



# Job Site Safety

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DIFFERENT WORKS

RLI Design Professionals  
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# Course Description

When you are at a job site, your **first and foremost duty** is to **protect the health, safety, and welfare** of yourself, your employees, your consultants, and the general public. This course will cause you to think about the job you have to do, but to also **be aware** of everything that is going on around the project. **Understanding** all the **exposures** on a job site will help you complete your part of the project **safely** and without **costly delays**.

# Learning Objectives

## Participants in this session will:

- Find out what the leading causes of construction deaths are, how they fit into OSHA's top 10 violations, and means to avoid them for preservation of the community at large.
- Learn what to look out for on a job site to protect yourselves, your staff, your company overall, and the health, safety, and welfare of the general public.
- Discover what types of accidents are occurring and how to prevent them.
- Explore mistakes design professionals can make when they observe an unsafe condition and steps to consider to protect the health, safety, and welfare of the general public and your company.

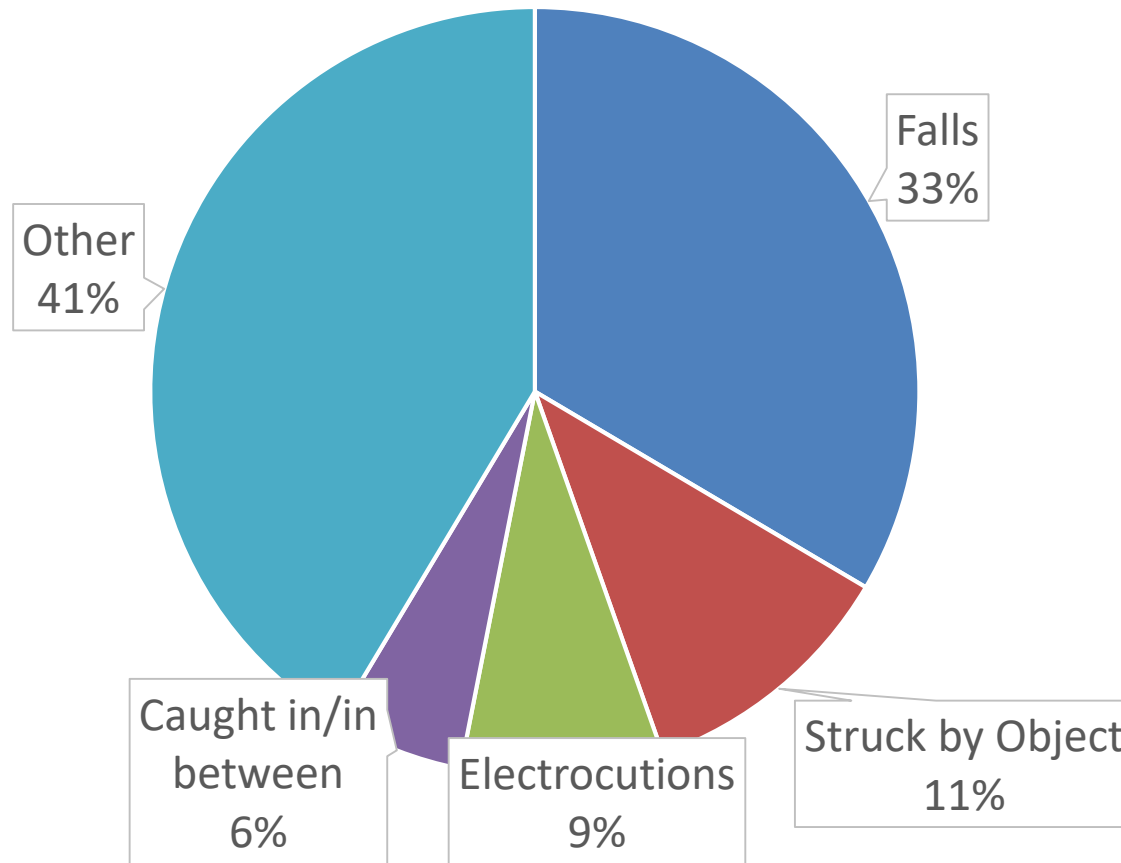
# Fatal Work Injuries by Industry, 2018

Industry	Fatal Work Injuries	Fatal Injury Rate (per 100,000 FTE)
Construction	1008	9.5
Transportation and warehousing	874	14.0
Professional and business services	585	3.3
Agriculture, forestry, fishing and hunting	574	23.4
Government	471	1.8
Manufacturing	343	2.2
Retail trade	274	1.9
Leisure and hospitality	253	2.2
Wholesale trade	202	5.3
Other services (exc. public admin)	195	2.6



