the subcontractor begins.
- Subcontractors must meet minimum performance requirements to be allowed to bid on the project unless they are placed on a corrective action plan. The corrective action plan is designed to involve Senior Management, including the Senior Project Manager, General Superintendent and Safety Director in safety improvements. In conjunction with the subcontractors owner, actions are developed to improve the subcontractors safety program and performance in the long run.
- Preconstruction Safety Go-No-Go with each trade partners prior to mobilization. This meeting includes the Project Management from both GC and the trade partners to review overall Site Specific Safety Plan, the trade partner’s Job Hazard Analysis’ for all tasks to be performed, and review any other safety related questions associated with the project. The intent of the meeting is to instill in the trade partners the GC’s philosophy that through proper planning and preparation, all injuries are preventable.
- Subcontractors are required to complete weekly safety scorecards that track work hours, leading and lagging Indicators, and tool box topics.
- The third and final notice of safety violation requires a meeting between the subcontractor’s owner and our President and CEO, to determine if the subcontract will be terminated.
- Subcontractors must initially sign a GMP requiring commitment to maintain GC’s above OSHA standards. When awarded a job, they must also sign the Site Specific contracts and detailed safety requirements.
- Roofing subcontractors have additional requirements including a roof plan drawing with detailed protection identified.
- Total Project Safety Statistics (TPSS) - subcontractor work hours and recordable incidents are tracked and reported on a monthly basis and reviewed by senior management quarterly to identify any unsafe trends by subcontractors.
- Use a progressive disciplinary policy except for imminent danger situations and focus four issues which have a zero tolerance policy.
- Drug and alcohol testing policy includes, reasonable suspicion, post-offer and random for both.
- Jobsite specific orientation for each project. All site visitors and personnel are required to undergo orientation along with completing the appropriate AHA’s or JSA’s.
- Developed “Project Injury Risk Scorecard” that gives a numerical assessment of the

risk based on historical data both in safety and production the subcontractor will bring to our project.

- Use ISNetworld to qualify sub-contractors and vendors hired to work on projects. <https://www.isnetworld.com/>
- GC's president calls subcontractors president when an employee is injured. Expresses care and concern from the GC and also allows coaching and role modeling of the sub.
- When utilizing MWBE partners. Company realizes MWBE's may lack funding for safety training. GC provides training and resources to help them better protect their employees
- Visitors and parties not involved in day-to-day construction activities – Examples include: contract haulers or truckers, vendors, suppliers, architects, engineers, and professional services firms are required to review the project site specific safety plan for their work and sign a document that they understand the requirements
- All subcontractors are required to submit their safety manual, but also they must submit a method statement for each type of hazardous work as defined by the project team.
- Subcontracts during the pre-con are informed about the subcontractor "Safety Warning" program. This program requires any identified hazard to be corrected within 24 hours or the subcontractor will not be granted access to any work area until the problem is corrected and a plan for prevention of reoccurrence is approved by the project team.
- Project orientation not only includes safety requirements but also gives workers an education on what they are building, who they are building it for, and how it will benefit the community.
- All subcontractors are vetted through a third party system, AVETTA Inc. The basic criteria is set and the auditors provide a grade. The safety department then validates written programs submitted during field audits. <https://www.avetta.com/>
- All subcontractors must submit training documentation for all craft workers and persons identified as competent persons for high hazard task.
- Utilize C3 The Construction Career Collaborative to validate proof of training for subcontractors. C3 is an alliance of Owners, Contractors, and Specialty Contractors that help with issues facing the craft worker for the commercial construction industry. To be an accredited employer one must pay workers by the hour and have an in-house program to develop a capable workforce. This is an attempt to stop the abuse of independent contractors to dodge safety responsibilities. <http://www.constructioncareercollaborative.org/>
- A database was developed that can track all types of training for all workers, including subcontractors. This helps to know whether workers are qualified for certain tasks on our jobs or if they need initial or refresher training.
- Subcontractor safety seminars for 1/2 day and held throughout the year. Company president kicks off and has closing comments. OSHA participates with a presentation, and members of the local university construction school attend and do presentations
- All subcontractor employees must have the OSHA 10 within the last 3 years to be on the project, written into the subcontract agreement. GC pays for the OSHA 10's
- RFID badging system that tracks employee training, safety violations, certifications, actual hours worked on site, and emergency contact information. Operations can track headcount and manpower in real time to improve production. <http://www.fcbackground-llc.com/>
- All subcontractors must submit a JSSP (Job Specific safety Plan) not their safety manual before they arrive on the project

- Contract documents require foreman and supervisors to have an OSHA 30 hour with the last 5 years, and annual CPR 1st Aid certification
- 3 strike program where on the 3rd safety issues the owner of the subcontractor must come and meet face to face with the owner of the GC
- Safety committee members attend the safety committee meetings of other contractors to share knowledge and network with the ultimate goal of continuous improvement. Safety is not proprietary
- In-depth detail subcontractor safety training which exceeds the content in the OSHA 30 is provided by the GC free of charge to help subs improve their safety management process skills
- Bi-annual 3 hour “Safety Summits” with all subcontractors. Various safety topics are discussed. Improves subcontractor safety knowledge, builds trust and improves GC-sub relationships. Over 300 attend
- 4 hour Mock/OSHA inspections by the Safety Director and President. All typical OSHA related paperwork and site walk protocols are followed. A mock closing conference w/citation review is completed with all project management in attendance. Provides an interactive training experience and better prepares the project team for potential future visits by OSHA
- Each subcontractor contractually required to provide a foreman that is fluent in English and Spanish. This requirement is validated by successful completion of an orientation meeting in both languages.
- Site safety inspection software captures pictures, and other positive or negative safety issues. The report is distributed automatically to project team. If the issue involves a subcontractor an electronic copy of the report is automatically sent to the subs executive leadership team. Sub data and response is also tracked for future sub prequalification bid system.
- Use construction safety outreach services of the University of South Florida to help subcontractors evaluate and upgrade their safety program <http://www.usfsafetyflorida.com/Resources/Small-Business-Safety/Construction>
- Developed an “Over OSHA” policy based on loss trends of GC and Subs and amended subcontracts to reflect standards above OSHA
- Developed 3 targeted safety videos. Each aimed at subcontractors, employees, and visitors. All visitors must go through a structured orientation
- Crisis management plan has a severity rating system of 1, 2, or 3 with different response and management criteria
- Subcontractor “Unlearning Bad Practices” identification, remediation, and rewards program.
- Subcontractor “3 Strike” disciplinary program. On 3rd strike owner of subcontractor must meet face to face with owners of GC
- Subcontractors complete a 6 page Pre-Construction safety document and assigned a Superintendent mentor for the first 90 days after they begin work. Each subcontractor also receives a weekly safety audit by the GC
- Use anonymous Subcontractor perception surveys to measure the safety process effectiveness of the GC project leadership team
- Specific safety requirements above and beyond OSHA are listed on all subcontractors Bid Forms. The additional requirements are also reviewed at the pre-award conference with every responsive bidder
- Asked a major subcontractor to take a deep dive into their current safety program by entering the national CSEA competition, which they did. The sub said they learned a lot about themselves and received 1st place in their division.

- Invested in employing a full time dedicated Subcontractor Safety Manager who focuses solely on subcontractor work, and building a database of subcontractor issues that can be used for future contracts and future work by the same subcontractors. Works very hard with the identified “Competent” persons identified by the subs and validates their ability to be in that role.
- Subcontractor “Video Exchange” program where periodically they video work under progress with active employees working. They review the video with project management and have a conversation about risks and controls
- Conducting safety surveys to include subcontractor comments (safety committees)
- Focused temporary worker program and collaborated with temp agencies to provide a minimum level of training of this workgroup.
- Require subcontractor site-specific safety plans and hold planning meetings for hazardous activities. Contractors agree to safety policy terms, and then sign a “Safety Annex” at the project start. Superintendents enforce the Safety Annex. For contractor violations, written notification is provided, and corrective action is followed up
- Subcontractor employees are incorporated at the same level as company employees for their participation in the safety program and joint audit/risk mitigation planning.
- GC hosts an annual subcontractor safety summit to promote alignment with core safety principles. The executive leadership of each subcontractor company is represented.
- Subcontractor pre-qualification process that verifies safety history performance as well as safety performance on our prior contracts. Each subcontractor is led by an assigned supervisory professional with GC to aid and assist in the risk reduction process and acts as the primary contact for that subcontractor.
- Subcontractors attend project orientation as well as a pre-construction program that inundates messaging on the core safety principles and the GC’s Life Critical Rules, building redundancy in the training at multiple levels of each subcontractor organization.
- Trade Partner management - added a robust section of our contract called Trade Partner Health, Safety & Environmental Performance Requirements that ties our Trade Partner safety performance to our contract.
- Worked with local software developers to upgrade our Safety Operating System to include our Subcontractor Prequalification process. Various approval elements are included, but their safety program/ performance is a stand-alone section. The basics from submitting programs to past/present performance is captured (standard rates are automatically generated). Any comments made by our safety staff are neatly organized/stamped, with the capabilities to attach files. This information is housed and evaluations are averaged over multiple projects that a particular subcontractor has performed work. Easy accessible by estimators, PM’s, Superintendents, etc.
- Use Bid Smart to grade clients and customers to ensuring they have the same high safety standards as we do <https://bidsmart.solutions/>
- Sub contractors are graded accordingly, which results in Green, Yellow, or Red rating. Green are those contractors who may proceed with work; Yellow contractors must submit a site specific action plan to be approved by the Safety Manager. If they do not, we find another sub contractor; Red means they are not considered for our work pending improvement in all areas.
- We developed a custom inspection checklist in HCSS to help manage and track the safety of our subcontractors
- Hired a pre-qualification coordinator who works with EH&S, pre-construction and operations. Utilize a pre-qualification

software, iSQFT, where subcontractors supply their financial and safety qualifications. Subcontractors' programs are reviewed for quality. The EH&S team works with subcontractors to help them develop their programs if areas of weakness are identified pertaining to their scope of work. Drug and alcohol screening, new employee orientation, EMR, OSHA logs, citations, and safety statistics are all used as part of the subcontractor qualification process. iSQFT is also used to track subcontractor performance after a project is completed. Allowing us to track a subcontractor's performance over several projects and base future decisions on historical performance data. <https://www.isqft.com/start/general-contractor/>

