Building a Culture of Safety

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One of the most significant issues facing design professionals involved in construction projects is how to keep workers safe at jobsites. Understanding site safety exposures and how design professionals can appropriately manage their risk and protect the public adds value to workplace safety culture.
Learning Objectives

Gain a general understanding of relevant jobsite safety problems and the risks they pose to site personnel and the public

Learn how liability can flow to different project participants

Review case studies about what to do and what not to do when protecting your own employees and the welfare of others

Consider suggestions for workplace safety policy implementation
Jobsite Safety
General Statistics

Bureau of Labor Statistics

4836 workers killed in 2015
93/week

937 in private construction
13/day
Construction Statistics

- Falls
- Struck by Object
- Electrocutions
- Caught-In/Between

Fatal Four
OSHA Standards Most Frequently Violated

#1 – Fall Protection – 6,929 citations
Construction Industry

#3 – Scaffolding – 3,906 citations
Construction Industry

#7 – Ladders – 2,639 citations
Construction Industry
Example – Residential Roof Trusses

Bracket Scaffold

Ladders
Scaffold Safety

Must be equipped with guardrails, midrails and toe boards
Scaffold Safety

Sound, rigid and sufficient to carry its own weight plus 4x the max intended load without settling or displacement

Erected on solid footing

Unstable or loose objects can’t be used as support

Must not be erected, moved, dismantled, or altered except under the supervision of a competent person

Damaged or weakened accessories must be immediately repaired or replaced

Scaffold platforms must be tightly planked with scaffold plank grade material or equivalent.

A “competent person” must inspect at designated intervals

Scaffolds must be at least 10 feet from electric power lines at all times

Ladder Safety

Use the correct ladder for the task

Visually inspect a ladder before use for any defects

Make sure that ladders are long enough to safely reach the work area

Mark or tag (“Do Not Use”) damaged or defective ladders for repair or replacement, or destroy them immediately

Never load ladders beyond the maximum intended load or beyond the manufacturer’s rated capacity (user + materials/tools)

Avoid using ladders with metallic components near electrical work and overhead power lines
A person who weighs 200 pounds and falls just 6 feet will hit the ground with almost 10,000 pounds of force.

Once you start falling, you will stop only when you hit a lower surface.

As you fall, gravity pulls you down and your speed quickly increases. That means your impact force increases too.

In that time you fall 4 feet.

The average person’s reaction time is half a second.
Liability
Liability

Owner

Contractor

Design Professional
Owner Liability

Owner

Contractor

Design Professional
Contractor Liability

Contractor

Owner

Design Professional
Design Professional Liability

Owner

Contractor

Design Professional
“Engineer shall not at any time supervise, direct, control, or have authority over any contractor work, nor shall Engineer have authority over or be responsible for means, methods, techniques, sequences, or procedures of construction selected or used by any contractor, for safety precautions and programs incident thereto, for security or safety at the Site, nor for any failure of a contractor to comply with Laws and Regulations applicable to such contractor’s furnishing and performing of its work.”

EJCDC E-500 (2014)
Contract Language

The Architect shall advise and consult with the Owner during the Construction Phase Services.
The Architect shall have authority to act on behalf of the Owner only to the extent provided in this Agreement.
The Architect shall not have control over, charge of, or responsibility for the construction means, methods, techniques, sequences, or procedures, or for the safety precautions and programs in connection with the work, nor shall the Architect be responsible for the Contractor’s failure to perform the Work in accordance with the requirements of the Contract Documents.
The Architect shall be responsible for the Architect’s negligent acts or omissions, but shall not have control over or charge of, and shall not be responsible for, acts or omissions of the Contractor or of any other persons or entities performing portions of the work.

• AIA B101-2017, Section 3.6.1.2
Construction Observation

- Designate a point person
- Participate in safety training
- Use clear contract language
- Recognize duty to protect the public in “imminent danger”
Case Studies
Engineer has a **legal duty** to exercise reasonable care for the safety of workers on a construction site when the engineer has a *contractual responsibility* for the progress of the work, *but not for safety conditions*, yet is aware of working conditions on the construction site that create a risk of serious injury to workers.

If you see something that’s an imminent danger, it creates a duty to act.
Herczeg v Hampton Transportation Municipal Authority

• “We reject any notion that a duty arises solely upon an engineer’s actual knowledge of dangerous conditions.

• If someone is under no legal duty to act, it matters not whether that person is actually aware of a dangerous condition.

• Conversely, if someone by contract or course of conduct has undertaken the responsibility for worker safety, that person may still be liable even in the absence of actual knowledge of the dangerous condition if they should have known of the condition.”
“If the architect knew, or in the exercise of reasonable care should have known, that the shoring was unsafe, they had the **contractual right and corresponding duty** to stop work until the unsafe condition was remedied.”
Hunt Construction Group v Garrett

Contract Wording  Actions on Site  Duty of Care
Practical Tips

Contracts
- Clear scope of services
- No responsibility to inspect work for safety concerns or control/direct the means and methods
- No right or duty to stop work

On Site Actions
- Selectively choose meetings
- Don’t direct contractor on how to do their job
- Report safety concerns to party in charge and follow-up with documentation

Documentation & Records
- Keep and maintain detailed records
- Contract, notes, correspondence, field logs, etc.
Workplace Policies
Safety Culture & Operational Excellence (OPEX)

- **Reactive**: Safety culture is not established and risk management is reactive to events rather than proactive.
- **Dependent**: Safety culture is partially established and risk management is present at enterprise level.
- **Independent**: Safety culture is mostly established and risk management present throughout the company.
- **Teamwork**: Safety culture is established and risk management drives proactive initiatives throughout the company.

**OSHA Rate**
- **High**: Leadership Driven
- **Low**: Workforce Engagement

**Time**

**Shift in Attitudes and Beliefs of the Company**

**DuPont Bradley Value Curve™**

Credit to Carl Johansen – Consolidated Edison Company
Lessons Learned

- Know and follow the rules
- Know and respect who's in charge
- Train your employees

Field Safety
- Site Maneuvering

Office Safety
- Ergonomics
Hearts and Minds

Pathological
Who cares as long as we’re not caught

Reactive
Safety is important, we do a lot every time we have an accident

Calculative
We have systems in place to manage all hazards

Proactive
We work on problems that we still find

Generative
HSE is how we do business

Increasingly informed

Increasing trust & accountability
Return to Work - Employer

- Decreased workers compensation insurance costs
- Stoppage of lost time with an offer of a reasonable light duty assignment
- Lower experience modification factor may result in more business opportunities
- Increased employee morale
- Diminished chance of recurring injury or illness
- Cost savings not having to recruit, hire, and train replacements
- Improved productivity
Return to Work Benefits - Employee

Job Security  Enhanced Recovery

Doctor  Insurance Company
Employer Representative  Employee
Resources

National Association of Home Builders – Fall Protection Toolkit

OSHA Construction Standards and Resources
• https://www.osha.gov/SLTC/fallprotection/construction.html

OSHA Small Business Handbook
• https://www.osha.gov/Publications/smallbusiness/small-business.html

OSHA Guide for Fall Protection in Residential Construction
• https://www.osha.gov/doc/guidance.html
Thank you for your time!

QUESTIONS??

This concludes The American Institute of Architects
Continuing Education Systems Program

Alayne McDonald, Professional Development Coordinator
Alayne.McDonald@rlicorp.com

Abbey Johnson, Client Solutions Manager
Abbey.Johnson@rlicorp.com