# Leading Causes of Worker Deaths

## Fatal Four



# Top 10 OSHA Standards Violated: 1-5

1. Fall  
Protection

2. Hazard  
Communication

3. Scaffolding

4. Respiratory  
Protection

5. Control of  
hazardous  
energy



# Top 10 OSHA Standards Violated: 6-10

6. Ladders

7. Powered  
Industrial Trucks

8. Fall Protection—  
Training  
Requirements

9. Machinery and  
Machine Guarding

10. Eye and Face  
Protection

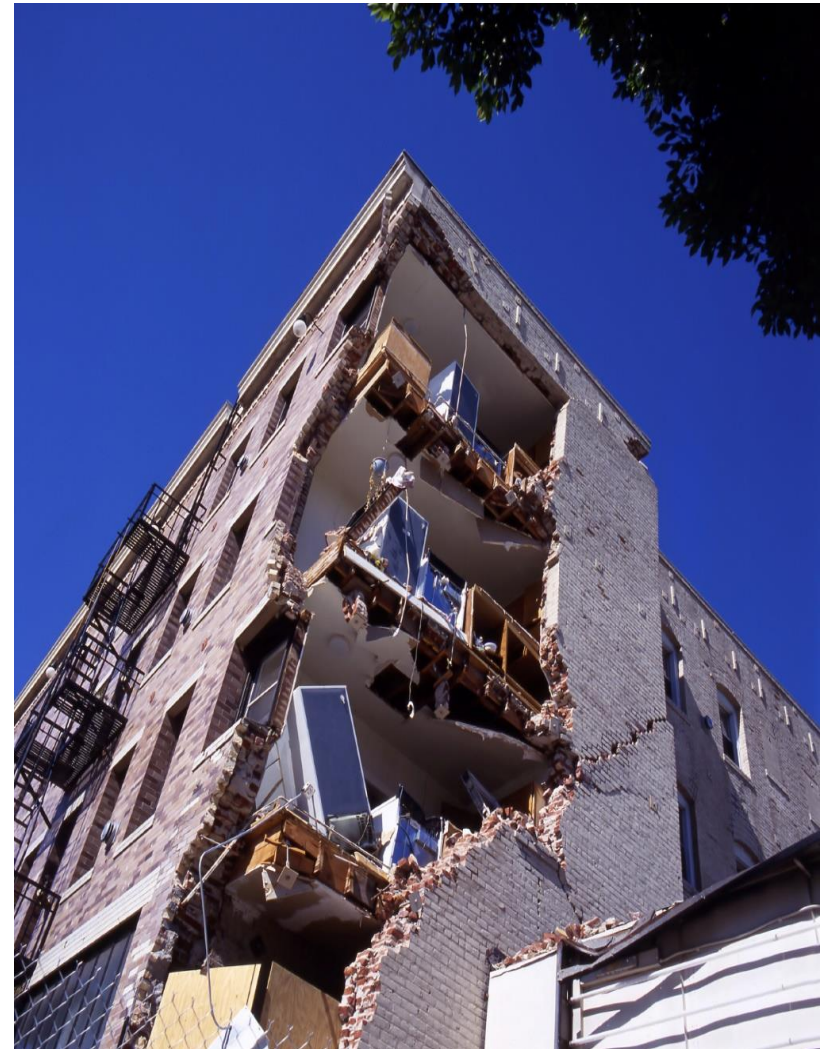
# Site Exposures

- Fall protection
- Scaffolds
- Personal protective equipment
- Earth moving equipment
- Electrical installations
- Excavation/Trenching
- Material handling
- Motor vehicles
- Hot or cold weather