- We conduct Executive Safety Culture Charrettes where our executives engage trade partner executives to share best practices and lessons learned. These meetings focus on safety for the upcoming areas of construction activities and are held at time appropriate points throughout the project with all involved trade partners to be pro-active and partnering.
- Along with the contractually required daily reports, subcontractors submit a comprehensive monthly safety report which includes: safety statistics; accident investigation reports; S.A.F.E. summary; new AHAs; safety meeting documentation; log of safety training for all employees and trade partners; and job site audits and inspection reports. These reports are then discussed at the weekly meetings.
- Project Safety Leadership Team is intended to discuss upcoming risk with critical path work, mitigation of risk, potential schedule impacts to safety, man-power updates, positive indicators, logistics and reinforce leadership commitment to safety. The Safety Leadership Team is comprised of senior leadership from the Client, GC, and Trade Partners.
- In 2019 we launched a revised project safety orientation process to bring consistency to the way subcontractor employees are onboarded onto our projects. This orientation involves a live project-specific component and viewing of a company-produced video outlining our general safety expectations. This video also includes messages from the CEO, COO and other company leaders emphasizing our Zero Injury philosophy.
- Maintain a zero-tolerance drug policy that begins with pre-employment, and includes random testing and reasonable suspicion testing if a supervisor feels that an individual is under the influence. In the event of an accident or equipment damage, the responsible individual is tested for potential drug use if impairment is suspected. Everyone in our company is subject to these random drug tests, including our CEO, CFO, President, Vice Presidents, and Safety Director, as well as each individual field worker and supervisor.
- Worked with our attorney and completely changed our subcontract language regarding safety. We added much clearer safety work requirements and contractual stipulations around failure to perform work safely. This has led to a much clearer understanding by subs on site and a dramatic reduction in on-site arguments about what is required or in the contract.
- In the past, as a general contract we tended to "talk safety down" to our trade partners where we as the General Contractor would present safety to our trade partners and how it should be done. We are pushing to flip that concept. We want to hear more from the trade partners on how they think safety should be done, giving them more input on how we run safety on our jobsite. When we do this, they have more ownership of the process and feel more valued and engaged.
- Subcontractor management begins in the Pre-construction process with initial vetting and selection. Safety policies are written into their contracts to ensure full compliance. Kick off meetings are held with the subcontractors foremen and project management staff to review their contract

and all site-specific safety items. All subcontractor employees must go through our Safety Orientation training.

- Safe Start Program allows us and the sub to review their scope of work 's hazards. Utilizing the safe start-up program, we can plan beforehand to identify specific risks and coordinate corrections, during in the project should the scope change or when new obstacles arise. The safe start program is designed to be a living document and is reviewed and maintained at the jobsite. The scope of every safe start meeting is to best protect our employees, subcontractor's employees and the public.
- Housekeeping is managed by contractually back charging subs for housekeeping.
- Identified that falls were more caused by housekeeping than by working at heights. They responded with stronger contract language for housekeeping and just in time delivery of materials.
- Will invite a employee or subcontractor employee to take the day off after non-compliance.
- Developed a program called "SubCentral" that measures/scores subs in a number of categories, including safety, and it is transparent. Subs can see the metrics and what contributed to their score.
- We have an open source policy on all our safety programs, testing, and documents. We are willing to share our resources with other businesses at no cost and will sit down and mentor them while they develop their safety program.
- Participate in subs "Weekly Tool Box Talks" or have them participate in ours. We will shut-down their activities if they are not complying with sound safe work protocols.
- Bid Books" provide project site-specific information: leadership names and contact information, plus subs and contact information, sub scopes of work, supplier information and addresses, phone numbers and pertinent company information for establishing vendor accounts.
- Goal is to build relationships with all subcontractors and to partner for success. We want subcontractors to want to work with us and try to make the job fun by engaging their employees in topping out parties, giveaways, and outside functions.
- Subcontractor Prequalification was improved by developing a safety and risk potential scoring system. Lower scoring subs must have their president come in to discuss a corrective action plan before they perform work. Presidents discuss progress monthly. Used to help better the subcontractors who show a genuine interest in improving their safety programs. It is also an internal tool to help make sure there is adequate safety monitoring of the subcontractors.
- Encourage subcontractors to comment on our safety program and give us feedback on ways we can improve.
- All subcontractors are required to have a valid "SafetyFirst" orientation badge prior to starting work. https://www.texoassociation.org/web/Online/Events/Event_Display.aspx?EventKey=SFTE070116&hkey=0dd51f06-23df-4ab4-b561-74213f6cea70
- Hold Safety Summits with hundreds of our top trade partners across the southeast. These events are geared to inspire the hearts of the owners of our trade partners. Our Division Mangers personally call each partner inviting them to the Summit. At the Summit, the DMs speak from their heart on why safety is so critical to them. After the Summit, our partners receive hand-delivered plaques commemorating the critical partnership commitments that were made at the event.
- Peer-to-peer safety inspections have replaced safety talks with foremen and managers who, hopefully, disseminate the message through their ranks. All subcontractors attend monthly safety training meetings. Afterwards, taking turns each month, one trade will walk the entire

- site, not just their own work zones, to inspect and reward safe practices with gift cards.
- Conduct a post-job safety performance review on each subcontractor and assign each subcontractor a GO/NO-GO rating for future work.
- If there are safety observations, both positive and negative, observations are documented in the BIM360 field software system and opened as safety issues and they are emailed directly to the subcontractor to correct, document the corrective action, and then close the issue so we know it was corrected in a timely manner.
- Created safety requirements for new temp labor agreement
- Use Capital City Safety a company they created to make safety excellence a standard for themselves and subcontractors
- “Penalty Box” – Identifies individuals or crews not complying with company standards.
- CEO Subcontractor Summit. The senior company leaders of all subcontractors attend and discuss communication, relationships, ideas, and how to work together effectively on safety, productivity, and quality. Allows better alignment of GC’s safety program to specific subcontractors, rather than a blanket safety program aimed at all subcontractors.
- Teamed with local college or university with a safety and construction curriculum to conduct research on safe decision making. 1,000 + internal and external surveys were completed on GC, subcontractors, and their employees. Totally redesigned how GC communicates with Subs on a daily, weekly, and monthly basis.
- Subcontractor Management Skills University to help subs understand their role in conducting safe work. Costs money, but develops a higher quality, more loyal subcontractor.
- “3 Strike” policy for subcontractor safety issues. On the 3rd strike the owner of the sub must come and sit down with GC’s owner and immediately develop a measurable corrective action plan.
- Subcontractors are pre-qualified using a variety of lagging indicator data. If negative data is received the Sr. VP conducts subcontractor executive interviews to understand the root causes of the negative data and to determine what has been put into place to move the data in a safe direction.
- When repeated subcontractor issues take place the GC calls for a supervisor replacement. This requirement is communicated up front in the safety section of the subcontract agreement.
- Peer pressure near miss reporting program for other trades, not your own. Anonymous process with Gift card incentives.
- Subcontractor Safety Culture Evaluation Matrix - 10 item Subcontractor questionnaire is completed by all levels of project management including safety professional.
- Bi-Annual Subcontractor safety summits hosted by the GC where a variety of topics are discussed in a 3 hour lunch and learn format.
- The estimating department uses a predictability matrix of hazards by trade and specific necessary controls are listed in the subcontract.
- GC attends subcontractor JHAs so that we can be sure it is more than just a foreman talking to a crew
- CFO, operations, and safety are required to sign off on pre-qualification before a sub can work. Subcontractor is issued a “Safety Passport” upon final sign-off to indicate their acceptance to work on site.
- We score subs who have struggled in the past, we work with them to improve
- Random drug testing 2x per year... including subs

- Annual Subcontractor Safety Management development conference and safety certification for supervisors and sub project management. All active subs are required to attend and maintain the annual safety training certification.
- Process where Subs speak up to address other trades safety issues

EMERGENCY RESPONSE AND CRISIS MANAGEMENT

- If you ask any contractor in our area about their Fall Rescue Plan, the answer would be similar. “Self-rescue, or call EMS. We found this to be troubling and downright wrong. We created our own Rescue plan, partnered with the states leading fire and emergency response coordinator and found equipment that works perfectly for our specific tasks. We train twice a year on self-rescues, assisted rescue, single rescue, and crane rescue. Our teams can perform safe rescues and have the injured employee safe and on the ground before EMS even arrives.
- Enlists an injury triage service, which gives workers instant access to medical professionals and triage protocols. Workers avoid going needlessly to the ER and aren’t left to guess the best treatment to seek. The goal is to reduce employee recovery time and time away from work, reduce employee medical costs, and increase effective employee medical care.
- Site-specific emergency plans. Local emergency service personnel are invited to these meetings and are encouraged to make frequent unannounced visits to the site. This helps them keep familiar with the ever-changing conditions of the project.
- Emergency/severe weather and crisis management plans are posted on every job trailer/office with important phone numbers.
- Contracted with a 24/7 Registered Nurse hotline in case of workplace injury. If a non-life or limb threatening injury occurs, you can speak with Registered Nurse immediately. Injured workers receive a designated registered nurse to communicate with daily. By staying in constant communication, ensures workers have a speedy and healthy recovery and return to work as soon as possible.
- Crisis Management plan requires that each Foreman designates a rally point before the job begins and that every team member be aware of that point. All employees must meet at that point after an emergency. The Foreman then reports the emergency to the Director of Loss Control. A log-in time sheet is used to record each employee’s arrival time. All employees must be accounted for before movement away from the site begins. Another unique feature is a Safety Hot Line, in the event of the need to stay away from the site for more than 24 hours the hotline will be used for recorded messages directing employees on post incident response issues.
- Employees are provided with a Pocket Crisis Management Card describing the sequence of reporting.
- First aid kits are installed by the tool department in each gang box. Each journeyman electrician, supervisor and superintendent attend a first aid, CPR with AED class with updates annually.
- Use a Crisis Management Flowchart which is reviewed quarterly. Each project has a site-specific crisis management plan, both are updated as necessary. Each person is pre-assigned tasks in an emergency along with alternates. Routinely conducts “crisis dress rehearsals”.
- If there is a serious situation, we notify all employees using our new “text alert program” which is effective to reach everyone within a few seconds.
- Continuously improve Crisis Management Program by training on National epidemics such as Hepatitis A, the Opioid crisis, depression and death by suicide, using behavioral awareness techniques, CDC Fact sheets, and a caring culture.
- The Director of Safety makes personal visits to all medical facilities before choosing to use them, in an effort to reduce the unnecessary use of Opioids.
- Developed an After-Hours Emergency Contact information card for each employee’s family. This magnet lists each employee’s direct supervisor and an

additional work ‘buddy’ for their family to contact in an emergency.

