

Construction Risk Management Guide

There's no doubt that construction is a risky business. The list of risks facing contractors is a long one: worksite injuries, skilled labor shortages, cash-flow problems, contract disputes, job-site theft, defects in workmanship and material, weather delays and supply interruptions, to name just a few.

Understanding the risks construction firms face can help you better assess your own risks and create strategies to reduce them. This guide shows you how to identify, assess and control construction risks.

This guide will help you begin thinking from a risk management perspective and track your unique needs. Every construction company is different as are the risks they encounter. This guide is intended as a roadmap to guide you toward a risk mitigation strategy to help you with operations planning.

You shouldn't approach your risk strategy alone. It takes several perspectives to make a comprehensive plan. You should involve others to assist you when implementing your overall strategy, including:

- Business partners
- Project stakeholders
- Key employees
- Lawyer
- Financial consultant
- Accountants
- Insurance professional

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Project Risk Management Is Important

A 2017 Dodge Data & Analytics study of construction risk found that 83% of general contractors had experienced a dispute or claim in the last five years, underscoring the need for effective risk management in the construction industry. Risk evaluation and mitigation can lead to reduced costs and a more controlled project schedule.

Intense competition for projects, low margins and profits, safety issues, and the potential for disputes and litigation are just a few of the challenges that contractors live with daily. That's why risk management should be an essential component of your planning and day-to-day operations.

Risk management planning can be the hardest part of a job because it takes a lot of time, thought and people. Many projects (construction or otherwise) fail due to a lack of planning and clear communication rather than because of people or processes. The time spent on creating a clear and well-communicated plan before landing on a worksite will pay off quickly.

A risk management strategy can yield several significant benefits, including the following:

Increased efficiency

By incorporating a solid risk management strategy into all your projects, your jobs will go more smoothly with fewer delays and cost overruns. Once you have a template developed, you can apply it to future projects and make improvements over time.

Improved safety

Assessing the safety of each job site, checking the condition of heavy equipment, properly maintaining tools and machinery, requiring workers to wear the appropriate personal protective equipment (PPE), providing training (OSHA-10/30 or other certifications), conducting frequent toolbox talks, investigating all near-misses and having a proactive safety plan can protect against unnecessary injury, insurance claims and costly litigation.

Reduced claims

Workers' compensation insurance is a big spend for most construction companies. Safety training and risk management strategies can help to keep high experience modifier ratings under control. A formal training strategy may be helpful as proof of good-faith efforts to maintain a safe workplace and reduce hazards.

Streamlined operations

Risk management, when employed across your enterprise, leads to better communication, fewer organizational silos, reduced bottlenecks, improved workflow, a culture of safety and faster turnaround.

Improved worker morale

No one wants to go to work and be injured, and workers do not want to work at companies that do not take safety seriously. You'll attract and retain a much higher quality crew when you make it clear that you've incorporated risk management techniques into your planning, which also includes health and safety.

Enhanced reputation in the community

When you finish projects on time and within expectations, you get noticed. Worksites that are efficient and safe generally have a better reputation and build a quality professional network.

Potential for increased profits

A risk management and safety culture leads to better decision making and fewer unnecessary costs or expensive unplanned losses.

Potentially lower insurance rates

Workers' compensation insurance rates may drop if your experience modifier rating is lower than the standard, but you may be viewed as a better risk by insurance companies if you can show proof of your written risk management plan, as well as certifications and training records of your crew.

How To Use This Guide

This guide is divided into sections to help you identify risk areas and begin a risk management plan.

As you work your way through the guide, think about how you will implement your plan.

- € Identify who in your company should be part of your risk management team.
- € Analyze your business operations, the various jobs needed to sustain those operations and the people involved.
- € Assess the hazards associated with each job duty, role and location of the work.
- € Deliver, train and implement your risk management and safety plan.
- € Monitor, train, review and revise your plan annually or as projects change.
- € Reevaluate your risk areas annually as your operations expand (or shrink) and discuss these changes with your lawyer and insurance professional.

Use the guide to help keep track of the following:

- € Sources of risk and risk categories
- € Creating a risk management plan
- € Conducting risk management analysis and how to identify risk
- € Controlling risk and control measures
- € Employee safety training and implementation programs
- € Labor shortages and subcontractor default risks
- € Construction defects
- € Contractual obligations and risk
- € Cash management and cash flow red flags
- € Equipment and theft
- € Cybersecurity
- € Disasters and emergency planning
- € Surety bonds
- € Types of insurance

Sources of Risk

Defining risk

Risk is generally defined as an uncertain future event or condition that has a negative impact on your project's objectives. While most risk experts talk about risk in terms of threats, hazards, unwelcome outcomes or failures, other risk can be positive and lead to opportunities. Regardless, any risk will have an impact on the cost, quality or time it takes to complete your project.

Insurers and surety companies view risk in terms of exposure to possible losses. Some losses have a higher probability of occurring than others and some will have greater consequences for your business. As part of your risk management plan, you will want to rate the likelihood of risks occurring and how severe those risks will be. You can then rank the priority level for responding to those risks.

Risk categories

When identifying and analyzing risk, it's helpful to see how risks can fit into categories. Here are some you should consider as you begin to identify your own project risks:

- **Technical risks** such as poor design, insufficient site investigation, inadequate specifications or the unavailability of specified materials
- **Logistical risks** such as the lack of proper equipment, sufficient spare parts, fuel, labor and transportation
- **Construction risks** such as uncertainty of supplies, worksite injuries and accidents, negligence, construction defects and weather or seasonal uncertainty
- **Contractual risks** such as legal or regulatory issues and contract and labor disputes
- **Financial risks** such as cost escalation, delays in payment, rising interest rates, lack of sales or unmanaged growth
- **Project risks** such as lack of proper management, inadequate allocation of resources, and unrealistic schedules or schedule changes
- **Political risks** such as zoning disputes, lack of funding for a public project or political unrest
- **Competitive risks** such as pressure to underbid a competitor, lack of profitability and being overextended
- **Ethical risk** such as pressure to engage in political games or win bids using questionable tactics that could put current and future contract engagements at risk

Internal and external risk

It also helps to group risks according to whether they are external or internal risks.

- **External unpredictable risks** exist outside the scope of your normal business control. These could include regulatory or environmental issues, natural hazards (such as weather), vandalism or sabotage, political unrest or bankruptcy of a key supplier or subcontractor.
- **External predictable risks** exist outside of your business operations but can be incorporated into the scope of a plan. These could be the predictable rising cost or lack of availability of materials, outside competition, legislative or zoning changes, and workplace safety incidents.
- **Internal risks** could include senior staff changes, insufficient planning, unrealistic scheduling, improper work training, safety incidents, financial issues, contract disagreements or inadequate project management.

Write down your risk areas and organize them

As you begin to assess your risks, consider using a **risk log** or **register** to record:

- A description of each risk
- The likelihood of the risk's occurring
- The potential impact on your business (high or low)
- Actions to be taken to mitigate the risk (options to correct or transfer the risk elsewhere)
- Early warning signs of liability areas
- The methods used to communicate the risk once recognized
- The owner of the risk and methods used to handle risks once reported
- Contingency plans or written guides to follow once the risk has been identified

You'll want to assess your exposure to risk areas when developing your risk management plan.

Creating a Risk Management Plan

Risk management team

You may already have a project management team that is responsible for planning, scheduling and monitoring your projects. Use this team's experience for risk management planning. You can also assemble a small group of key employees from specific divisions to identify project risks.

- € Include input from each major function that supports your projects such as finance, estimating, procurement, legal, compliance and front-line management.
- € Appoint a team leader who will be responsible for managing the overall risk management process.
- € Choose a single point of contact for each functional area so that the communication for each area is consistent and clear.
- € Create the plan, write it down, employ the expertise of each functional area and seek feedback.
- € Share your risk management plan with everyone in your risk management team.

Project management process

Risk management doesn't occur in a vacuum. It's an integral part of the project management process. Unless you follow project management best practices, your efforts to control risk may prove ineffective. The Project Management Institute is a good place to start for information about sound project management practices.

