

HURRICANE PREPAREDNESS: BEST PRACTICES FOR ADVERSE WEATHER

INTRODUCTION

From June to November, any job site along the Gulf Coast could quickly turn hazardous due to the arrival of storms, tropical storms, and hurricanes. Whether basic thunderstorms or severe hurricanes, every project team hopes to avoid weather conditions that put workers at risk and potentially cause considerable damage.

To minimize damage and ensure workers are safe, it is critical construction companies follow best practices when preparing for adverse weather conditions and implement detailed preparedness plans.

PREPARING FOR ADVERSE WEATHER CONDITIONS

Proactive preparation ensures workers stay safe and projects stay on schedule, and project teams should begin adverse weather preparations long before a storm or hurricane strikes.

EMPLOYEE PREPAREDNESS

The basis of any effective response is employees' ability to anticipate the needs of Owners, job sites, and personnel during a potential weather event.

Encourage all employees to make their own personal preparedness plan to protect their family and personal property. Offer training and other informational resources to educate employees on safety practices for storms and hurricanes. This proactive approach ensures employees will be ready, willing, and able to assist Owners and job sites with storm preparations when needed.

If treacherous conditions arise, encourage employees who are leaving the job site to:

- Ensure their vehicle is full of fuel.
- Charge their cellphone or other communication devices.
- Bring their laptop power cord with them when leaving the office.
- Bring any external hard drives, flash drives, etc. with them when leaving the office.
- Bring their MiFi card and charger cable with them when leaving the office (if applicable).

BASIC WEATHER MONITORING

Basic weather monitoring is a best practice on every job site and should be part of the project team's daily responsibilities. Every project team should check incoming weather before work begins and continue to monitor the forecast throughout the day. Teams who consistently monitor the weather are more able to adjust their work when adverse conditions arise and keep workers safe.

SCHEDULING

When beginning any construction project, first approach the Owner and highlight areas where the proposed schedule or scope overlaps with typical periods of adverse weather, such as hurricane season. If proposed construction activities overlap with hurricane season, communicate this potential challenge to all stakeholders and ensure the job site guidelines address weather monitoring practices.

ALLOCATING FUNDS

Before starting construction, determine what a job site will need in the event of adverse weather. For example, high winds from an incoming hurricane may require the project team to cover windows and dismantle and re-erect scaffolding. Bring these potential needs to the Owner and suggest allocating money for these activities and any required materials before they are needed. The Owner may choose not to include funds for these activities, but proactively addressing potential issues increases the likelihood a project team will be prepared.

PROCURING MATERIAL EARLY

Weather is unreliable and can change dramatically without warning. Rather than waiting until a thunderstorm, tropical storm, or hurricane is nearby and materials are more in demand and expensive, procure any materials required to secure a job site early. Procuring materials like plywood, sandbags, and plastic sheeting as far in advance of adverse weather as possible also ensures the project team can tailor the materials to the job site.

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MAINTENANCE CHECKS AND TESTS

Before weather events occur, evaluate the job site to determine whether any back-up equipment or emergency systems need repairs. Identify what the facility needs to withstand high winds and potential flooding conditions and take precautionary measures to avoid damage to the job site. For example, the project team should check the following facilities before potential flooding conditions:

- Roof drainage system
- Pumps
- Flood gates and doors.



Images: Examples of flood doors installed to protect facilities from flooding conditions.

HURRICANE PREPAREDNESS

Project sites located near the Gulf Coast are under constant threat from hurricane-like conditions. Good construction companies will issue a hurricane procedure manual and hurricane preparedness plan every year with the latest information on how to combat hazardous weather conditions. Once issued, implement the plan on every job site and discuss it weekly with the Owner to address risks and put reactive actions in place.

Additionally, the management team should review the plan at the beginning, middle, and end of the hurricane season, and they should adjust the plan according to the status of construction. Read on for an explanation of some basic topics covered in a good hurricane preparedness plan.

EMERGENCY CONTACT LIST

Provide employees with a detailed project directory containing emergency contact information for all essential members of the project team. The project directory should include the company name, the company representative's name, an office number, and a cellphone number. It should also include contact information for:

- Lumber suppliers
- Equipment rental suppliers
- Fuel suppliers.

NECESSARY SUPPLIES

Project leadership is responsible for procuring and maintaining a store of the items required to protect equipment and supplies for the job site. These items include, but are not limited to:

- Rope
- Battery-powered flashlights
- Extra batteries
- First aid kits
- Plastic sheeting
- Multiple rolls of duct tape
- Wire and banding materials
- Cordless drill/driver
- Tool kit (wrenches, pry bar, pliers, vice grip, screwdrivers, hacksaw, etc.)
- Rain suits, rubber boots, and gloves
- PPE equipment (hard hats, safety glasses, etc.)
- Material to cover dumpsters (chain link, chicken wire, etc.)
- Mosquito repellant
- Hand sanitizer
- Anti-bacterial soap.

The project team should store these items in dedicated containers that are easily accessible. Project leadership is also responsible for obtaining other emergency equipment and supplies, such as:

- Lumber (plywood)
- Generator(s)
- Extra fuel
- Water containers
- Gas cans
- Pumps.

SAMPLE HURRICANE PREPAREDNESS PLAN

Below is an excerpt from a sample hurricane preparedness plan addressing steps to take in the event a hurricane becomes a threat to a job site. Use this excerpt as an example or reference when creating a site-specific hurricane preparedness plan.

1. Update the project directory with emergency contact information. Complete this process at the beginning of hurricane season and again when tropical storm or hurricane paths project an entry into the job site's area.
 - a. The labor coordinator should gather phone numbers and shelter information for all workers.
 - b. Encourage trade contractors to gather phone numbers for their workers as well.
2. Monitor hurricane tracking charts for the path of the storm.
3. Make sure all project personnel know the job site evacuation route (obtain maps, if possible).

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4. Ensure each job site is equipped with a battery-powered AM radio and a radio that strictly monitors weather information.
5. The field coordinator should determine whether the Owner requires any special preparation measures. Review requirements with the communications coordinator.
6. The field coordinator should determine what areas of the project may be prone to flooding so the project team can plan extra precautions.
7. The field coordinator should identify local vendors in case extra material is needed (plywood, plastic sheeting, etc.). In less populated areas, more than one vendor may be necessary.
8. The plan coordinator should review the builder's risk policy for the project.

CONCLUSION

When it comes to adverse weather conditions, preparation is critical to protect both the job site and construction personnel. Take time in advance to identify how changing the site conditions, the scope of work, and the schedule can reduce risk or enhance safety performance. Mitigating hazards early gives construction personnel the time they need to react in the face of eminent danger. Remember:

- Monitor the weather for every job site, especially during periods of historically adverse weather (hurricane season, etc.).
- Proactively allocate funds for materials needed in case of a storm or hurricane.
- Test building equipment and systems before adverse weather conditions arise.
- Routinely empty all dumpsters to mitigate debris hazards.
- Develop plans for preparing for and responding to storms and hurricanes before they occur.
- Ensure storm and hurricane plans stay up-to-date and include site-specific considerations.



Images: Vaughn responds to significant flooding in Houston during Hurricane Harvey

ABOUT VAUGHN CONSTRUCTION

Vaughn Construction is a Texas-based construction company that specializes in new construction, renovations and additions to civic, health-care, education and research facilities. The privately-held company has offices in Austin, Bryan/College Station, Dallas/Fort Worth, El Paso, Houston, Lubbock, San Antonio, and the Texas Medical Center (Houston).

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