- First-aid kit and AED machines located on every project.
- Pre-storm or crisis a communication protocol is issued to team members with multiple ways to let them know they were okay, including cell, email, landline, and Zello (a walkie talkie app).
- Supervisors are required to have first aid/ CPR/AED training every two years.
- Grab and Go Accident Investigation folders are hung on each jobsite wall and available instantly on the shared network drive.
- Task specific emergency rescue plans are in place, discussed, and reviewed prior to conducting any high hazard activity such as work at heights, trenching, etc. Drills are run to measure effectiveness.
- Maps of hospital and medical facilities are posted at all job locations. The procedure is to call 911 and then immediately inform the competent person onsite.
- utilize our 24/7 Nurse Triage Program to leverage the earliest, most critical point to influence employee satisfaction and medical outcome by having an experienced nurse immediately evaluate the injury and direct appropriate medical care.
- RTW Modified Duty - cross train team members to do several different tasks so that they can continue to work and be productive if placed on restricted duty from an injury.
- Developed an app to help facilitate crisis management procedures. The app connects all project teams and provides crisis management, general safety, and contact information. The app can summon medical support, first responders, issue a safety alert, navigate to the nearest hospital or minor emergency clinic. The app has site-specific evacuation routes, assembly areas, fire extinguishers, and first aid kits.
- Use an 11x17 template for project specific

crisis management plans. One side denotes the project location, where the nearest hospital and minor emergency clinic are located, the contact information for the entire project team, and details of the emergency evacuation routes to the primary and secondary assembly areas. The other side is used to post a marked-up version of the projects floor plan. Shown on the floor plan is the location of first aid kits, fire extinguishers, evacuation routes, primary and secondary assembly areas. These plans are posted on the project area and at the construction trailer. They are discussed during safety orientation with every worker onsite.

- Each project integrates their Crisis Management Plan into the client’s program and the surrounding community. Emergency response plans are audited, and practice drills are held.
- Routinely run drills based on occupational health issues such as bee stings, heart attacks, and heat related illness.
- Periodic “Active Shooter” training and drills
- A licensed counselor is retained to help employees with personal issues.
- Crisis management with chemicals
 - Company has an SDS app that all employees have on their phone to help guide them on exposures and controls in an emergency.
- The crisis management program includes keeping updated maps about where Fire and Emergency rescue access points are located. These maps with access points are sent to local officials monthly or when access points change during the course of construction.
- Established a text and voicemail communication system for all employees for pertinent information such as company updates, wellness, and severe weather warnings.
- The company completes an annual crisis management drill audited by a 3rd party company which provides objective data on

their performance along with continuous improvement recommendations.

- When working at heights, a drill is completed using the rescue device prior to the job ensuring competence.
- Confined, space trained employees, receive hands on training retrieving victims/using monitoring equipment.
- The crisis management plan includes a simulated real life emergency situation complete with a media blitz where live cameras and microphones are stuck in key project personnel's faces. All is recorded and played back for developing improvements. Completed annually.
- Developed a "first hour" crisis check list.
- Crisis Management 'Pocket Cards' to guide team members in the event of any response.
- Routine exercises in the use of Fall Event rescue equipment to build "muscle memory" as an aid for response effectiveness.
- Clinic Locator - Electronic application that finds closest approved clinic and Google map directions to location.
- Project specific Crisis Management checklist with details about who and how to respond. The checklist is reviewed and practiced with all project team members once per month and whenever there is a change.
- Crisis Management 3D project poster which shows key gathering points and specific Media gathering points, so media is controlled See attached example from Porsche Design Tower in Miami
- Work Zone "Crash Analysis Team" which is comprised of Safety, Operations, and the corporate attorney. When a work zone incident occurs, the team is dispatched to the scene to gather the appropriate information immediately while the facts are fresh.
- On an annual basis two 4-hour crisis

management courses are conducted for all employees. All employees must always keep a crisis management step by step card on them.

- Crisis Management plan has a "Buy Time Statement" that politely holds the media at bay until the company crisis management team can arrive on the site.
- Crisis Management plan was expanded to include protocols for "Active Shooters" https://www.dhs.gov/xlibrary/assets/active_shooter_booklet.pdf
- Electronic phone based step-by-step crisis management system of notification and prompts.
- "Stop and Call" crisis management program where each employee has a red stop sign hardhat sticker on the inside with simple steps and phone numbers to call.
- Crisis management program also includes potential Occupational Health Issues
- Every worker has an "ICE" sticker on the inside of their hard hat which contains all their pertinent medical information.
- Used TV Investigative reporter to help with simulated project crisis management drills and role plays.
- All projects have automated external defibrillators.
- Pre-planned access way and signage for emergency vehicles.
- Lighted (Red Light Bulbs) and red painted designated fire extinguisher locations and exits.
- Laminated poster size pictograms of key things to do in a crisis. Covers Fire, utility, bomb threat, tornado, and active shooter. Also identify project safe zones for assembly based on certain crisis situations.
- All managers attend a 3rd party Crisis management training program to make sure we stay on top of an ever change Crisis world.
- Crisis management plan also includes

procedures and drills for Tower Crane operator rescue.

- Crisis Management Plan is in the form of a Grab and Go which facilitates easy, structured, step-by-step, readily printable information for project teams to use.
- All site superintendents have a crisis/emergency satellite phone.
- Each project has a specific safety Emergency Safety Program. The closest Hospital, EMS, and Helicopter service are identified and contact information is provided and posted.
- As part of the injury management plan, we have incorporated an on-site health care company. This allows employees to have minor injuries looked at on-site to determine if first-aid care is enough or if a higher level of care is needed.
- The Crisis Management approach includes having crisis management stations equipped with necessary components, hard hat stickers that are on the inside of hats with personal contact information and Crisis cards that have necessary contact information for those on site.
- Crisis Management tabletop drills with project leadership to ensure all team members understand their roles in the event of an emergency. In addition, physical drills are conducted simulating Crisis.
- To plan for emergency response at a remote location, local police, fire, and EMTs were given a tour of our construction site. In addition, a high ropes emergency rescue team provided training on how to deploy emergency rescue systems.
- For all incidents, regardless of severity, our IT Department has created and implemented a single click function within Outlook that notifies Management personnel of any type of incident; project and incident type are included in the distribution.
- Company focused on emergencies and

crisis management by bringing a guest speaker to prepare us for when the “Big One” hits the northwest. Each region’s session was recorded and tailored to their area. The presentation revealed what kind of earthquake to expect, what to do during and after the earthquake, what supplies to gather now, and how to establish a meet-up plan for families after an event. Each Branch office has been outfitted with a three-day supply of water and food for each employee. Extended the preparation to employees’ personal households by providing a dried food discount.

- Have further developed our Emergency Response Team (ERT). ERT team training occurred with first aid/CPR/AED, fire drills, incident crisis management, active threat/shooter, moving immobile employees with a stair chair, back-boarding injured employees, and Emergency Medical Response Certification. HAM radio certification is being sought after by team members.
- Each employee is given a wallet-sized crisis card to keep on their person at all times on the job. The card has a check list of actions to take if there is a crisis or emergency, as well as contact information for members of the leadership team. Each employee also receives a hard-hat sticker with direct contact information for the safety director, human resources and CMO.
- A critical component of our safety program is emergency and crisis management, of which communication and training is vital. To assist with the development and training of our procedures, we have established relationships with a variety of local First Responders from the Fire Department, Police Department, California Highway Patrol, and Special Weapons and Tactics Team. We conduct annual training for employees and family members to assist in the awareness of Fires, Emergency Situations, Defensive Driving, and Active Shooter Scenarios. During project mobilization, our teams invite First Responders to tour our jobsites, review emergency protocols and ensure paths of

travel provide easy access for emergency vehicles.