At the very least, keep in mind these six components:

1. **Budgets and cash flow.** Are you monitoring your construction budgets and cash flow?
2. **Construction law.** Are you reviewing contracts, complying with building codes, obtaining needed licenses and permits, and complying with safety and labor rules and regulations?
3. **Planning.** Are you using the latest programs and software (and are you well versed in their use) to schedule work, allocate resources and streamline your workflow?
4. **Procurement.** Are you purchasing supplies and material that meet quality specifications at a competitive price?
5. **Quality management.** Do you have a quality control plan in place to meet quality-assurance standards?
6. **Risk management.** Do you have a written risk management plan?

Your risk management plan scope

Use these guidance checklists as you get deeper into developing your plan. Consider the scope of your plan and keep it focused.

- € What is the objective of your project and what key operations and people are involved?
- € What business operations are impacted?
- € What resources need to be deployed?
- € Who are the employees affected?
- € What other plans (business continuity, evacuation, disaster recovery, IIPP, EAP) are affected by this plan?
- € If you have no other plans in place, does your current risk management plan also include a team to formally address the creation of these plans?

Determine a risk plan objective – your reason for doing it

Determine your plan's objectives (like a mission statement) and use it as an anchor for the framework of your written plan. Here are some sample statements about what a risk management plan object might be for your business.

- A way to identify our business's potential for risk (internal or external) and to determine the steps needed to control, transfer, tolerate or eliminate those risks.
- Provides our business with a written framework for assessing and controlling risk in business operations.
- It shows that the safety and protection of our business, employees and assets is a top priority.
- It specifies all training and auditing procedures to outline the risk mitigation for all employees.
- We want to make our business safer, more productive and more profitable for all employees by creating and maintaining a living document designed to be preventative instead of reactive.

Responsibilities of the risk management team

Now that you have a reason for teaming up and supporting one another to make a risk plan, it's time to define the responsibilities of the team, including:

- € Who will create your risk management plan?
- € Who will assess risk areas?
- € Who will assign hazard and liability severity levels to each main risk area?
- € Who will control and monitor risks?
- € Who will coordinate all contracts and insurance reviews?
- € How you will protect your workers (PPE, accident investigation, training)?
- € How you will secure and maintain your property and assets?
- € Who will coordinate with your incident response team?
- € Who will review and update the plan and how often?

Create a risk management policy

Your team should create the basic policies for risk management in your business and assign the persons responsible for their part in the plan. For example, these might include:

- Make the safety and protection of your workers a top priority. Create a safety incentive program or a safety committee.
- Identify and utilize the expert knowledge of employees inside and outside the business to ensure the plan accurately represents all functional areas.
- Create a best practices team (such as a certification and training review team).
- Ensure timely delivery of information to employees, project managers and subcontractors.
- Develop management systems and tools, including regular meetings, training, reviews and auditing procedures.
- Design a comprehensive insurance program and review it annually.
- Require employees to take ethics and management training annually.

Monitoring, management and review

The risk management team is responsible for the ongoing monitoring and management of the plan, reviewing and updating it periodically or as changes arise, verifying that certain standards have been met, and training and certification of employees.

Conducting a Risk Management Analysis

Conducting a risk management analysis is a key responsibility of your risk management team. Your analysis will identify the various risks that could affect your project, their impact on the job, and the ways you will control them.

Identify and list risk areas

Begin your analysis by listing the hazards or threats you are most likely to encounter. Common construction risks include:

- Accidents to workers or the public
- Damage to property
- Loss of time and production
- Loss of key employees, skills and experience
- Loss of reputation and future projects

How do the risk areas affect the business?

Once you've identified the potential risk, identify who and what might be harmed by each of these risks. These are your liability exposure areas. For example, think about the various components of a project. For each component, record the corresponding threat or hazard.

- How would the risk affect your workers or subcontractors?
- What's the impact on scheduling?
- How will it affect the quality of materials?
- What about the safety of the job site?

Consider how critical each of these areas is to the success of the job. You may find it helpful to create a table that lists each project area and its relative importance (high, medium or low).

Sample risk exposure and impact table

Risk Area	Liability Exposure	Business Impact			Easy to correct? (Yes / No)
		1 (low)	2 (medium)	3 (high)	
<i>No formal employee training</i>	<i>Workplace injury resulting in higher workers' comp premiums or risk pools</i>			x	<i>Yes – controllable. Establish training program</i>

<i>Tornadoes at certain worksites</i>	<i>Tornado seasonal – have protocols in place and GCL</i>		x		<i>No – uncontrollable. Transfer risk to insurance</i>
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Once you've figured out the risks, liabilities and potential business impact, move on to risk assessment to figure out the details.

Risk assessment and mitigation

By better understanding threats and hazards to your project, you can assess whether it is feasible to eliminate, reduce or live with certain risks. It's not possible or even practical to mitigate every risk, but you may be able to transfer the risk by either purchasing insurance coverage or paying a third party to assume the risk.

Be sure to consider these areas:

- **Staff and labor.** What if your project manager left? What if you lost a key subcontractor? Do you have enough skilled labor?
- **IT and communications.** How vulnerable are your devices to cyber attacks? How often do you back up systems?
- **Job site.** How prepared are you for accidents and weather events? Environmental hazards?
- **Materials and supplies.** What if you lost a key supplier or prices went up? Do you have other suppliers who are able to meet your prices and specifications?
- **Equipment.** What is the impact of losing needed equipment and tools to theft or damage? How quickly can you replace them?

For each risk, try to quantify the following:

- What is the likelihood that it will occur?
- How severe is its impact?
- How long will it last?
- What steps have you already taken to reduce this risk?
- What further steps could be taken to prevent or reduce the risk?

In answering these questions, it is often helpful to review checklists prepared by those familiar with the project. You can also identify potential risks through brainstorming session with your group, a review of historical records or workers' comp claims, accident investigation logs and interviews with participants of similar or past projects.

Identifying risk areas and their impact on your business

When assessing the potential impact of a risk, your team should be looking in particular at any costs above the estimated final costs of the project, any additional time it may take to complete

the project due to delays in construction, and any reduction in quality or performance that might cause the job to fall below expected standards or specifications.

Risk/likelihood matrix

Next, assign a likelihood (probability) score for each risk. Then compare the likelihood score with the corresponding impact you identified in your risk analysis.

You can do this by creating an impact/likelihood matrix divided into four quadrants.

- Rank your risks from low impact/low likelihood to high impact/high likelihood.
- The higher the impact/likelihood, the greater a priority it should be in your planning.

High Impact Low Likelihood	High Impact High Likelihood
Low Impact Low Likelihood	Low Impact High Likelihood

Low likelihood/low impact

- Risks that fall in this category do not warrant a lot of planning time or worry.

High likelihood/low impact

- An increase in building material costs has a high likelihood but a low impact on the overall cost of your project. It may cut into your profit margin, but it is only one of many costs that make up the overall cost of your project.

High impact/low likelihood

- If catastrophic flooding were to occur on your job site, it could have a high impact. But you have determined that the risk for flooding is low likelihood, so it is not a critical threat to your project.

High impact/ high likelihood

- If a primary subcontractor is in financial difficulty and goes out of business, your project could be stalled indefinitely. This risk has a high likelihood and a high impact, meaning you must give it a higher priority than the other risks.

For each risk, determine whether you plan to mitigate, tolerate, transfer, defer or eliminate.

Risk responses

Here are the five types of responses typically employed to manage risk:

- **Risk mitigation** – Reduce the probability of the risk's occurrence or lessen its impact on the project, assuming such reductions do not raise your costs to an unacceptable level.

- **Risk tolerance/retention** – Agree to accept the risk and make sure contingency plans are in place.
- **Risk transfer** – Shift the risk to a third party. It could be a vendor, subcontractor or an insurance company.
- **Risk deferral** – Postpone riskier components of your project to a later date when the risk may be lessened or avoided (such as when weather is not a concern).
- **Risk elimination/avoidance** – Eliminate the risk by changing the plan or design, using alternative resources, or taking advantage of new technology.

