NAC Executive Insights

Safety Insight:
Structurally Compromised or High-Risk Zones

Key Points

- Assume the site can fail again.
- Fresh dust or falling debris means get out.
- If you didn’t place it, don’t touch it.
- Treat every wire and pipe as live.
- No entry without a spotter, comms, and an exit plan.

Introduction

Structurally compromised or high-risk zones present conditions that are fundamentally different from those found on routine construction sites. In these environments, visible damage is only part of the threat; hidden instability, shifting debris, compromised utilities, abandoned hazards, and the potential for secondary collapse can place workers at immediate risk. This Executive Insight sets the stage for the safety principles, field observations, and leadership considerations that follow by emphasizing the need for heightened awareness, disciplined decision-making, and a constant reassessment of changing conditions before any work begins or continues.

Safety Moment: The "Second Collapse" & Hidden Hazards

The focus of this Safety Insight is Structural Integrity, Unexploded Ordnance (UXO) (covered more fully in a separate Safety Insight in this series) and Abandoned Hazards.

These environments require a Shift in Mindset. On a normal site, the ground is stable and the walls are engineered to stand. Now, we are working in an environment that has already failed once. We aren't just building; we are navigating a site that is actively trying to settle or shift.

The Core Lesson in such a setting is to follow the "Stop-Look-Listen" Protocol. In post-disaster or conflict settings it is essential to use the Dynamic Stability Check. This check includes:

- The "Silent" Shift: Before entering a damaged structure, look for "new" dust or falling mortar. This is the first sign of a secondary collapse. If you see fresh debris that wasn't there an hour ago, evacuate immediately.
- The UXO/Hazard Rule: In conflict zones or sites with heavy debris, "If you didn't drop it, don't pick it up." Unknown canisters, sealed pipes, or unusual metallic objects must be flagged and cordoned off.
- Void Spaces: Never enter a "void" in a collapsed structure without a secondary spotter and a confirmed shoring plan. Piles of rubble act like fluid; moving one piece can cause a "flow" of debris above you.

Let's look at a real-world application specific to a post-disaster situation:

- Utility Ghosting: Just because the grid is down doesn't mean a line is dead. Assume every wire is energized (potentially by back-fed generators) and every pipe is pressurized with gas or contaminated water.
- Respiratory Threats: Post-disaster dust isn't just "dirt." It contains pulverized concrete (silica), asbestos, lead paint, and biological hazards. If the "mask-off" zone isn't clearly marked, keep your respirator on.

A Team Exercise

Have everyone take 30 seconds to look at a nearby debris pile. Without moving toward it, identify one object that looks out of place or potentially unstable. Point it out to the person next to you.

Key Considerations for the Construction Leader

- Psychological Readiness: Acknowledge that working in these settings is emotionally taxing. Remind the team that "rushing to help" is where most secondary accidents happen.
- Communication: In these zones, cell service is often spotty. Ensure every sub-team has a whistle or a backup radio and a confirmed "emergency rally point" that is in an open, clear space.

For Further Reading – Other Safety Insights

- Unexploded Ordnance (UXO) Awareness
- Booby Trap & IED Recognition
- Environmental & Chemical Hazards
- Biological Risks & Urban Pathogens
- Mental Operational Readiness

About the Author

Bob Prieto was elected to the National Academy of Construction in 2011. He is a senior executive who is effective in shaping and executing business strategy and a recognized leader within the infrastructure, engineering, and construction industries. Bob received

the 2024 ASCE OPAL Award (Outstanding Projects and Leaders) for his Outstanding Lifetime Achievement in Management.

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POST-DISASTER/CONFLICT: STRUCTURAL ENTRY CHECKLIST

Project/Site ID: _____ | Date/Time: _____
Team Lead: _____ | Safety Officer: _____

STRUCTURAL STABILITY ASSESSMENT
High-risk indicators. A "NO" in this section requires immediate shoring or stabilization before entry.

Checklist Item | YES | NO | N/A |

Plumb & Square: Are load-bearing walls/columns free of "V" or "X" cracks?
Overhead Hazards: Is the ceiling/roof free of sagging, "pancaking," or loose debris?
Facade Integrity: Are exterior veneers, glass, and signage secured from falling?
Foundation/Ground: Is the soil stable (no scouring, sinkholes, or active shifting)?
Secondary Risks: Is the structure clear of leaning adjacent buildings/trees?

ENVIRONMENTAL & TACTICAL HAZARDS
Specific to conflict and disaster zones. All hazards must be mitigated prior to "GO" status.

Checklist Item | YES | NO | N/A |

Utilities: Have electrical, gas, and water lines been verified as "LOTO" or "Dead"?
UXO/IED: Is the entry/path free of unknown metallic objects or "out of place" wires?
Air Quality: Is the site free of heavy dust, smoke, or chemical odors?
Respiratory: Does the entire team have fitted P100/N95 masks available?
HazMat: Are there visible signs of asbestos, lead, or biological waste?

TEAM LOGISTICS & COMMUNCATIONS
Operational readiness for extraction and safety.

Checklist Item | YES | NO |

Buddy System: Is every person paired with a designated partner?
Comms Check: Are radios/whistles audible from the deepest point of entry?
Egress: Is a secondary emergency exit identified and cleared of debris?
Illumination: Does every member have a primary and secondary light source?
Extraction: Is a medical/evacuation vehicle on-site and ready for departure?

FINAL MISSION DECISION

[ ] GO: All critical safety measures are met. Entry is approved.
[ ] NO-GO: Conditions are unstable. Entry is denied.
Entry Duration Limit: _____ Minutes

Rally Point: _____

Lead Signature: _____ Date: _____

FIELD OPERATING NOTES:

- **The "Listen" Rule:** If the building "groans," "pops," or "creaks," **EVACUATE IMMEDIATELY.**
- **The "Touch" Rule:** Do not touch or move debris that appears to be supporting other weight (key-stone debris).
- **The "Vigilance" Rule:** In conflict settings, keep a 360-degree watch for external security shifts while the team is inside.