- A majority of our projects are executed on occupied school campuses, our project teams meet with school representatives to incorporate their procedures for fire, earthquake and lockdown drills into our emergency action plans. Once construction is underway our jobsite crews become active participants in campus drills. This commitment to understanding and participating in school drills has proven essential on several occasions when campus lockdowns went into effect in response to active shooters in close proximity to project sites.
- Our New York City projects are supplied with FDNY First Responder Boxes. These 2' x 4' gang boxes are conspicuously located on site and provide the first responder with valuable information in the event of an emergency or inspections. Contents include emergency contact list, FDNY permits, floor by floor egress plans, standpipe diagram, site safety plan and daily log/checklists.
- This year we had an employee on the job site talking about ending his life. He had a medical condition that was causing him a great deal of pain. The foreman stopped work to take him to breakfast and then brought him to HR to discuss and connect him to the various resources available to him. He took a leave of absence and later returned to work in a better place.
- All managers are trained in emergency and crisis management and are required to complete an interactive training course. The instructors of the course are industry attorneys and media professionals. This training includes a hands-on exercise in which teams respond to a hypothetical crisis situation. The teams are timed and must manage a quickly evolving crisis as new details emerge. A lead person is identified to speak to the media. Interviews are videotaped and are reviewed by the class, making this training very realistic. We also communicate and provide access to our crisis management plan and crisis quick reference card on all company issued mobile devices.
- Have a separate Field Crisis Management Plan (FCMP) that is utilized at the field level to coordinate site-specific emergency needs. The FCMP includes site-specific contacts, muster points, response team members and the distinct roles for each project team member. The FCMP is posted on the job and is reviewed weekly during the site-specific orientation with all subcontractors and updated as the project changes. Project drills are conducted to ensure competency with the FCMP.
- Partnered with Able Shepard Training and Crisis Management to develop a company specific Emergency Response Plan and Guide for training purposes. The Guide is an easy flip binder for employees to refer to. Each site receives specific training to their location in order to prepare for an event. Also developed the D.E.F.E.N.D. module for our employees. With change occurring and the increased risk of domestic violence and hostile work environments in society, we took a proactive approach to the issues. The module states that the situation will dictate the order of the approach but know the D.E.F.E.N.D. method when dealing with an emergency. Defend, Evacuate, Fortify, Emergency Medical Aid, Notify Others, dial 911 empowers our employees to be safe in all areas of their lives.
<https://ableshepherd.com>
- Project managers and superintendents review and update their project's CMP quarterly, including conducting a drill involving applicable response team members such as local fire departments or representatives. A "First Hour Response Checklist" is made site-specific based on this plan. In the event of a crisis, laminated cards and/or PDF versions on a cell phone with this information can be easily brought into the field.
- Utilizes a third-party company for training designated management. Key personnel receive training on how to

properly address and manage media via all outlets. During a crisis, misinformation and rumors may increase when accurate, timely information is not available. CMP appoints a spokesperson in time of a crisis, with provided training they can be more prepared to mitigate panic and provide information.

- Focus on employee wellness for mental health and physical wellbeing by launching a Mental Health and Wellness Prevention Month, partnering with health and wellness consultant Dr. Sally Spencer Thomas and vendors across the country. The mental health and wellness program is available to all sub-contractors onsite.
- For emergency and crisis management our process derives from OSHA 7600 Disaster Site Worker.
- We are piloting the integration of safety and logistics plans into the 3D building information model. This allows an interactive view of—and more robust planning for—egress points, fire extinguisher locations, overhead protection, crane swing radius and other safety systems. These models can be used to virtually orient employees, visitors and first responders to the site.
- All hourly field-level employees are provided American Heart Association Heartsaver First Aid/CPR/AED training and American College of Surgeons Stop the Bleed training. All supervisory employees, and hourly employees who have volunteered for additional training, receive ASHI Advanced First Aid, AHA BLS Provider CPR/AED and American College of Surgeons Stop the Bleed training, which is 3 days of intensive classroom and hands-on training.
- Our plan is broken up into 4 sections: Mitigation and Prevention, Preparedness, Response and Recovery. This all begins by identifying the project rapid response team.
- Emergency Response Stations (ERS) are situated at key locations on our project sites. ERS each are stocked/equipped with eye wash, first aid kit, fire extinguisher, air horn, emergency contact numbers, jobsite map and map to the nearest urgent care facility. Promotional safety signage and a white board for motivational messages or additional information are posted at some of these stations and our staff tries to keep the postings “fresh”. We have clearly defined roles & responsibilities for our Crisis Management Team, which are reviewed monthly by staff. Our “red ready bag” emergency kits containing essential response items are staged at the office door ready to be deployed at all times.
- Use Vangent Risk Assessment to identify those applicants with high risk or violent tendencies.
- It is recognized that suicide for construction workers is 4-times higher than the industry average. It takes strength to ask for help and that is what we are focusing on – taking care of the whole employee including mental health issues. It’s all about work life balance and the total employee’s health which includes emotional, financial and taking care of yourself. We try to reduce the stigma of mental health issues.
- The company supports acupuncture treatments.
- “Evacuation” map, contract information with job production rates, also, the location of the project including GPS co-ordinates and a physical location.
- “Emergency Contact” section includes “First Responders”: Police, Fire, Hospitals, Environmental Remediation Contractors, Emergency Retrieval responders, addresses, and person of contact. All phone numbers and services are verified.
- “Emergency and Crisis Management” plan has recently been re-designed to produce quicker and more effective results in the event of a crisis. The key change is a written plan that is not burdened with verbiage rather than with activity that may save a life, limb, or property. Acme has divided the plan into four parts:
 - “First Hour Response”. This is the action

plan with an outline of the hierarchy of the response team, their responsibilities and team members, and contact information for anyone needed to be involved. Each subordinate individual completes their “to-do” list and reports back to the Team leader.

- All employees are required to carry accident forms with them at all times. These forms list the Chain of Command within the company as well as 911 and local authorities.
- Potential crisis situations are formally reviewed each year. Some of the items covered are Active Shooter, possible heart attacks, suicide on the job, domestic problems brought to workplace, and drugs in the workplace.
- Conduct emergency safety drills twice a year which involve local emergency providers and personnel. Feedback from project stakeholders is that the local fire and rescue find this is crucial to their training as well as ours.
- Provided AEDs on every project, over 120 life saving devices and counting! Along with proper training, these have been put into service 4 times in the past year. Fortunately, after the AED analyzed the patient no one has required a shock from the AED but the comfort it provides our teams is worth every penny.
- Monitor the hourly weather forecast and communicate warnings to our crews. This gives them time to secure all loose materials prior to any significant weather developments, thus reducing employee and public exposure to flying debris.
- Crisis communication plan identifies who is responsible to make statements, provides guidance to employees about any media inquiry they might receive, and provides them guidance for directing members of the media or law enforcement to the correct person in charge of a jobsite or office.
- All managers are trained in emergency and crisis management and are required to complete an interactive training course. The instructors of the course are industry attorneys and media professionals. This training includes a hands-on exercise in which teams respond to a hypothetical crisis situation. The teams are timed and must manage a quickly evolving crisis as new details emerge. A lead person is identified to speak to the media. Interviews are videotaped and are reviewed by the class, making this training very realistic. We also communicate and provide access to our crisis management plan and crisis quick reference card on all company issued mobile devices through our “News App”.
- Each Safety Manager carries a heart defibrillator in their company vehicle.
- Invited the city first responders in so they could conduct emergency crane safety training. There are two tower and seven mobile cranes on the site, surrounded by potential hazards: a rail line, an interstate highway and heavily travelled streets. Approximately three hundred tradesmen can be at work on any day. We donated specialized equipment for the first responders that they would need should our crane emergency plan be executed.
- Inside the hard Hat sticker with the names and phone numbers of 2 approved medical providers in case an injury occurs.
- Conduct various occupational health drills such as heat stress, heart attack, snake bites, bee stings and chemical burns. Our drills also cover adverse weather events and time is taken and recorded to determine how quickly workers can get to safe shelter.
- Every supervisor must attend a four-hour workshop covering our crisis management plan. The training based on the tabletop structure, developed by the U.S. Department of Homeland Security. The half-day sessions provided participants with a simulated crisis to discuss their role and response during an emergency situation. The content was developed in-house by Safety, Human Resources (HR), and Marketing departments. The training

consists of small group exercises with scenarios such as crane collapse, falls, fires, active shooter, bomb threat, gas leaks to name a few. Each group is role play tested by the media, EMS/Fire Response, and OSHA to ensure our project teams handle the response and investigation properly.

- Created a safety action plan video that showcases the safe steps to be taken during an emergency.
- Working with the city on developing e-scooter safety programs to deal with scooters and bikes that roll through their jobsites daily.
- Canvas neighborhoods, knocking on doors where they are working to alert people of what to expect out of the ordinary on their jobsites. Also communicate through other outreach programs when high-profile work occurs in a community.
- Fully certified rescue team, which consists of employees, who are fully trained and certified to carry out emergency rescue procedures on any project.
- Grab-and-Go Packet to include incident paperwork.
- Muster app for smart phones. Enables employees to pre-program phones or smart devices with contact information of those (i.e. supervisor, spouse, neighbor) who you would want to notify of your whereabouts or safety in the event of an emergency.
- Providing access to an in-house chaplain or mental health provider offers workers immediate, confidential support during personal crises or traumatic workplace events. This resource is essential to both emergency response and long-term workforce resilience, ensuring that no worker navigates a crisis alone.
- Embedding in-house medical personnel — such as Nurse Practitioners, Physical Therapists, or Athletic Trainers — provides immediate clinical evaluation, early intervention, and proactive injury management. This reduces unnecessary recordables, accelerates return to work,

controls costs, and supports a healthier and more productive workforce.