Controlling Risk

Once you have measured the impact of a risk on your project, you must create a strategy for controlling the risk. Consider:

- Labor you must hire
- Equipment you need
- Technology that needs to be in place
- Information that must be available
- Subcontractors, suppliers and vendors you will rely on

Use your risk assessment to develop tactics for each critical operational area. Below are some examples:

Staff turnover

- Cross-train staff on multiple skills
- Document processes so other staff can take on unfamiliar roles
- Create a succession plan

Subcontractor default

- Prequalify subcontractors
- Require bonding or subcontractor default insurance
- Establish quality standards and inspect work

Job site hazards

- Contract with vendors to clean up the site if there is an environmental emergency, flood or fire
- Develop contingency plans to redeploy needed equipment or manpower to the site

IT systems down

- Maintain redundant systems in case of emergency
- Contract with a third party for restoration services

Loss of key information

- Back up data on a regular basis and maintain copies off-site
- Store important documents in a secure, fire-proof location

Unavailability of materials

- Multisource essential materials
- Consider alternatives if there are price increases or shortages

Residual risks and contingency planning

Residual risk is the risk that remains after you've applied risk control measures. For example, in assessing the risk of an excavation project in unstable soil, you may determine there is a high likelihood of collapse.

Your control measure may be to require the use of a steel trench box to protect workers and shore up the trench. However, there may still be the risk of falling debris, injury from the excavator bucket or other dangers. You need to assess the probability and impact of these residual risks and then develop a contingency plan to respond to them.

Your contingency plan may include various safety methods and procedures, increased job supervision, testing the soil at the site, and requiring that equipment operators be adequately trained.

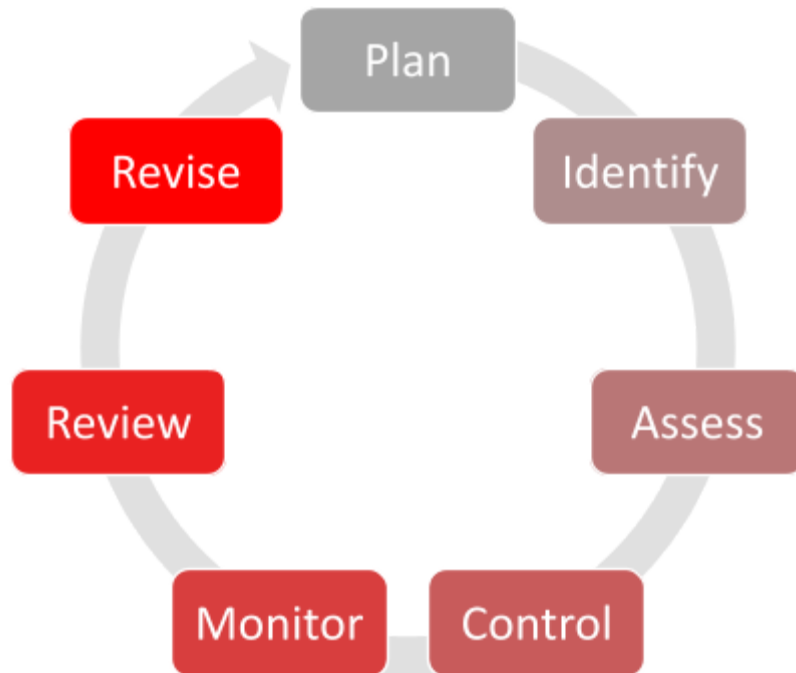
Review risk response and revise the risk mitigation plan

Risk management plans should be reviewed and revised based on actual results at the site. Make feedback and continual improvement part of your process.

- Were you able to control the risk?
- Did your contingency plan work?
- Were there any gaps in risk analysis?
- What needs to change?

Risk management process cycle

Think of risk management as a circle that begins and ends with planning, moving through the steps of identify, assess, control, monitor, review and change, so that you continually improve your risk management process.



Build risk monitoring into your process by consistently tracking and evaluating your control measures. Use the results to create new risk-control strategies to replace those that prove to be ineffective or outdated.

Everyone in your organization should be contributing to good risk management. Each person on your team brings a different, but important, perspective. Make risk updates and reviews a key part of your communications.

Safety First – Why You Need a Job Site Risk Plan

It's a known fact that construction is a dangerous occupation.

Your risk management team should pay special attention to worker safety and job-site hazards. Putting safety first not only prevents injuries and saves lives, but it also results in time saved on the job, which helps keep your project on schedule. Every construction firm should have a well-thought-out job safety policy and a safety manager.

A good starting point for basic safety standards is OSHA's Safety and Health Regulations for Construction, 29 CFR 1926. Your safety manager and risk management team should be working to create a safety culture that goes beyond the basic legal requirements.

In this section, we'll focus on a few specific safety risks you should include in your risk management plan and suggest some best practices for making your worksite safer.

Most common injuries in construction

Nearly 6.5 million people work at approximately 252,000 construction sites across the country, according to OSHA. The fatal injury rate for construction is higher than the national average for all industries, with some types of accidents and injuries more common than others. Here are some top risks to keep in mind:

- **Falls.** Perils include scaffolding, ladders, roofs, cranes and other equipment.
- **Falling objects.** These include tools and material among other objects.
- **Electric shock and arc flash/arc blast.** Damaged and worn electrical cords, equipment too close to power sources or power lines, and improperly grounded electrical tools are some of the causes of electric shock and arc flashes.
- **Equipment accidents.** Forklifts, cranes, backhoes, nail guns, ladders and scaffolding are common sources of accidents.
- **Vehicle accidents.** Being hit or run over by a truck backing up or being caught between two vehicles are common accidents.
- **Trench collapse.** Entering unprotected trenches and failure to use protective systems such as sloping, shoring and shielding have led to injuries and deaths.
- **Repetitive motion injuries.** Workers can develop musculoskeletal injuries from doing the same workday after day.
- **Weather-related illnesses.** Workers can suffer from weather-related hazards such as heat illness, hypothermia or frostbite.

Personal protective equipment (PPE)

OSHA requires employers to assess whether any hazards are present (or are likely to be present) that require the use of personal protective equipment (PPE). These hazards might include machines and equipment, work procedures, or substances that can cause injury.

It should be noted that OSHA's goal and recommendation is that you institute controls designed to eliminate or reduce these hazards since PPE used as a last line of defense. In other words, you must identify and remove as much risk as possible before one of your workers or subcontractors sets foot on the job site.

If the risk is recognized, PPE is not the only solution. Rather it's the last line of defense and is in addition to controls in place.

- **Engineering controls** such as proper ventilation; substitution of less harmful materials; and isolating, enclosing or adapting work processes are ways you might eliminate a hazard.
- **Avoid a hazard** altogether by changing the design specifications for the project.
- **Eliminate or mitigate risk** by changing workplace practices. These might include rotating workers, requiring tools that have safety features, adopting rules for when and how long equipment can be used, and ensuring that equipment is properly maintained.

Typical PPE that may be required on a job site include safety glasses, goggles, face shields, hard hats, respirator masks, harnesses, fall protection, steel-toed boots, grounded/nonconductive boots and gloves, gloves, earplugs/ear muffs, vests and jackets. Be sure to train your workers on how to use, care for, store and inspect PPE, as well as PPE's inherent limitations.

Getting employees the right PPE for the job

A common approach is to create a checklist of tasks that require PPE and to note what PPE is required and when. OSHA has specific requirements for the type of PPE, training fit and training provided to employees. For example:

- There are three classes of hard hats, with each class designed for a specific type of work or level of protection.
- Hearing protection is required at certain levels. But if you must shout to hear, you likely need protection. If hearing protection is needed, you should also monitor the job site for safety and periodically test workers. Exposure to noise levels above 85 dBA may require baseline and annual hearing exams (audiometric tests).

Hazardous materials

Asbestos is one of the most feared materials found on a job site. Inhaling asbestos fibers can cause serious and fatal diseases such as lung cancer. But asbestos is just one of many hazardous substances your workers and the public could be exposed to.

Other dangerous materials include lead, mercury, polychlorinated biphenyls (PCB), chlorofluorocarbons, corrosive chemicals, dust, biological hazards (such as animal droppings, fungi, viruses, blood and mold), and radioactive materials.

It's important to identify hazardous materials *before* beginning your project. The uncontrolled disturbance of such materials can result in dangerous overexposures, contamination of the job site, project delays, added expenses and regulatory violations.