- Having on-site medical personnel available immediately following an incident ensures rapid clinical triage, appropriate escalation, and early intervention — reducing the severity of outcomes, managing recordables, and supporting a structured return-to-work process that protects both the worker and the organization.
- Hardhats have QR code stickers with link to emergency and crisis management as well as mental health resources
- Take a knee incident response requires entire worksite to take a knee after any incident to stop and reflect on the reported incident and then conduct a task assessment to regain focus on hazards and implemented controls
- Starlink satellite internet is provided to ensure connectivity and emergency response in remote and austere environments
- If you ask any contractor in our area about their Fall Rescue Plan, the answer would be similar. “Self rescue, or call EMS. We found this to be troubling and down right wrong. We created our own Rescue plan, partnered with the states leading Fire and emergency response coordinator and found equipment that works perfectly for our specific tasks, We train twice a year on self rescues, assisted rescue, single rescue, and crane rescue. Our teams can perform safe rescues and have the injured employee safe and on the ground before EMS even arrives.
- Enlists an injury triage service, which gives workers instant access to medical professionals and triage protocols. Workers avoid going needlessly to the ER, and aren’t left to guess best treatment to seek. The goal is to reduce employee recovery time and time away from work, reduce employee medical costs, and increase effective employee medical care.
- In case anyone needed assistance during an emergency, every current project has

developed an Emergency Preparedness Plan that includes a contact list and methods to check-in

- Site specific emergency plans. Local emergency service personnel are invited to these meetings and are encouraged to make frequent unannounced visits to the site. This helps them keep familiar with the ever changing conditions of the project.
- Emergency/severe weather and crisis management plan is posted on every job trailer/office with important phone numbers.
- Contracted with a 24/7 Registered Nurse hotline in case of workplace injury. If a non-life or limb threatening injury occurs, you can speak with Registered Nurse immediately. Injured workers receive a designated registered nurse to communicate with on a daily basis. By staying in constant communication, ensures workers have a speedy and healthy recovery and return to work as soon as possible.
- Crisis Management plan requires that each Foreman designates a rally point before the job begins and that every team member be aware of that point. All employees must meet at that point after an emergency. The Foreman then reports the emergency to the Director of Loss Control. A log-in time sheet is used to record each employee's arrival time. All employees must be accounted for before movement away from the site begins. Another unique feature is a Safety Hot Line, in the event of the need to stay away from the site for more than 24 hours the hotline will be used for recorded messages directing employees on post incident response issues.
- Employees are provided with a Pocket Crisis Management Card describing the sequence of reporting.
- First aid kits are installed by the tool department in each gang box. Each journeyman electrician, supervisor and superintendent attends a first aid, CPR with AED class with updates annually.
- Use a Crisis Management Flowchart which

is reviewed quarterly. Each project has a site-specific crisis management plan—both are updated as necessary. Each person is pre-assigned tasks in an emergency along with alternates. Routinely conducts “crisis dress rehearsals”.

- If there is a serious finding we notify all of our employees through our new “text alert program” which is effective to reach everyone within a few seconds.
- Continuously improve Crisis Management Program by training on National epidemics such as Hepatitis A, Opioid crisis, depression and death by suicide, using behavioral awareness techniques, CDC Fact sheets , and a caring culture.
- Director of Safety makes personal visits to all medical facilities before choosing to use them, in an effort to reduce unnecessary use of Opioids.
- Developed an After-Hours Emergency Contact information card for each employees' family. This magnet requires record of each employee's direct supervisor and an additional work ‘buddy’ for their family to contact in an emergency.
- Pre-storm or crisis a communication protocol is issued to team members with multiple ways to let them know they were okay, including cell, email, landline, and Zello (a walkie talkie app).
- Supervisors are required to have first aid/ CPR/AED training every two years
- Grab and Go Accident Investigation folder is hung on each jobsite wall and available instantly on the shared network drive.
- Task specific emergency rescue plans are in place, discussed, and reviewed prior to conducting any high hazard activity such as work at heights, trenching, etc. Drills are run to measure effectiveness.
- utilize our 24/7 Nurse Triage Program to leverage the earliest, most critical point to influence employee satisfaction and medical outcome by having an experienced nurse immediately evaluate the injury and direct appropriate medical care.

- RTW Modified Duty - cross train team members to do several different tasks so that they are able to continue to work and be productive if placed on restricted duty from an injury.
- Developed a app to help facilitate crisis management procedures. The app connects all project teams and provides crisis management, general safety, and contact information. The app can summon medical support, first responders, issue a safety alert, navigate to the nearest hospital or minor emergency clinic. The app has the site-specific evacuation routes, assembly areas, fire extinguishers, and first aid kits.
- Use an 11x17 template for project specific crisis management plans. One side denotes the project location, where the nearest hospital and minor emergency clinic is located, the contact information for the entire project team, and details the emergency evacuation routes to the primary and secondary assembly areas. The other side is used to post a marked-up version of the projects floor plan. Shown on the floor plan is the location of first aid kits, fire extinguishers, evacuation routes, primary and secondary assembly areas. These plans are posted on the project area and at the construction trailer. They are discussed during safety orientation with every worker onsite.
- Each project integrates their Crisis Management Plan into the clients program and the surrounding community. Emergency response plans are audited and practice drills are held.
- Routinely run drills based on occupational health issues such as bee stings, heart attacks, and heat related illness.
- Periodic “Active Shooter” training and drills
- A licensed counselor is retained to help employees with personal issues.
- Crisis management with chemicals
 - Company has an SDS app that all employees have on their phone to help guide them on exposures and controls in an emergency.
- Crisis management program includes keeping updated maps about where Fire and Emergency rescue access points are located. These maps with access points are sent to local officials on a monthly basis or when access points change during the course of construction.
- Established a text and voicemail communication system for all employees for pertinent information such as company updates, wellness, and severe weather warnings.
- Company completes an annual crisis management drill audited by a 3rd party company which provides objective data on their performance along with continuous improvement recommendations.
- When working at heights, a drill is completed using the rescue device prior to the job ensuring competence.
- Confined, space trained employees, receive hands on training retrieving victims/using monitoring equipment
- Utilize an 11” x 17” crisis management plan. One side shows the location and address of emergency services near the project, and the phone numbers of the entire project team. The other side shows project specific emergency details like, evacuation routs, location of 1st Aid kits, fire extinguishers, and primary and secondary muster points.
- The crisis management plan includes a simulated real life emergency situation complete with a media blitz where live cameras and microphones are stuck in key project personnel’s faces. All is recorded and played back for developing improvements. Completed annually.
- Developed a “first hour” crisis check list
- Crisis Management ‘Pocket Cards’ to guide team members in the event of any response.
- Routine exercises in the use of Fall Event rescue equipment to build “muscle memory” as an aid for response effectiveness.

- Clinic Locator - Electronic application that finds closest approved clinic and Google map directions to location
- Project specific Crisis Management checklist with details about who and how to respond. Checklist is reviewed and practiced with all project team members once per month and whenever there is a change.
- Crisis Management 3D project poster which shows key gathering points and specific Media gathering points so media is controlled See attached example from Porsche Design Tower in Miami
- Work Zone “Crash Analysis Team” which is comprised of Safety, Operations, and the corporate attorney. When a work zone incident occurs the team is dispatched to the scene to gather the appropriate information immediately while the facts are fresh.
- On an annual basis two 4 hour crisis management courses are conducted for all employees. All employees must keep a crisis management step by step card on them at all times.
- Crisis Management plan has a “Buy Time Statement” that politely holds the media at bay until the company crisis management team can arrive on the site
- Crisis Management plan was expanded to include protocols for “Active Shooters” - https://www.dhs.gov/xlibrary/assets/active_shooter_booklet.pdf
- Electronic phone based step-by-step crisis management system of notification and prompts
- “Stop and Call” crisis management program where each employee has a red stop sign hardhat sticker on the inside with simple steps and phone numbers to call.
- Crisis management program also includes potential Occupational Health Issues
- Every worker has an “ICE” sticker on the inside of their hard hat which contains all their pertinent medical information
- Used TV Investigative reporter to help with simulated project crisis management drills and role plays
- “Left of Zero” program Innovation: Pre-planned access way and signage for emergency vehicles.
- “Left of Zero” program Innovation: Lighted and painted designated fire extinguisher locations and exits.
- Laminated poster size pictograms of key things to do in a crisis situation. Covers Fire, utility, bomb threat, tornado, and active shooter. Also identify project safe zones for assembly based on certain crisis situations.
- All managers attend a 3rd party Crisis management training program to make sure we stay on top of an ever change Crisis world
- Crisis management plan also includes procedures and drills for Tower Crane operator rescue.
- Crisis Management Plan is in the form of a Grab and Go which facilitates easy, structured, step-by-step, readily printable information for project teams to use.
- All site superintendents have a crisis/emergency satellite phone
- Written crisis management and emergency response plan, including muster points is developed for each work location and is reviewed in both the weekly training meetings and the task specific crew training JHA, .
- Each project has a specific safety Emergency Safety Program. The closest Hospital, EMS, and Helicopter service is identified and contact information is provided and posted.
- As part of the injury management plan we have incorporated an on-site health care company. This allows employees to have minor injuries looked at on-site to determine if first-aid care is enough or if a higher level of care is needed.

- Crisis Management approach includes having crisis management stations equipped with necessary components, hard hat stickers that are on the inside of hats with personal contact information and Crisis cards that have necessary contact information for those on site.
- Crisis Management table top drills with project leadership to ensure all team members understand their roles in the event of an emergency. In addition, physical drills are conducted simulating Crisis.
- To plan for emergency response at a remote location, local police, fire, and EMTs were given a tour of our construction site. In addition, a high ropes emergency rescue team provided training on how to deploy emergency rescue systems
- For all incidents, regardless of severity, our IT Department has created and implemented single click function within Outlook that notifies Management personnel of any type of incident; project and incident type is included in the distribution.
- Company focused on emergencies and crisis management by bringing a guest speaker to prepare us for when the “Big One” hits the northwest. Each region’s session was recorded and tailored to their area. The presentation revealed what kind of earthquake to expect, what to do during and after the earthquake, what supplies to gather now, and how to establish a meet-up plan for families after an event. Each Branch office has been outfitted with a three-day supply of water and food for each employee. Extended the preparation to employee’s personal households by providing a dried food discount.
- Have further developed our Emergency Response Team (ERT). ERT team training occurred with first aid/cpr/aed, fire drills, incident crisis management, active threat/shooter, moving immobile employees with a stair chair, back-boarding injured employees, and Emergency Medical Response Certification. HAM radio certification is being sought after by team members.
- Each employee is given a wallet-sized crisis card to keep on their person at all times on the job. The card has a check list of actions to take if there is a crisis or emergency, as well as contact information for members of the leadership team. Each employee also receives a hardhat sticker with direct contact information for the safety director, human resources and CMO.
- A critical component of our safety program is emergency and crisis management of which communication and training is vital. To assist with the development and training of our procedures, we have established relationships with a variety of local First Responders from the Fire Department, Police Department, California Highway Patrol, and Special Weapons and Tactics Team. We conduct annual training for employees and family members to assist in the awareness of Fires, Emergency Situations, Defensive Driving, and Active Shooter Scenarios. During project mobilization, our teams invite First Responders to tour our jobsites, review emergency protocols and ensure paths of travel provide easy access for emergency vehicles.
- A majority of our projects are executed on occupied school campuses, our project teams meet with school representatives to incorporate their procedures for fire, earthquake and lockdown drills into our emergency action plans. Once construction is underway our jobsite crews become active participants in campus drills. This commitment to understanding and participating in school drills has proven essential on several occasions when campus lockdowns went into effect in response to active shooters in close proximity to project sites.
- Our New York City projects are supplied with FDNY First Responder Boxes. These 2’ x 4’ gang boxes are conspicuously located on site and provide first responder with valuable information in the event of

an emergency or inspections. Contents include emergency contact list, FDNY permits, floor by floor egress plans, standpipe diagram, site safety plan and daily log/checklists.

- This year we had an employee on the job site talking about ending his life. He had a medical condition that was causing him a great deal of pain. The foreman stopped work to take him to breakfast and then brought him to HR to discuss and connect him to the various resources available to him. He took a leave of absence and later returned to work in a better place.
- All managers are trained in emergency and crisis management and are required to complete an interactive training course. The instructors of the course are industry attorneys and media professionals. This training includes a hands-on exercise in which teams respond to a hypothetical crisis situation. The teams are timed and must manage a quickly evolving crisis as new details emerge. A lead person is identified to speak to the media. Interviews are videotaped and are reviewed by the class, making this training very realistic. We also communicate and provide access to our crisis management plan and crisis quick reference card on all company issued mobile devices.
- Have a separate Field Crisis Management Plan (FCMP) that is utilized at the field level to coordinate site-specific emergency needs. The FCMP includes site-specific contacts, muster points, response team members and the distinct roles for each project team member. The FCMP is posted on the job and is reviewed weekly during the site-specific orientation with all subcontractors and updated as the project changes. Project drills are conducted to ensure competency with the FCMP.
- Partnered with Able Shepard Training and Crisis Management to develop a company specific Emergency Response Plan and Guide for training purposes. The Guide is an easy flip binder for employees to refer to. Each site receives specific training to their location in order to prepare for an event. Also developed the D.E.F.E.N.D. module for our employees. With change occurring and the increased risk of domestic violence and hostile work environments in society, we took a proactive approach to the issues. The module states that the situation will dictate the order of the approach, but know the D.E.F.E.N.D. method when dealing with an emergency. Defend, Evacuate, Fortify, Emergency Medical Aid, Notify Others, Dial 911 empowers our employees to be safe in all areas of their lives. <https://ableshepherd.com>
- Project managers and superintendents review and update their project's CMP quarterly, including conducting a drill involving applicable response team members such as local fire departments or owner's representatives. A "First Hour Response Checklist" is made site-specific based on this plan. In the event of a crisis, laminated cards and/or PDF version on a cell phone with this information can be easily brought into the field.
- Utilizes a third-party company for training designated management. Key personnel receive training on how to properly address and manage media via all outlets. During a crisis, mis-information and rumors may increase when accurate, timely information is not available. CMP appoints a spokes person in time of a crisis, with provided training they can be more prepared to mitigate panic and provide factual information.
- Focus on employee wellness for mental health and physical well being by launching a Mental Health and Wellness Prevention month, partnering with health and wellness consultant Dr. Sally Spencer Thomas and vendors across the country. The mental health and wellness program is available to all sub- contractors onsite.
- For emergency and crisis management our process derives from OSHA 7600 Disaster Site Worker. <https://www.osha.gov/dte/outreach/disaster/index.html>
- We are piloting the integration of

safety and logistics plans into the 3D building information model. This allows an interactive view of—and more robust planning for—egress points, fire extinguisher locations, overhead protection, crane swing radius and other safety systems. These models can be used to virtually orient employees, visitors and first responders to the site.

- All hourly field-level employees are provided American Heart Association Heartsaver First Aid/CPR/AED training and American College of Surgeons Stop The Bleed training. All supervisory employees, and hourly employees who have volunteered for additional training, receive ASHI Advanced First Aid, AHA BLS Provider CPR/AED and American College of Surgeons Stop The Bleed training, which is 3 days of intensive classroom and hands-on training.
- Our plan is broken up into 4 sections: Mitigation and Prevention, Preparedness, Response and Recovery. This all begins by identifying the project rapid response team.
- Emergency Response Stations (ERS) are staged at key locations on our project sites. ERS each are stocked/equipped with eye wash, first aid kit, fire extinguisher, air horn, emergency contact numbers, jobsite map and map to the nearest urgent care facility. Promotional safety signage and a white board for motivational messages or additional information are posted at some of these stations and our staff tries to keep the postings “fresh”. We have clearly defined Roles & Responsibilities for our Crisis Management Team, which are reviewed monthly by staff. Our “red ready bag” emergency kits containing essential response items are staged at the office door ready to be deployed at all times.
- In 2020 intend to use Vangent Risk Assessment to identify those applicants with high risk or violent tendencies.
- Recognized that suicide for construction workers is 4-times higher than the industry average. It takes strength to ask for help and that is what we are focusing on – taking care of the whole employee including mental health issues. It’s all about work life

balance and the total employee’s health which includes emotional, financial and taking care of yourself. We try to reduce the stigma of mental health issues.

- “Evacuation” map, contract information with job production rates, also, the location of the project including GPS co-ordinates and a physical location.
- “Emergency Contact” section includes “First Responders”: Police, Fire, Hospitals, Environmental Remediation Contractors, Emergency Retrieval responders, addresses, and person of contact. All phone numbers and services are verified.
- “Emergency and Crisis Management” plan has recently been re-designed to produce quicker and more effective results in the event of a crisis. The key change is a written plan that is not burdened with verbiage rather than with activity that may save a life, limb, or property. Acme has divided the plan into four parts:
- “First Hour Response”. This is the action plan with an outline of the hierarchy of the response team, their responsibilities and team members, and contact information for anyone needed to be involved. Each subordinate individual completes their “to-do” list and reports back to the Team leader.
- All employees are required to carry accident forms with them at all times. These forms list the Chain of Command within the company as well as 911 and local authorities.
- Potential crisis situations are formally reviewed each year. Some of the items covered are Active Shooter, possible heart attacks, suicide on the job, domestic problems brought to workplace, and drugs in the workplace.
- Conduct emergency safety drills twice a year which involve local emergency providers and personnel. Feedback from project stakeholders is that the local fire and rescue find this is crucial to their training as well as ours.
- Provided AEDs on every project, over 120 life saving devices and counting! Along with

proper training, these have been put into service 4 times in the past year. Fortunately after the AED analyzed the patient no one has required a shock from the AED but the comfort it provides our teams is worth every penny.

- Monitor the hourly forecast and communicate warnings to our crews. This gives them time to secure all loose materials prior to any significant weather developments, thus reducing employee and public exposure to flying debris.
- Crisis communication plan identifies who is responsible to make statements, provides guidance to employees about any media inquiry they might receive, and provides them guidance for directing members of the media or law enforcement to the correct person in charge of a jobsite or office.
- Invited city first responders in so they could conduct emergency crane safety training. There are two tower and seven mobile cranes on the site, bounded by potential hazards: a rail line, an interstate highway and heavily travelled streets. Approximately three hundred tradesmen can be at work on any day. We donated specialized equipment for the first responders that they would need should our crane emergency plan to be executed.
- Conduct various occupational health drills such as heat stress, heart attack, snake bites, bee stings and chemical burns. Our drills also cover adverse weather events and time is taken and recorded to determine how quickly workers can get to safe shelter.
- Every supervisor must attend a four hour workshop covering our crisis management plan. the training based on the tabletop structure, developed by the U.S. Department of Homeland Security. They half-day sessions provided participants a simulated crisis to discuss their role and response during an emergency situation. The content was developed in-house by Safety, Human Resources (HR), and Marketing departments. The training consists of small group exercises with scenarios such as crane collapse, falls, fires, active shooter, bomb threat, gas leak to name a few. Each group is role play tested by the media, EMS/Fire Response, and OSHA to ensure our project teams handle the response and investigation properly.
- Created a safety action plan video that showcases the safe steps to be taken during an emergency.
- Working with the city on developing e-scooter safety programs to deal with scooter and bikes that roll through their jobsites daily.
- Canvas neighborhoods, knocking on doors where they are working to alert people of what to expect out of the ordinary on their jobsites. Also communicate through other outreach programs when high-profile work occurs in a community
- Crisis Management preparedness includes inviting OSHA, attorneys, and TV investigative reporters to simulate a true crisis
- A site-specific emergency action plan, including identification of evacuation routes, primary and secondary muster points, and emergency communication system, is developed, posted and reviewed with every employees on site.
- Fully certified rescue team, which consists of employees, who are fully trained and certified to carry out emergency rescue procedures on any project.
- Emergency drills including heat stress, heat attack, snake bites, bee stings, chemical burns, and inclement weather are developed and practiced by all employees.
- Grab and Go Packet to includes incident paperwork
- Muster app for smart phones. Enables employees to pre-program phones or smart devices with contact information of those (i.e. supervisor, spouse, neighbor) who you would want to notify of your whereabouts or safety in the event of an emergency.