The presence of hazardous materials necessitates its own set of risk-assessment/risk-control responses. Familiarize yourself with the requirements of the Environmental Protection Agency and other regulatory bodies. Your plan should include how you will:

- Locate and identify hazardous materials
- Evaluate their condition
- Determine which regulations apply
- Remove those materials that can be moved and minimize those that can't
- Notify workers, tenants, owners and other stakeholders

Environmental damage

Construction activity, if not adequately controlled, can lead to environmental damage, waste and pollution. Potential risks include damage to air, vegetation, sensitive ecosystems, wetlands, lakes/streams, wildlife habitats, land and groundwater.

Environmental risks must be considered during the design and building phases, and when emergency situations such as heavy rains, landslides, fires or other natural disasters threaten the site. Your control measures will depend on the location of the job and the length of the project. Such measures may include new design and construction techniques, soil stabilization and erosion control, and habitat protections.

- To reduce your environmental exposure, be sure to ask if the owner of the project has conducted an environmental assessment.
- Ask for the environmental assessment *before you begin working* so you have a baseline assessment of the condition of the environment in the event of a catastrophe or a lawsuit alleging exposure.
- An environmental assessment can provide important baseline information about land use, groundwater conditions, past use of the property and any concerns about the site.
- Protect yourself by making sure your contract contains indemnification language that prevents you from being held liable for preexisting contamination.
- In addition, train your employees to identify potential environmental hazards such as soil contamination and water pollution.
- Workers should also be trained on how to respond to emergency situations and hazardous material spills and cleanup situations.
- Be clear on your insurance policy and the owner's coverage as well as limitations and exclusions.

Note that commercial general liability (CGL) policies exclude or limit many environmental risks, potentially leaving you exposed to expensive losses and litigation. You may need to purchase a separate environmental pollution policy.

Workers' compensation

You may be required to carry workers' compensation insurance to cover workers who are injured on the job. In some jurisdictions, you can pay into a state-administered insurance system or you may need to purchase your own coverage on the private market.

Because construction is a dangerous business, contractors tend to be a higher risk compared to other industries. To keep your workers' comp premium costs down, consider these points:

- General contractors must cover their subcontractors under their policy, unless the subs have their own policy. Check to see if your subcontractors are covered and talk to your insurance professional, too.
- If you do business in multiple states, you must purchase coverage for all the states where workers are located.
- Make sure you are classifying your workers accurately. Work class codes can make a difference in your premiums.
- Some types of work will make your business a higher risk, such as working in trenches or working at heights above 15 feet.
- Review your experience modification (ex-mod or mod rating) to make sure it accurately reflects your employment records. You can get a copy of your experience rating worksheet to check the claims and payroll amounts that have been used for the ex-mod.
- Take advantage of any premium adjustments you may qualify for. For example, many states offer a credit called the Construction Classification Premium Adjustment Program.
- A workers' compensation audit consultant may be able to save you money by auditing your payroll, reviewing classification codes and looking at various ex-mod factors.

Using technology to improve safety

New technologies are creating safer, smarter job sites. Some are already in use, while others are still being tested. Here a few you may want to check out:

Wearables

Wearable safety devices can detect signs of danger such as lack of movement, carbon monoxide, natural gas and heat. Co-workers can be alerted if someone is in harm's way. Smart clothing can also monitor vital signs such as skin temperature, heart rate, respiration and signs of fatigue. Some are incorporated into vests, while others are part of a hard hat.

Drones

These remote-controlled, aerial vehicles can be used to survey a site, inspect structures and identify potential hazards. Drones can take photos and video to record progress and monitor changes in work conditions.

Safety apps

Software developers are working on several apps that can help workers stay safe on the job, especially if they are working alone or in a dangerous area. These include recording time spent in a location, GPS tracking and a panic button.

Site sensors

These devices can be mounted throughout the site and will alert workers when noise, temperature, or toxic exposure exceeds an acceptable level.

Virtual reality

VR simulators can be used to train construction workers on operating cranes, excavation or welding.

Robots

Robotics has the potential for automating repetitive and tedious tasks. “Cobots” are being designed to work collaboratively alongside humans to help them do their jobs faster and safer. For example, robots can assist masons by lifting heavy blocks to construct a wall, reducing injury and muscle strain.

Communication is key to lowering risk

Communication and training can go a long way toward creating safer job sites and lowering risk. Instructions on how to use equipment, avoid fatigue, communicate safely and work smarter can reduce the risk of injuries.

- € Use your risk assessments to identify areas where training is needed.
- € Use meetings with your subcontractors and crews to increase awareness and take proactive steps to avoid accidents.
- € Teach your construction managers to be responsible for ensuring their workers are aware of the dangers on a site.
- € Discuss each day what is expected on the job site.
- € Use good communication skills to convey information clearly and precisely.
- € Equip your workers with walkie-talkies, smartphones, tablets or headsets so that they can quickly communicate with each other at any location.
- € Make sure there is plenty of water to stay hydrated and a safe place to take breaks.
- € Encourage workers to look out for each other and identify signs of stress, fatigue or mental impairment. Never prioritize productivity over safety.
- € Be sure you have the right equipment for each task.

- € Provide the right PPE for the job and make daily equipment inspections a part of the routine.
- € Make it clear that safety is your priority.
- € Give workers a clear path to report unsafe behaviors and concern without fear of retaliation from you or others.
- € Establish a safe, secure place to store tools and equipment at the end of the day.
- € Keep your equipment updated and well maintained.
- € Encourage safety certifications and keep them up to date.

Labor Shortages, Subcontractor Default Risk

With the construction industry experiencing a boom, there is a pressing need for skilled workers. Yet a recent study from the Associated General Contractors of America (AGC) reveals that 80% of construction firms are having trouble finding qualified workers.

A skilled labor shortage, an aging workforce, and an influx of inexperienced workers are driving up costs and increasing injuries on worksites.

Workforce shortages

“Workforce shortages remain one of the single most significant threats to the construction industry,” according to AGC. Even more troubling, AGC reports that 45% of firms surveyed say the local pipeline for preparing well trained and skilled workers is poor. And 26% say the pipeline for finding workers who can pass a drug test is also poor.

The upshot is that skilled labor shortages are increasing wage costs as firms compete for fewer qualified workers. And relying on less qualified or fewer-than-needed workers means projects are more likely to fall behind schedule, the risk of injuries is higher, the possibility of defects is greater, and the chance of negligence claims is larger.

Subcontractor default risk

Given that subcontractors perform most of the work on construction sites, your risk management team should be mindful of labor issues and subcontractor default risk.

Subcontractors are essential to completing a construction project on time and within budget. Often, they bring specialized skills and experience to the job that is hard to replace. Make sure you’ve done your due diligence to select qualified subcontractors, then take steps to protect yourself with surety bonds and insurance.

Prequalify your subcontractors

All subcontractors, from the largest to the smallest, should be properly vetted.

- Establish a consistent, uniform process for qualifying them.
- Check their references.
- Ask for a copy of their financials to make sure they are adequately capitalized.
- Consider their experience, skills and manpower. Do they have the capacity to do the job? Have they done this work before?
- Check the résumés of the project managers assigned to the project.
- Make sure they will be on the project the whole time and not reassign it to others.

Bonding and SDI

Insist that primary and specialty subcontractors be bonded.

Bonds

Surety companies, which issue performance and payment bonds, can be an invaluable resource because they require contractors to undergo a rigorous prequalification process.

Subcontractor default insurance

General contractors can also protect against subcontractor defaults through subcontractor default insurance (SDI). These agreements are designed to protect against delays and additional costs associated with a defaulted subcontractor or supplier.

SDI is a two-party agreement between the general contractor and the subcontractor. This gives you the flexibility to enforce the agreement if there is a default since you manage the claims process rather than a surety company. You can also default a subcontractor yet allow them to continue working so there is no disruption on the job.

Construction completion commitments

A construction completion commitment is another tool a general contractor might use to help minimize the risk of default. A completion commitment includes a range of due diligence, oversight and monitoring activities, including work-in-progress monitoring, budget reviews and reconciliation of lien waivers, among other fiduciary protections.

Commitments are less expensive than a surety bond, but unlike bonds and SDI, they don't provide funds for the project. Rather, if a default occurs, the provider of the commitment will assist with replacement of a subcontractor to get the project back on track.

Construction Defect Risk

Construction defects range from sloppy workmanship to serious design flaws that could jeopardize the integrity of a structure. Unfortunately, defects are part of the building process, and general contractors must take steps to document defects so they can be rectified.

Types of defects

Defects fall into four basic categories, and there can be legal and financial consequences for each one.

1. **Design deficiencies** arise when an architect or engineer designs a structure that doesn't function as intended. A design may be outside the code. Or a design intended for one type of project may be used for another without proper modifications.
2. **Construction deficiencies** are essentially poor workmanship. These deficiencies can result in a host of defects ranging from water intrusion (leading to dry rot and mold) to electrical, HVAC and plumbing problems.
3. **Product and material deficiencies** can cause serious problems. Any number of materials can have defects, including asphalt shingles, drywall, particleboard, waterproofing membranes and exterior coverings.
4. **Subsurface deficiencies** include improperly compacted soil and expanding soil, which can cause major problems with settling and shifting. It is especially important that the soil be properly prepared and that there be adequate drainage.

Aside from these basic types of defects normally recognized by courts, contract warranties often make a further distinction between patent and latent defects.

- **A patent defect** is an obvious defect that is easily observed. These could be cracks or a leaky roof.
- **A latent defect** isn't immediately apparent, even if there is an inspection and often doesn't manifest itself until years after the project is completed. These hidden defects can include inadequate supports, weak framing, a bad foundation or mold from water intrusion.

Taking steps to eliminate defects

While you can't eliminate defects completely, you can reduce their likelihood.

- Make clear the design and construction standards you expect your workers to follow.
- Monitor work on the site, conduct inspections and test to identify and correct any defects.

- Always keep detailed records of work, including photos, and test and inspection results. Schedule regular meetings with your subcontractors during the construction phase. Discuss any situations where the specifications or standards can't be met.
- Consider having an independent third party review the work and ensure that it is free from patent defects.
- As the project winds down, keep a detailed list of those items that have not yet been completed and hold your subcontractors to finishing them.

Contractual Risk

There's a reason why construction firms are called contractors. Their work is governed by the contracts they negotiate with the owner of a project. Many risks can arise from the contractual relationships you have with the owner as well as the subcontractors you hire.

General conditions

As a contractor, many of your rights and responsibilities are spelled out in the general conditions of the contract. Note, too, that owners have been transferring more risk to their contractors, a trend that your team needs to be aware of.

Your risk management team should be familiar with these conditions and the risks associated with them. You should be familiar with all provisions of your contract, such as obligations, deadlines, payment, risk, insurance, hold harmless, subrogation and others.

When in doubt – reach out. Ask an attorney for legal advice or to review any questions about your contracts before signing them. Pay attention to conditions listed in all your contracts and always understand the meaning of the sections such as the ones listed here.

Scope of work

Make sure the contract clearly spells out your duties and obligations, including complying with project plans, specifications and building codes.

Time-is-of-the-essence clause

Understand the deadlines in the contract for you to complete work and the penalties if you do not comply, including liquidated damages and breach of contract.

Payment terms

Many disputes arise from disagreements about payment. Make sure you include a payment schedule and understand what progress must be made to receive payment.

No damage for delay clause

Understand your rights when an owner or subcontractor delays the project.

Indemnity clause

With more risk shifting to contractors, be aware of the circumstances under which you are indemnified. Typically, the contractor assumes the owner's liability for losses on a project,

depending on how broad the indemnity clause is. Note that state legislatures have become increasingly hostile to broad- and intermediate-form indemnity clauses.

Additional insured clause

It may be to your advantage to be named as an additional insured to a subcontractor's commercial general liability policy. Project owners may also require that they be named as an additional insured on your CGL policy. Always verify coverage if you are an additional or named insured on another party's policy.

Waiver of subrogation clause

Understand that insurers often charge a fee for such waivers since they prevent the carrier from pursuing a claim against the other contractual party in the event of a claim. However, the waiver minimizes the potential for lawsuits and allows the parties to the contract to move forward on the project.

Termination

Know your rights and obligations if the contract is breached or terminated. Does it require mutual consent? Does it include a right to cure, which is the right to remedy the default by taking measures to ensure compliance?

Dispute resolution

Disputes often occur on construction projects. Make sure it is clear in your contract how (such as court or arbitration) and where (such as any assigned location of the court) a dispute will be resolved.

Contract disputes and common causes for them

Contract disputes are the leading cause of legal issues for construction firms. A recent Global Construction Disputes Report conducted by Arcadis found that disputes in North America take an average of 15 months to resolve and have an average value of \$16 million.

Top reasons cited by the report for disputes include contractual errors and omissions, poor contract administration and contractual misunderstandings, and others such as:

- **Quality of construction** – substandard work and construction defects
- **Failure to use specified materials** – substitutions of lower-quality material
- **Delay in construction** – work not completed in a timely fashion
- **Abandonment** – walking away from the job
- **Nonpayment** – failure to pay on time

While no one wants to go to court, contractors often find themselves the subject of lawsuits.

- Prepare your staff and project managers for the possibility of claims and litigation.
- Educate your employees on the terms of each contract and on how to maintain adequate records, properly document change orders, obtain necessary permits and comply with building codes.

Getting legal help

A knowledgeable construction attorney can help you assess the risks that might arise from the terms and conditions of a contract. They can explain your rights and obligations, negotiate on your behalf, and guide you through any disputes that might arise.

Most important, an attorney can help you resolve disputes through negotiation or mediation to avoid expensive litigation.

You'll also want to make sure that you talk to your insurance professional to be clear on your insurance coverage. If your insurance policy is triggered, your insurance company may take over any contract disputes and work toward a settlement.

Cash Management Risk – Red Flags

Construction is a capital-intensive business and it's easy for contractors to become overleveraged. You may have working capital tied up in multiple projects. Likely you've sunk a lot of money into equipment and tools. Maybe you've underbid a project or fallen behind in billing. Or perhaps you underestimated your costs. As a result, you may be experiencing cash-flow problems.

Here are a few things to watch out for and to attempt to remedy when experience cash management risks:

Unrealistic growth

Demand and competition are driving contractors to take on more jobs and bigger projects. Inexperience with a new type of project, taking on a job that stretches your capacity and rapid expansion are some of the warning signs you should look out for.

Profit fade

Are your profits holding up over the course of a project? If they're fading, what's causing it? Profits generate income on your balance sheet, so falling profits can erode your capital.

Underbilling

Work completed that hasn't been billed for is a red flag and can hurt your cash flow. Always have a schedule for when you will invoice and be paid. Don't perform work without a contract or change order, especially if it's not clear whether the owner will pay for it.

Cost backlog

How much of a backlog do you have, and what is the total cost of completing those jobs? For example, if you are bidding on a \$1 million job and already have a \$3 million backlog, you may be overextended.

Liquidated damages

Have you given yourself enough time to finish the job? If the job runs over, what will be the cost of liquidated damages?

Borrowing

How much debt does your company have? Overreliance on borrowing can affect your financial condition and reduce your cash flow.

Change orders

Manage your change orders so they don't add to your costs. Poorly handled change orders can lead to delays and disputes, especially if they are caused by a poor design or errors and omissions.

Use project management best practices as a guide to help you mitigate the risk of becoming overleveraged.

Equipment Risk

Equipment and tools may well be your firm's largest capital investment. Proper maintenance, safe operation and secure storage of these assets should be of primary concern to your risk management team. The loss of expensive equipment and tools can cause severe financial hardship and even bankruptcy.

The National Crime Information Bureau estimates that \$1 billion a year is lost due to theft of construction equipment and tools, and the recovery rate is less than 20%. Beyond the cost of replacing stolen equipment, there can be expensive job delays and increases in insurance premiums.