CSEA FINALS JUDGING TECHNOLOGY SOLUTIONS

- 24/7 Registered Nurse Hotline - Immediate access to nursing support for injuries.
<https://www.nurseline.com/>
- 3D Lift Plan - Software for crane selection and lift planning.
<https://www.3dliftplan.com/>
- 3M SecureFit Safety Helmets – Advanced protective headgear.
<https://www.3m.com/>
- AutoDesk VELA Field Management - Tool for conducting safety audits.
<https://www.autodesk.com/>
- AVETTA Inc. - Supply chain risk management platform.
<https://www.avetta.com/>
- BIM & Trimble Point Layout Software – For construction safety and planning.
<https://www.trimble.com/>
- BIM 360 - Computer-based auditing program for safety data collection.
<https://www.autodesk.com/bim-360>
- Bossetools Ergonomic Shovel – Ergonomic hand tools.
<https://www.bossetools.com/>
- Brokk Robotic Demolition Equipment – Remote-controlled demolition machinery.
<https://www.brokk.com/>
- C3 The Construction Career Collaborative - Workforce development and safety training.
<http://www.constructioncareercollaborative.org/>
- CAT Virtual Reality Simulator - Equipment operation training in a risk-free environment.
https://www.cat.com/en_US/products/new/technology/simulators.html
- Clemco Industries Spray Wand – Dust control equipment for concrete joints.
<https://www.clemcoindustries.com/>
- Clinic Locator App - Finds nearest approved medical clinics.
<https://www.zocdoc.com/>
- ComplianceWise - Safety self-inspection management software.
<https://www.compliancewise.com/>
- ConstructSecure - Web-based platform for managing and improving safety.
<https://www.constructsecure.com/>
- D.E.F.E.N.D. Module - Emergency response training framework.
<https://www.ready.gov/training>
- DISC Behavior Assessment Tool - Personality assessment tool for management.
<https://www.discprofile.com/>
- EarthCam - Video equipment for jobsite security and monitoring safety practices.
<https://www.earthcam.net/>
- eCompliance - Program for auditing and communicating safety reports.
<https://www.ecompliance.com/>
- Enablon - Global online reporting system for safety events and incidents.
<https://www.enablon.com/>
- Giken Silent Pile Driving Machine – Noise-reducing construction equipment.
<https://www.giken.com/>
- GoPro Cameras – Used for inspection and safety monitoring.
<https://www.gopro.com/>
- Guardian Fall Protection Products – Safety solutions for working at heights.
<https://www.guardianfall.com/>

- Halo Light Hard Hats – Enhanced visibility safety helmets.
<https://www.ilumagear.com/>
- Hazard Scout - Cloud-based safety management system.
<https://www.hazardscout.com/>
- HCSS Construction Software - Tool for tracking safety data and documentation.
<https://www.hcss.com/>
- <https://www.safetycatalog.com/>
- iAuditor - Auditing tool for job site safety inspections.
<https://safetyculture.com/iauditor/>
- IndustrySafe - OSHA recordkeeping and safety observation software.
<https://www.industrysafe.com/>
- iScout - Platform for logging safety observations and follow-ups.
<https://www.iscout.com/>
- ISNetworld - Contractor safety data management system.
<https://www.isnetworld.com>
- iSQFT Pre-Qualification Software - General contractor pre-qualification software.
<https://www.isqft.com/start/general-contractor/>
- Kask Safety Helmets – Advanced head protection gear.
<https://www.kask.com/>
- Knaack DataVaults - Used for project documentation and safety coordination.
<https://www.knaack.com/products/datavault>
- Matterport – 360-degree project documentation software.
<https://www.matterport.com/>
- Matterport - Software for 3D jobsite walkthroughs.
<https://www.matterport.com/>
- Muster App - Smart device app for emergency contact notifications.
<https://www.musterapp.io/>
- My Time Station – Site access control badging system.
<https://www.mytimestation.com/>
- Navigate360 (SAFEPLAN) - Enhanced near miss tracking system.
<https://www.navigate360.com/>
- News App - Access to crisis management plans on mobile devices.
<https://www.appygeek.com/>
- NexTraq - Vehicle telematics system for coaching driver performance.
<https://www.nextraq.com/>
- PICS - Safety management system for contractor evaluations.
<https://www.picsauditing.com/>
- Predictive Solutions SafetyNet - Used for logging safety observations and follow-ups.
<https://www.predictivesolutions.com/>
- Procore Observation Tool - For hazard documentation and tracking resolutions.
<https://www.procore.com/>
- PureGPS – Vehicle and equipment tracking system.
<https://www.puregps.com/>
- RFID Badging System - Identification and tracking system
<http://www.fcbackground-llc.com/>
- RTW Modified Duty Program - Cross-training for restricted duty productivity.
<https://www.osha.gov/return-to-work>
- SAFEPLAN - Mobile app for tracking near misses and safety analytics.
<https://www.safeplanapp.com/>
- Safesite Inc. App - Technology for safety visit documentation and trend analysis.
<https://www.safesitehq.com/>
- SafetyFirst Orientation Badge - Safety orientation and certification program
<https://www.texoassociation.org/>
- SafetyStratus - Safety observation documentation software.
<https://www.safetystratus.com/>

- Samba Safety - Service for tracking motor vehicle records.
<https://www.sambasafety.com/>
- SawStop Table Saws – Safety saws that stop upon skin contact.
<https://www.sawstop.com/>
- SDS App - Guides to chemical exposure responses.
<https://www.msdsonline.com/>
- SharePoint Website - Centralized access to company policies and safety materials.
<https://www.microsoft.com/en-us/microsoft-365/sharepoint/collaboration>
- Slack - Messaging platform used for project safety communications.
<https://slack.com/>
- SmartDrive – Video-based driver safety program.
<https://www.smartdrive.net/>
- Smartsheet - Collaborative log for incident reporting.
<https://www.smartsheet.com/>
- Smith System - Defensive driving training program.
<https://www.smith-system.com/>
- Sologic RCA Software - For conducting root cause analyses.
<https://www.sologic.com/>
- Trimble Technologies – Spatial data solutions for construction sites.
<https://www.trimble.com/>
- Viewpoint - Construction management software with safety tracking features.
<https://www.viewpoint.com/>
- Workplace Aware - Software for hazard identification and communication.
<https://www.workplaceaware.com/>
- Zonar Vehicle Tracking System – Fleet management and safety tracking.
<https://www.zonarsystems.com/>
- 24/7 Registered Nurse Hotline - Immediate access to nursing support for injuries.
<https://www.nurseline.com/>
- 3D Lift Plan - Software for crane selection and lift planning. <https://www.3dliftplan.com/>
- 3M SecureFit Safety Helmets – Advanced protective headgear. <https://www.3m.com/>
- AlertMedia – Emergency notification software - <https://www.alertmedia.com/>
- American Subcontractors Association – Training solution - <https://www.asaonline.com/>
- Arthur J. Gallagher & Co. – Risk Management and drive monitoring - <https://www.ajg.com/>
- Autodesk VELA Field Management - Tool for conducting safety audits. <https://www.autodesk.com/>
- AVETTA Inc. - Supply chain risk management platform. <https://www.avetta.com/>
- BIM & Trimble Point Layout Software – For construction safety and planning. <https://www.trimble.com/>
- BIM 360 - Computer-based auditing program for safety data collection. <https://www.autodesk.com/bim-360>
- Bossetools Ergonomic Shovel – Ergonomic hand tools. <https://www.bossetools.com/>
- Brokk Robotic Demolition Equipment – Remote-controlled demolition machinery. <https://www.brokk.com/>
- C3 The Construction Career Collaborative - Workforce development and safety training. <http://www.constructioncareercollaborative.org/>
- CAT Virtual Reality Simulator - Equipment operation training in a risk-free environment. https://www.cat.com/en_US/products/new/technology/simulators.html
- Clemco Industries Spray Wand – Dust control equipment for concrete joints. <https://www.clemcoindustries.com/>
- ClickSafety – Online training solution - <https://www.clicksafety.com/>
- Clinic Locator App - Finds nearest approved

- medical clinics. <https://www.zocdoc.com/>
- CMiC – Construction Management software - <https://cmicglobal.com/>
- ComplianceWise - Safety self-inspection management software. <https://www.compliancewise.com/>
- ConstructSecure - Web-based platform for managing and improving safety. <https://www.constructsecure.com/>
- D.E.F.E.N.D. Module - Emergency response training framework. <https://www.ready.gov/training>
- DISC Behavior Assessment Tool - Personality assessment tool for management. <https://www.discprofile.com/>
- EarthCam - Video equipment for jobsite security and monitoring safety practices. <https://www.earthcam.net/>
- eCompliance - Program for auditing and communicating safety reports. <https://www.ecompliance.com/>
- Enablon - Global online reporting system for safety events and incidents. <https://www.enablon.com/>
- Garmin – Wearable device technology - <https://www.garmin.com/>
- Giken Silent Pile Driving Machine – Noise-reducing construction equipment. <https://www.giken.com/>
- GoPro Cameras – Used for inspection and safety monitoring. <https://www.gopro.com/>
- Guardian Fall Protection Products – Safety solutions for working at heights. <https://www.guardianfall.com/>
- Halo Light Hard Hats – Enhanced visibility safety helmets. <https://www.ilumagear.com/>
- HammerTech – Construction safety and quality software platform - <https://www.hammertech.com/>
- HarmonyAI - Manufacturing processes AI operating system - <https://www.tryharmony.ai/>
- Hazard Scout - Cloud-based safety management system. <https://www.hazardscout.com/>
- HCSS Construction Software - Tool for tracking safety data and documentation. <https://www.hcss.com/>
- Highwire – Contractor prequalification and management software - <https://www.highwire.com/>
- iAuditor - Auditing tool for job site safety inspections. <https://safetyculture.com/iauditor/>
- IndustrySafe - OSHA recordkeeping and safety observation software. <https://www.industrysafe.com/>
- Scout - Platform for logging safety observations and follow-ups. <https://www.iscout.com/>
- ISNetworld - Contractor safety data management system. <https://www.isnetworld.com>
- iSQFT Pre-Qualification Software - General contractor pre-qualification software. <https://www.isqft.com/start/general-contractor/>
- Judgement Index – Employee risk decision making assessment <https://judgmentindex.com/>
- Kask Safety Helmets – Advanced head protection gear. <https://www.kask.com/>
- Knaack DataVaults - Used for project documentation and safety coordination. <https://www.knaack.com/products/datavault>
- KPA – EHS software and training platform - <https://kpa.io/>
- Matterport – 360-degree project documentation software. <https://www.matterport.com/>
- Matterport - Software for 3D jobsite walkthroughs. <https://www.matterport.com/>
- MotiveAI – Fleet management software -