Steps to avoid equipment theft

You should have a process for inventorying, securing and tracking your equipment. Here are a few things to consider:

- € Secure your job site with a chain-link fence.
- € Make sure the site is well lit and easily seen from the road.
- € Install security systems such as alarms, motion detectors and surveillance cameras.
- € Consider installing GPS tracking devices or telematics on your heavy equipment so you can track movement in real time and recover stolen items.
- € Install theft deterrents such as fuel shut-offs, alarms, electronic keys, ignition disablers and wheel locks.
- € Remove keys and fuses when equipment is not in use, especially in smaller more mobile pieces of equipment. If you can easily drive it off the lot, it is a bigger target.
- € Inventory your equipment and record details such as make, model, purchase date and serial number. Take photos, keep receipts and all documentation of your equipment and store them in a safe location.
- € Stamp or engrave equipment and parts with identifying marks or your company name and logo.
- € Register your equipment with a theft deterrent company such as the National Equipment Register. Talk to your insurance professional about solutions or discount programs they might have in place.
- € Train your operators on site protocol such as shut-off, locking, parking and logging their use of equipment.

Insurance – equipment considerations

Make sure your equipment is insured and you are aware of any limitations or exclusions that you will need to self-insure. Also make sure you've taken the time to keep your insurance professional updated on the types of equipment you're using on the job. Review your policy with them so there are no surprises for either of you, such as:

- € Is your equipment listed on your insurance policy?
- € Do you have the proper amounts of coverage for each piece of equipment declared in your policy?
- € How will your equipment be valued if a loss occurs?
- € Will it be at replacement value, actual cash value or agreed upon value?
- € Have you updated your insurance professional on the types of work you're doing, equipment involved as well as the location?
- € Have you expanded or shrunk your inventory or business scope?

Insuring equipment and other transportation issues

Equipment is essential to your operations and the difference between getting the job done or missing out. Proper equipment insurance is part of your overall risk management plan. Here are a few equipment and auto-based insurance coverages to talk to your insurance professional about.

Inland marine insurance

Heavy equipment needs to be transported to and from worksites and is in storage when not in use. Commercial property insurance covers property only at the locations listed on the policy. That's why contractors need inland marine insurance, which covers the insured property no matter where it is located.

These policies typically cover products, tools, and equipment that are in transit over land or stored at an off-site location. They may cover property inside a commercial truck or movable property in a fixed location. Often, they are added by endorsement to an existing policy, such as a business owners policy (BOP) or commercial general liability (CGL) insurance.

Ocean marine insurance

Like inland marine, ocean marine covers equipment that is being transported over bodies of water. If you are or will be involved in projects that involve equipment transport over water, talk to your insurance professional.

Contractor tools and equipment insurance

A type of inland marine coverage, these policies pay for repair or replacement of a contractor's tools and equipment if they are lost, stolen or damaged. Typically, they cover items less than 5 years old. Make sure you're clear on how the equipment is valued if stolen such as actual cash value, agreed upon value or replacement value.

Leased equipment insurance

If you need to rent equipment, you will likely be asked by the rental company to show proof of insurance (a certificate of insurance) and to name the rental company as an additional insured. This can be accomplished by including an Additional Insured – Lessor of Leased Equipment form in your liability policy. Speak to your insurance professional to add this endorsement.

Loaned equipment insurance

Borrowing equipment is common on a job site. One subcontractor may ask another if they can borrow a tool or piece of equipment. Generally, borrowers are expected to pay for a damaged item, but their liability policy may need an endorsement for borrowed equipment.

Mobile equipment insurance

It's not always clear when inland marine, commercial general liability, or business auto insurance covers mobile equipment. It usually depends on whether the equipment is self-propelled and can be driven on public roads. Check with your insurance professional to see which type of policy you need to cover liability and physical damage.

Commercial auto insurance

Commercial vehicles such as pickup trucks and vans should be insured. Business auto insurance policies cover medical bills and property damage from an accident, vehicle theft and other damage. Your insurance professional can discuss coverage, deductibles, limits and exclusions. For example, business auto doesn't cover tools, equipment and supplies in a vehicle. Those would be insured by an inland marine or contractor tools policy.

Hired and non-owned auto

Employees running errands in their own vehicles (such as daily food runs) can cause an issue over coverage should your employee get into an accident. Talk to your insurance professional to make sure you're covered.

Cybersecurity Risk

Cybercrime is a serious problem for businesses of all sizes and types. Construction firms typically don't collect a lot of personal data from consumers, but they can still find themselves the victim of cyber fraud. And because they don't have large IT departments or as much experience with data security as other industries do, contractors may be more vulnerable to cyber attacks than other types of businesses.

Cyber crime and smaller businesses – it happens more than you think

Cyber attacks on small- to medium-sized businesses are on the rise and they show no sign of stopping. Hackers are interested in collecting and exploiting information of all kinds. Personally identifiable information (PII) is big business used to trade with others on the dark web or to hold for ransom. Here are a few things to consider before dismissing creating a cyber risk plan.

- You use email, access Wi-Fi networks and store PII client data in digital files. Many states have laws holding all businesses accountable – and liable – for how they store and handle PII.
- You have access to building specifications, architectural drawings and other valuable intellectual property which may or may not be your own.
- And you likely rely on mobile devices to communicate while on the job, making your systems and devices a rich target for hackers.
- Internet of Things (IoT) has connected our lives for the better and left us exposed to hackers. Weak points in your network such as smart appliances (light bulb, extenders or toys) can expose back-door weaknesses that allow hackers inside an otherwise secure network.
- Many states are adopting cyber breach laws that hold employers liable for PII exposed in a data hack event.

Do you have a cyber response plan?

As part of your risk management plan, be sure to review best practices for data security, including privacy protection and procedures for storing sensitive information. You should also have a cyber incident response plan and some form of cyber liability insurance coverage. Talk to your insurance professional for help with these.

You can also refer to government websites for help with how to develop your cybersecurity protocols. Share these resources with your risk management team.

- National Institute of Standards and Technology (NIST) provides guidelines and best practices for managing cybersecurity and business risk.
- Cybersecurity & Infrastructure Security Agency (CISA) offers a cybersecurity guide of all levels of business and personal use.

- Ready.gov hosts many types of planning resources including cybersecurity.

Follow cyber best practices

The NIST Framework calls for a common-sense approach to assessing risk and protecting against cybercrime. Consider implementing these best practices in your business:

- € **Use strong passwords and two-factor authentication.** Create a unique password for each of your accounts and change passwords regularly. Use two-factor authentication to augment your passwords.
- € **Install antivirus software** on devices and keep it updated. Download software updates and security patches so your computers and devices are current.
- € **Limit who has access to information** and ensure that user accounts are updated as soon as employees leave your organization or change their job roles.
- € **Train your employees** on the types of suspicious activity to look for such as malware, social engineering attacks, phishing scams, spear-phishing and ransom attacks (denial of service). Train them on how to protect their computers and network systems from intruders.
- € **Lock and secure your networks** just as you do your premises. Segregate your less important systems or smart appliances to a different subnetwork so they can't be used to exploit your key network infrastructure.
- € **Back up data on a regular basis.** Train your staff to backup files daily and to store the backup devices in a secure location.
- € **Protect your mobile devices and media.** Encrypt confidential data on smartphones, laptops and flash drives, or other devices that could be lost or stolen. Do not exchange sensitive information over public Wi-Fi. Do not download any unknown media into your devices.

Cyber incident response – steps toward prevention

In a recent Annual Cost of Cybercrime Study, Accenture and the Ponemon Institute found that online criminal activity costs organizations an average of \$13 million a year. The most expensive threats were malware, web-based attacks and denial of service.

Take these steps to detect, respond to and recover from an incident:

- € **Plan and prepare.** Inventory your hardware and software, determine the most likely threats, and ensure that equipment and data are adequately protected. Include in your response procedures how you will identify and contain a breach, report breaches that occur, notify key stakeholders and train employees.
- € **Detect and report.** Monitoring systems and detecting intrusions are a crucial aspect of cybersecurity. Make sure your employees are aware of potential threats such as phishing and malware, how to detect suspicious activity, and whom to report it to.
- € **Assess and act.** Your incident response team must decide whether a suspicious activity is a breach, the result of hardware or software failure or human error. It may be helpful to

create levels of response based on the severity of the incident, how widespread it is and how disruptive it is to your operation and customers. Talk to your insurance professional about any free or discounted cyber risk mitigation support that might come with your insurance policy.

- € **Respond and recover.** Once you have determined there has been a serious incident, you must respond accordingly. This may include shutting down your networks and systems, removing hardware or software that has been compromised, and conducting a forensics analysis of the incident. Include in your cybersecurity incident plan the steps to be taken in the event of a data breach and the individuals to be notified. Talk to your insurance professional about your cyber insurance policy – most cyber policies include response plan assistance after a covered breach.
- € **Perform a post-incident assessment.** In this last phase, you should document the lessons you have learned from the incident. How well did you execute your plan? Were there weaknesses and areas for improvement? Were your recovery efforts satisfactory? Did you have adequate backup procedures?
- € **Talk to your insurance professional about getting a cyber insurance policy quote.** Even small businesses are being held liable for data breaches and PII exposure. A general liability policy will not adequately cover the various responses needed if you experience a data breach.

Cyber liability and risk coverage

You may need to review your insurance coverage for data protection and cybersecurity. Ask your insurance professional about data breach and cyber liability insurance to cover the cost of a breach and other cyber risks.

These policies usually cover electronic theft, loss of data, loss of income due to temporary suspension of business operations, damage to your reputation, reparations to customers, security incident investigations and credit-monitoring programs for customers. Some policies also cover cyber extortion and ransomware costs.

Disasters and Emergencies

All organizations should have a plan for responding to a natural disaster or workplace emergency. Prepare for these contingencies as part of your risk management plan. Here are some incidents you should keep in mind:

Fires

Fires are common in construction work. You may already have a separate fire safety plan, a document that covers all aspects of fire prevention and protection at the job site. Such plans generally include a safe and orderly way to evacuate the premises, procedures to prevent fires and methods of control that minimize the damage of a fire if it occurs.

Your plan should spell out how you will alert those on the project of a fire, notify authorities, evacuate the premises, and control and extinguish the fire if possible. It should include training requirements and what actions you will take to prevent or control fire hazards. Fire safety depends on maintaining fire protection systems such as fire extinguishers, ensuring there are fire escape routes, and maintaining safe working conditions.

Flooding and hurricanes

These natural disasters can be slow-moving, powerful and deadly. Strong winds and rain can continue for many days contributing to widespread flooding and restricted access.

The Coast Guard advises that the best course of action is to evacuate before flooding starts. Follow the directions from local officials for community evacuation or seek high ground for localized flooding.

Do not enter flooded areas or moving water either on foot or in a vehicle. Know your community's flood evacuation plan and identify the best routes to take. To find shelters, use the American Red Cross's open shelter map or text FEMA at 43362 (4FEMA) with this information "SHELTER+ your zip code" (e.g., SHELTER + 60601) to find the nearest shelter in your area.

Tornadoes

When a tornado threatens, you should immediately seek shelter. As with hurricanes and flooding, monitoring emergency notification channels is critical. NOAA and the National Weather Service issue tornado watches and warnings. FEMA's "How to Prepare for A Tornado" is a good guide and lists resources for preparing and responding to tornadoes.

Active shooter/workplace violence

From 2000 to 2017, there were 250 mass shooting incidents, according to the FBI. The Bureau of Labor Statistics reports there were 394 workplace homicides from shootings in 2016 alone. You should have a way to quickly warn workers of a hostile situation and a plan for safely exiting a building or job site.

Panic is a very real concern. That's why training is so important. Follow procedures recommended by the Department of Homeland Security.

Pandemic

A pandemic is a contagion, such as COVID-19, that has spread across more than one continent. New and evolving diseases may become pandemic. Drug-resistant forms of diseases that had been controlled previously may also become widespread. The Centers for Disease Control and Prevention (CDC) has resources for employers, as does OSHA.

In the next section, we'll go into more detail about how to plan for crises. You may want to create a separate disaster response plan and train your staff on it.

Crises and Contingency Planning

Often the difference between a company's surviving a disaster and going out of business is how prepared its workers are to face a crisis. Creating, testing, practicing, and reviewing your contingency plan are essential.

- What if you had a major safety incident on your job site?
- What will you do for a structure or trench collapse?
- Are you ready with evacuation procedures for a fire or a flood?
- Do you have a disaster response plan/emergency action plan (EAP)?

As we've said before, construction is a dangerous business. You need to prepare for the worst. Many organizations have contingency plans they regularly train on. Devote some time to practicing your plan each year. Training can range from simple "table-top" exercises to full-scale disaster scenarios that simulate a real-life crisis.

Testing your response plan

Regularly test the various systems that your plan relies on, including:

- Emergency notification systems
- Fire alarms, sprinklers and fire extinguishers
- Fire escapes, evacuation routes and lighting
- Network firewalls
- Computer backup systems
- Generators

Exercises and drills

- **Tabletop exercises** usually involve key disaster response leaders gathered around a conference table. Just talking through responses can identify gaps in your plan, overlapping responsibilities, or unrealistic expectations as to how quickly you can resume key business functions.
- **Walk-through drills** require your response teams to walk through the steps they would take in the event of an actual disaster. After these drills, take notes on what worked and what didn't, and solicit feedback from the teams to make improvements to your plan.
- **Evacuation drills** involve practicing evacuations from the job site and your office using predetermined routes and safe meeting locations. Assigned incident commanders should take attendance and account for all personnel. Make note of any obstacles that need to be addressed.
- **Live exercises** are full-scale trial runs that attempt to simulate real-life emergencies as closely as possible. They may involve community responders as well as your own staff.

Training your crisis and contingency plan

Develop a training program for your contingency plan. Include in your training these components:

- Roles and responsibilities
- Responding to threats and taking protective actions
- Notification and warning systems
- Emergency response procedures
- Evacuation, sheltering and accountability
- Location and instructions on emergency equipment
- Emergency contact information
- Emergency shutdown procedures
- Rescue planning on-site and employees qualified to do so

Review your crisis and contingency plan

Each year, you should review and audit your crisis plan. You should train the plan annually or after any near-miss incidents/almost accidents. Near-miss incidents are good indicators that a full-blown incident will likely occur soon. Do not ignore them – learn from them.

- € Do the members of your response team know and understand their roles and responsibilities?
- € Have you trained your employees on your plans?
- € Have you involved front-line workers to gather feedback on safety and concerns?
- € Conducted drills and exercises?
- € Do your employees know the difference in alarm sounds? There should be a difference between a tornado alarm and a fire alarm since one requires sheltering in place while the other requires that you exit the premises. Practice your drills with real alarms and schedule a response drill with your local fire department, too.
- € Have you identified problem areas and considered ways to improve your plan?
- € Have you conducted a job safety analysis and rescue operations as part of your response planning? You need to have your own response plan. Relying on the police or EMS to rescue employees from a trench collapse or a confined space incident requires specialized knowledge. Calling 9-1-1 is likely not the answer to a confined space response when time is of the essence and EMS is not familiar with your work procedures or job site rescue.
- € Have you provided copies of your written Emergency Action Plan (EAP) and made plans for response?

Make sure all employees understand the plan and know who to ask questions and that it's okay to ask questions.

Reducing Risk Through Surety Bonds

Surety bonds are one solution to the risks associated with finishing a construction project. A surety bond is a three-way contract between the surety company (usually the insurance company), the contractor (the principal) and the project owner (the obligee).

In essence, the bond is a promise on the part of the surety to be liable for the debt, default or failure of the principal. The surety must make good on the principal's contracted obligation to the obligee.

The surety company is required to step in if there is a default to make sure the project is completed, and suppliers and subcontractors are paid. Sureties often accomplish this by hiring another contractor or, in some cases, providing financial assistance to the original contractor so it can finish the job.

Types of surety bonds

Contract surety bonds are generally divided into a few types.

- **A bid bond** assures that the contractor intends to enter into the contract at the price bid and will provide the required performance and payment bonds. The bid bond is the basic instrument of prequalification, which means the surety has investigated the contractor's entire business operations and deems it qualified to perform the contract.
- **The performance bond** is a binding obligation of the contractor and surety for the performance of the contract or payment of the cost of performance, up to the amount of the bond. It protects the obligee from financial loss should the contractor fail to perform the contract in accordance with its terms and conditions. Performance bonds usually include a one-year maintenance period to cover correction of defects from faulty materials or workmanship.
- **The payment bond** assures that certain subcontractors, laborers, and material suppliers will be paid in the event of contractor default.
- **The maintenance bond** provides assurance that the contractor will complete any maintenance required by agreement after the work is completed.