- <https://gomotive.com/>
- Muster App - Smart device app for emergency contact notifications. <https://www.musterapp.io/>
- My Time Station – Site access control badging system. <https://www.mytimestation.com/>
- myComply – Workforce compliance and badging - <https://mycomply.net/>
- Navigate360 (SAFEPLAN) - Enhanced near miss tracking system. <https://www.navigate360.com/>
- News App - Access to crisis management plans on mobile devices. <https://www.appygeek.com/>
- NexTraQ - Vehicle telematics system for coaching driver performance. <https://www.nextraq.com/>
- Oakley Meta AI Glasses – Visual recording and analysis - <https://www.oakley.com/en-us/category/oakley-meta>
- OpenSpace – Reality 360 image capture - <https://www.openspace.ai/>
- PICS - Safety management system for contractor evaluations. <https://www.picsauditing.com/>
- Pi-Lit - Smart solutions for roadway safety - <https://pi-lit.com/>
- PlanGrid – Construction management software - <https://www.plangrid.com/>
- Predictive Solutions SafetyNet - Used for logging safety observations and follow-ups. <https://www.predictivesolutions.com/>
- Procore Observation Tool - For hazard documentation and tracking resolutions. <https://www.procore.com/>
- PureGPS – Vehicle and equipment tracking system. <https://www.puregps.com/>
- RFID Badging System - Identification and tracking system <http://www.fcbackground-llc.com/>
- RodRadar – Live underground radar imaging - <https://rodradar.com/>
- RTW Modified Duty Program - Cross-training for restricted duty productivity. <https://www.osha.gov/return-to-work>
- SAFEPLAN - Mobile app for tracking near misses and safety analytics. <https://www.safeplanapp.com/>
- Safesite Inc. App - Technology for safety visit documentation and trend analysis. <https://www.safesitehq.com/>
- SafetyFirst Orientation Badge - Safety orientation and certification program <https://www.texoassociation.org/>
- SafetyGPT - Resource and knowledge platform - <https://www.safetygpt.io/>
- SafetyStratus - Safety observation documentation software. <https://www.safetystratus.com/>
- Samba Safety - Service for tracking motor vehicle records. <https://www.sambasafety.com/>
- SawStop Table Saws – Safety saws that stop upon skin contact. <https://www.sawstop.com/>
- SDS App - Guides to chemical exposure responses. <https://www.msdsonline.com/>
- SharePoint Website - Centralized access to company policies and safety materials. <https://www.microsoft.com/en-us/microsoft-365/sharepoint/collaboration>
- SiteDocs – Safety management software - <https://www.sitedocs.com/>
- SkillSignal – Safety orientation and workforce engagement platform - <https://www.skillsignal.com/>
- Slack - Messaging platform used for project safety communications. <https://slack.com/>
- SmartDrive – Video-based driver safety program. <https://www.smartdrive.net/>
- Smartsheet - Collaborative log for incident reporting. <https://www.smartsheet.com/>
- Smith System - Defensive driving training

- program.<https://www.smith-system.com/>
- Sologic RCA Software - For conducting root cause analyses.<https://www.sologic.com/>
 - Starlink - Satellite internet provider - <https://starlink.com/>
 - T3 Driver Dashcams - Fleet technology solution - <https://www.crutchfield.com/>
 - Tenna – Construction equipment tracking - <https://www.tenna.com/>
 - Trimble Technologies – Spatial data solutions for construction sites. <https://www.trimble.com/>
 - VelocityEHS – EHS and chemical/safety solution software - <https://www.ehs.com/>
 - VerizonConnect – Telematics software - <https://www.verizonconnect.com/>
 - Viewpoint - Construction management software with safety tracking features. <https://www.viewpoint.com/>
 - Workplace Aware - Software for hazard identification and communication. <https://www.workplaceaware.com/>
 - Zonar Vehicle Tracking System – Fleet management and safety tracking. <https://www.zonarsystems.com/>



SUNDT

Skill. Grit. Purpose.®



A defining feature of sundt's safety program is its willingness to share. Sundt's public announcement states that the company has provided stop the stcky[®] training to more than 80 companies since introducing the program.

PAUL LEVIN, SENIOR VICE PRESIDENT AND DIRECTOR OF HEALTH, SAFETY & ENVIRONMENT, SUNDT CONSTRUCTION

HIGHLIGHTS OF THE GRAND CHAMPION'S CSEA APPLICATION

SENIOR MANAGEMENT OWNERSHIP AND PARTICIPATION

Safety is visibly owned by Sundt leadership and reinforced through the company's employee-ownership culture. Leaders support Safety by Choice, participate in field engagement and hold the organization accountable for identifying and controlling high-energy hazards. The CSEA feature should include examples of executive jobsite walks, safety dashboard reviews, leadership messages and recognition practices.



RISK IDENTIFICATION AND ANALYSIS

Sundt identifies risk through Stop the STCKY, STCKY Walks, Risk Talk, CVIS participation, field planning and incident classification. The program focuses on the Fatal 8 high-energy hazard categories, then evaluates whether direct controls and safeguards were identified, implemented and executed. This gives teams a sharper picture of serious injury and fatality potential than lagging indicators alone.

TASK DESIGN - ENGINEERING CONTROLS AND DESIGN FOR SAFETY

Sundt's approach emphasizes planning work in ways that remove or reduce exposure before crews enter the field. Examples include offsite manufacturing, lift planning, excavation protection, energy isolation, controlled access zones, fall protection planning and work packaging.



SAFE WORK METHODS (PLANNING AND VALIDATION)

Planning is reinforced through crew-led discussions, Risk Talk, STCKY Controls, STCKY Walks and routine dashboard reviews. The focus is to plan the work, work the plan and verify that protections remain in place as conditions change. Validation happens through field walks, stop work activity, coaching and documented follow-up.



WORKFORCE ENGAGEMENT, INVOLVEMENT AND PARTICIPATION

Sundt's CVIS program gives craft professionals, trade partners and clients a structured way to participate in safety conversations. The program is designed to maximize craftworker involvement and feedback while encouraging respect, collaboration, integrity and innovation. Monthly CVIS walks and meetings create a regular venue for identifying hazards, discussing upcoming work and improving field practices.

SAFETY TRAINING AND VALIDATION OF TRAINING

Sundt's training approach includes onboarding, STCKY education, STCKY Academy, mental health resources, competent person training and coaching at multiple levels.

SUBCONTRACTOR AND TRADE PARTNER MANAGEMENT

Sundt extends Stop the STCKY to trade partners so high-energy hazard recognition is shared across the jobsite. CVIS participation, onboarding, orientation and planning expectations help trade partners understand Sundt's safety language and participate in the same system of controls and safeguards.

CULTURE AND RECOGNITION

Sundt reinforces safety through recognition of good choices, field-led engagement, STCKY Success stories and visible leadership. The company's safety culture is grounded in employee ownership and the belief that every worker has the authority and responsibility to help protect the team.

INNOVATION

Sundt's innovation platform includes Stop the STCKY, data-driven STCKY metrics, STCKY Walks, CVIS, AI-enabled fleet safety technology, offsite manufacturing, mental wellness resources, heat safety leadership and partnerships exploring supervised autonomous equipment. The common thread is exposure reduction: use better information, better planning and better tools to keep people out of uncontrolled energy.

A STANDARD BUILT TO MOVE THE INDUSTRY

Sundt's third AGC CSEA Grand Award arrives at a moment when the construction industry is asking more of every safety program. The work is larger, faster, more technical and more interdependent. Skilled labor is stretched. Heat, traffic, energized systems, complex lifts, deep excavations and

advanced facilities work all raise the stakes. Traditional safety performance remains important, while energy-based metrics help explain where the greatest risk lives.

Sundt's answer is to look directly at the energy in the work. Stop the STCKY gives the company a way to identify the most serious hazards, verify the protections that matter and learn from the difference between controlled success and uncontrolled luck. Safety by Choice gives the program its cultural base. Employee ownership gives it personal weight. Market diversity gives it a proving ground across many kinds of work. Innovation gives it a path forward as the company continues to grow. The result is a safety program that is practical, measurable and teachable. It belongs to the field as much as it belongs to leadership. It gives employee-owners and trade partners a common language for high-risk work. It treats every near miss, every STCKY Walk and every successful control as useful information. It also reflects a larger commitment: Sundt is willing to keep challenging its own assumptions, share what it learns and help move construction safety beyond the limits of yesterday's scorecards.

That is why Sundt's Grand Award matters. It recognizes a company that has won before, grown significantly since, and continued to advance its safety program while challenging the status quo. It recognizes the people who plan, build, coach, stop, verify and speak up. Most importantly, it recognizes a simple expectation that Sundt is working to make visible on every project: high-risk work can be built with control, with purpose and with everyone going home safe.



The Associated General Contractors of America, Willis, and Starr believe that Risk Control and Safety are not proprietary. Please feel free to share this document with other contractors, subcontractors, design professionals, owners and whoever else that can influence our industry, so every worker returns home safely to their family.

The Associated General Contractors is the organization of choice for those associated with the construction industry.



The Associated General Contractors of America, the voice of the construction industry, is an organization of qualified construction contractors and industry related companies dedicated to skill, integrity and responsibility. Operating in partnership with its nationwide network of Chapters, the Association provides a full range of services satisfying the needs and concerns of its members, thereby improving the quality of construction and protecting the public interest.

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The production and technical content of this Best Practice summary was made possible by hard and diligent work from the following people:

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