Bond requirements

Many states and localities require contractors to obtain bid, performance, and payment bonds for government contracts such as highway projects, schools and municipalities. At the federal level, the Miller Act requires payment and performance bonds for federal construction projects over a certain statutory threshold. Surety bonds might not be required for private projects, but it's a good idea for you to consider them for your primary subcontractors.

Bond premiums

Bond premiums are calculated based on the size and type of the project and the contractor's bonding capacity. There is often no charge for a bid bond, and payment bonds may also be issued at no charge with a performance bond. The contractor pays the premium, but it is considered part of the cost of construction and is usually included in a contractor's bid price.

Contact your insurance professional for help

Be sure that a reliable, licensed insurance company issues the bond. Call your insurance professional for more information about or potential referrals for surety bonds. Most surety companies distribute surety bonds through the agency system, using licensed surety bond producers who specialize in contract surety. A bond producer can guide you through the bonding process and should answer any questions you have about exclusions and coverage limitations.

The Need for Additional Insurance

Talk to your insurance professional about your risk exposure areas. You should already have commercial general liability (CGL) insurance and property insurance policies. If bundled together they are sometimes bundled within a business owners policy (BOP). Construction risk is unique, and each business and project is different. Work with your insurance professional to learn more about the insurance available and the best match for your business activities.

As you identify your risk areas and liability exposures, it should become obvious that additional types of insurance may be needed to fully protect your business. Subcontractor default insurance, inland marine for equipment and tools, cyber liability, and surety bonds are a few areas. You may need additional coverage beyond what has been discussed. Here is a more comprehensive list of insurance policies you should ask your insurance professional about these coverages.

Business interruption

Also known as business income insurance, these policies cover the loss of income after a disaster, whether it's due to the closing of your business or the rebuilding process after the disaster. They're designed to put your business in the same financial position it would have been in if no loss had occurred. They're usually offered as a rider or endorsement to a commercial property policy or a business owners policy.

Coverage is limited to defined events in the policy. It's very important to understand the covered events and exclusions of your business interruption policy (a pandemic may not be covered, for example).

Catastrophe or weather endorsements

The Insurance Information Institute defines a catastrophe as an unusually severe natural or human-made disaster with claims affecting multiple carriers and policyholders.

Your property insurance may cover some catastrophes, but you can also add a rider or purchase a separate policy just for catastrophes. Insurable disasters include hurricanes, earthquakes, tornadoes, windstorms, hail, fires, floods, volcanoes and acts of terrorism.

Pollution/environment

Pollution insurance was created specifically to manage the cost of pollution cleanups and cover liability claims for related injuries, illnesses and deaths. It is a separate policy from your regular business insurance. Contractors pollution liability coverage may be required by project bids since these risks have been growing in magnitude and cost.

Professional liability/errors and omissions (E&O)

If your firm provides professional advice or services such as engineering or building planning, chances are you have some type of professional liability insurance to protect against lawsuits. If not, ask your insurance professional about the various policies available.

Commercial umbrella/excess insurance

When claims against your business exceed your regular coverage limits, an umbrella policy provides additional protection and can extend broadly across existing coverages, which makes your other coverages even more valuable in the event of a catastrophic loss. Your insurance professional can discuss your policies' limits and suggest where you might need additional coverage and how an umbrella will respond in that event.

Directors and officers (D&O)

D&O insurance protects your organization's leaders from personal exposure in the event investors, employees, vendors, competitors, customers or other parties sue them in their capacity with your company. Some of the more common exposures include failure to comply with regulations or laws, failure to provide a safe and secure workplace, operational failures and mismanagement, employment practices and HR issues, cyber liability and bankruptcy.

Employment Practices Liability (EPL)

This coverage extends to employees and your legal conduct as an employer. If you are sued for harassment, wrongful termination or discrimination, employment practices liability would step in to mount a defense or settlement.

Fidelity bonds or crime insurance

Fidelity bonds, sometimes called crime insurance, protect an employer against employee dishonesty. Most policies cover theft and embezzlement, computer fraud, illegal fund transfers, counterfeiting and other dishonest acts. Business services or third-party fidelity covers employees who work on a customers' property. If the employee steals from the customer and there is a conviction, the bond will pay for the loss. Both types of coverage can be purchased from an agent or broker.

Key person insurance

This is a form of life insurance that partners or key employees in a business take out on each other. It's used for succession planning and can help to cover expenses during the transition after a key person dies. You must ask yourself if you would lose business or accounts if certain key persons in your business were to die? How would the expenses get paid until a replacement was found or the business was sold?

Workers' compensation

Most states legally require that workers' compensation insurance for any employees, whether full or part time. It is further complicated if you have multistate locations. Gig economy workers can pose a liability as well. Just because they are not employed by you, doesn't mean that a lawsuit isn't possible. Talk to your insurance agent about your state laws.

Builder's risk and installation

Unlike a fully completed structure, most homeowners and property policies will not cover an unfinished building or home. You need insurance to cover the materials and tools stored on-site (to complete the structure) as well as the structure itself. Talk to your professional about the types of construction projects you're involved in and find out who should be carrying the insurance policy.

Hold harmless or additional insureds

As a contractor you work with subcontractors and many other people in the process. A hold harmless clause is intended to hold you and your subcontracted workers to hold each other harmless (not to bring a lawsuit against the other) in the event of a covered loss. Additionally, you'll probably want to name each other in each other's insurance policies as a named insured. This extends their coverage to the persons named in their policies. Talk to your insurance professional about the benefits of being a named insured.

Cyber liability

Cyber liability insurance can help your business in case a data breach occurs and any personally identifiable information (PII) is exposed. From mobile devices to smart devices, the risk and liability caused by computer hackers is on the rise, especially in the small- to medium-sized market. Many states are passing laws requiring businesses to admit and respond to hacking incidents as well as submit a cyber threat response plan such as client credit monitoring services (which you might also have to pay for).

Many general policies (such as CGL or BOP) are not broad enough to cover cyber issues and they do not come with the perks such as cyber breach response assistance. Cyber threat support can help with public reputation and communication controls.

Equipment coverage

Coverage extends to your equipment and heavy vehicles. It may also cover your vehicle while traveling to other work sites. You may want to consider additional layers of coverage for equipment that is being transported across long distances on land. Some construction equipment coverage extends to catastrophic events like floods or earthquakes, which is not normally covered under a commercial property policy.

Inland marine

Coverage for large equipment being transported long distances may be needed for full coverage in your contract risk game plan. Talk to your insurance professional about insuring to gaps that an equipment coverage policy might not cover.

Ocean marine

If you're transporting your equipment and supplies across water, then you'll need to add ocean marine insurance.

Non-owned auto

This coverage extends to employees driving their personal vehicles for business use. If involved in an accident, their personal auto insurance would kick in first but excess insurance or insurance due to being named in a lawsuit would trigger your coverage.

Commercial auto

This covers all vehicles owned and leased by your business. Be sure you understand your exclusions, limitations and named autos or drivers covered.

Surety bonds

These are types of insurance or guarantees backed by a third-party company that states it will guarantee certain contractual agreements that you and the client make by agreement.

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- **The performance bond** is a binding obligation of the contractor and surety for the performance of the contract or payment of the cost of performance, up to the amount of the bond.
- **The payment bond** assures that certain subcontractors, laborers, and material suppliers will be paid in the event of contractor default.
- **The maintenance bond** provides assurance that the contractor will complete any maintenance required by agreement after the work is completed.

Subcontractor default insurance (SDI)

Insurance designed to protect general contractors against subcontractor defaults. These agreements are designed to protect against delays and additional costs associated with a defaulted subcontractor or supplier.

Risk Management Means Sustainability

The best construction firms – those with the greatest chance of longevity and the strongest reputations – put a great deal of effort into each phase of their business lifecycle. From building and ensuring a strong financial foundation to protecting workers and customers, your construction company must dedicate resources and find stable, reliable partners at every stage of every project.

Identifying perils, implementing and enforcing loss controls, and properly spreading risk may take time, creative thinking and monetary investment, but those efforts will result in a better competitive position in the marketplace, higher attractiveness to financial partners, and long-term sustainability, even in recessions. Take your first steps today with this guide as your framework and find the safest, surest road to prosperity.