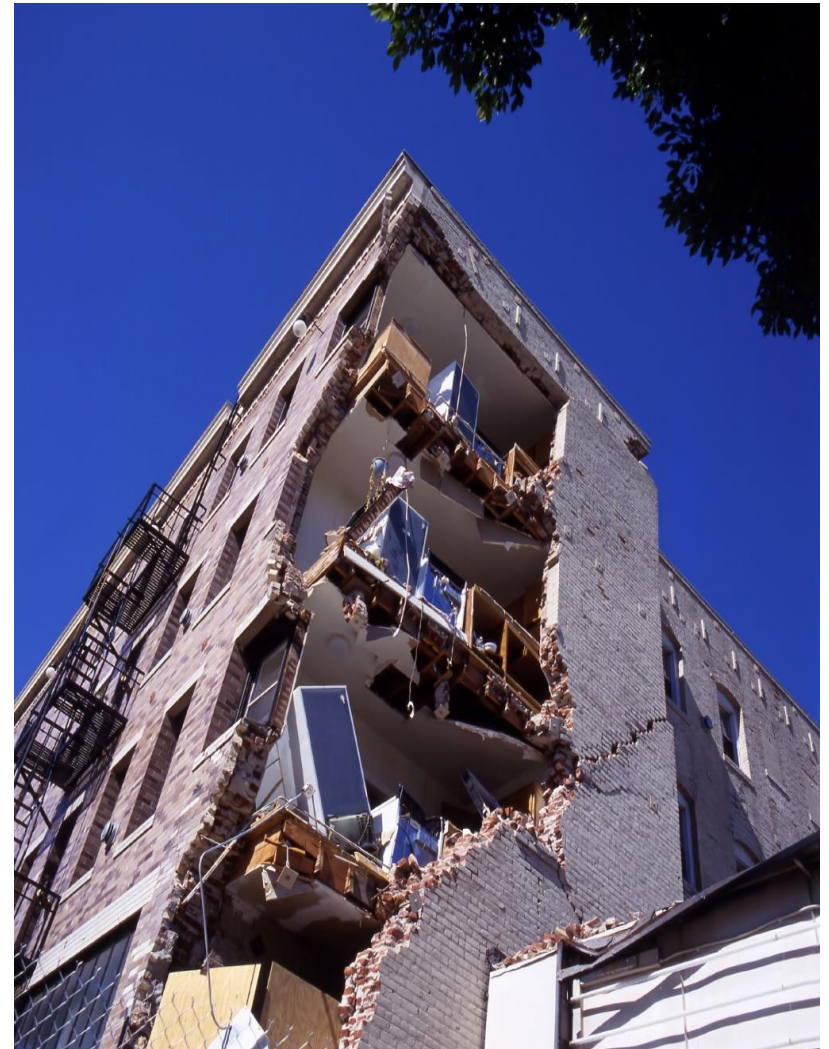
# Site Exposures

- Adjacent property
- Collapse
- Demolition
- Road construction



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# Site Exposures

- Blasting
- Cofferdams
- Concrete
- Confined spaces
- Cranes
- Dewatering
- Material storage
- Metal fumes
- Noise



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- Pile driving
- Public utilities
- Radiation
- Railroads
- Sanitation
- Shoring/bracing
- Site accessibility
- Specialized equipment





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# Preventing Accidents Outside the Office

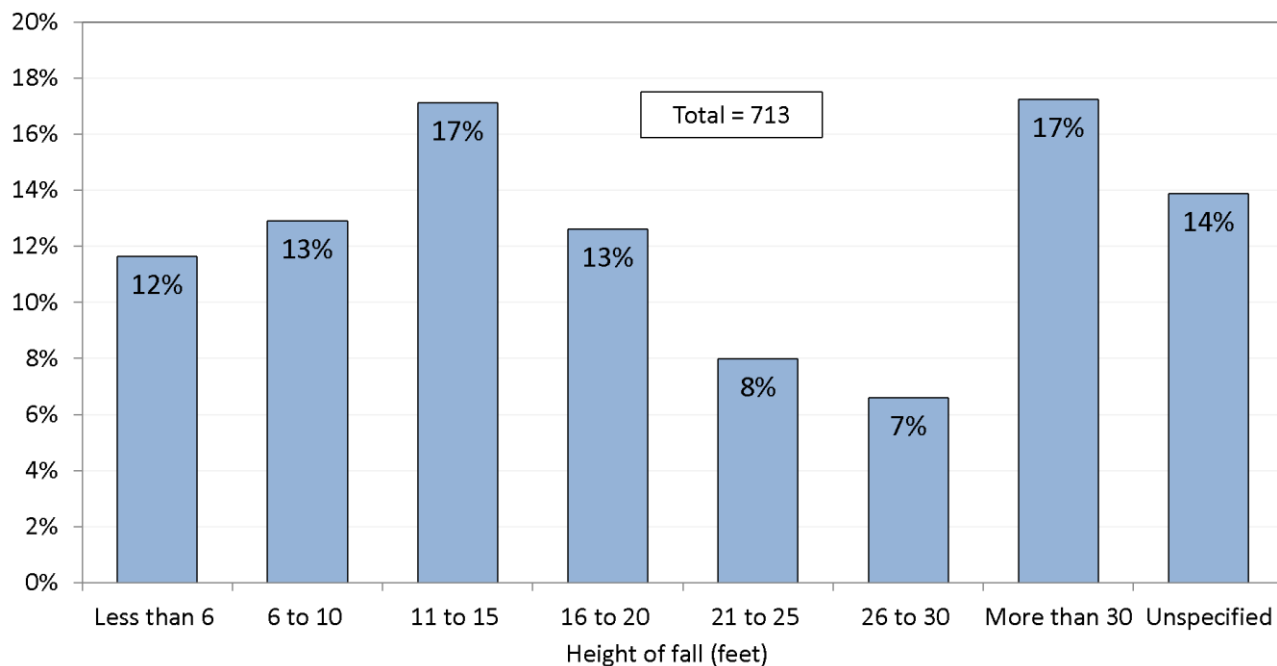
## The most frequent accident types for design professionals are:

- Stepping on or in;
- Material handling;
- Vehicle accidents;
- Cuts/lacerations;
- Slips, trips, & falls;
- Insect bites;
- Struck by object



# Preventing Injuries on a Project Site

Percent of fatal falls to lower level by height of fall, 2017



- A total of 713 work-related fatal falls to lower level were recorded in 2017, up 2 percent from 2016.
- Of the cases where height of fall was known (614 cases), 48 percent were falls of 15 feet or less.
- About one in five falls with a known height were from more than 30 feet.

Source: US Bureau of Labor Statistics 2018

# Preventing Injuries on a Project Site

## **Scaffolding** (from the OSHA Pocket Guide):

Scaffold must be sound, rigid and sufficient to carry its own weight plus four times the maximum intended load without settling or displacement. It must be erected on solid footing.

Unstable objects, such as barrels, boxes, loose bricks or concrete blocks must not be used to support scaffolds or planks.

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

Scaffold must be equipped with guardrails, midrails and toeboards.

# Preventing Injuries on a Project Site

## **Scaffolding** (from the OSHA Pocket Guide):

Scaffold accessories such as braces, brackets, trusses, screw legs or ladders that are damaged or weakened from any cause must be immediately repaired or replaced.

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

A “competent person” must inspect the scaffolding and, at designated intervals, reinspect it.

Rigging on suspension scaffolds must be inspected by a competent person before each shift and after any occurrence that could affect structural integrity to ensure that all connections are tight and that no damage to the rigging has occurred since its last use.

# Preventing Injuries on a Project Site

## **Scaffolding** (from the OSHA Pocket Guide):

Synthetic and natural rope used in suspension scaffolding must be protected from heat-producing sources.

Employees must be instructed about the hazards of using diagonal braces as fall protection.

Scaffold can be accessed by using ladders and stairwells.

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

# Preventing Injuries on a Project Site

## Ladder Safety (from the OSHA Pocket Guide):

Use the correct ladder for the task.

Have a competent person 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.





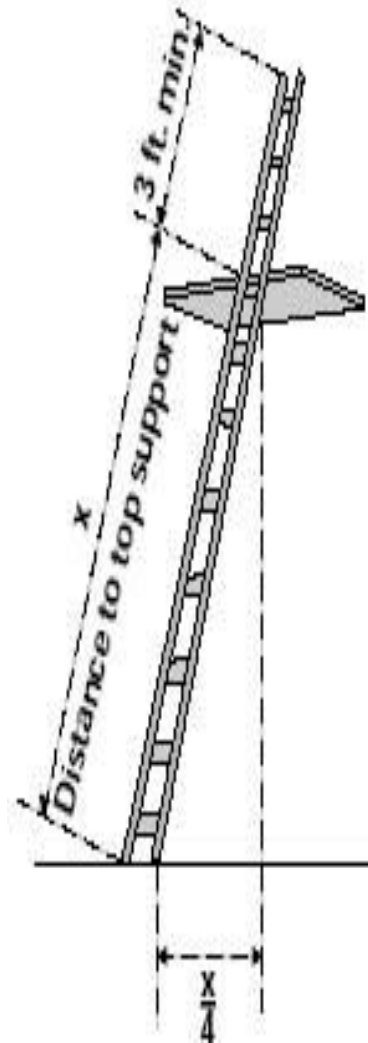
# Preventing Injuries on a Project Site

## Ladder Safety (from the OSHA Pocket Guide):

Never load ladders beyond the maximum intended load or beyond the manufacturer's rated capacity.

Be sure the load rating can support the weight of the user, including materials and tools.

Avoid using ladders with metallic components near electrical work and overhead power lines.



# Preventing Injuries on a Project Site

## **Hazard:**

Head injury

## **Solution:**

Wear hard hats where there is a potential for:

- objects falling from above,
- bumps to the head from fixed objects, or
- accidental head contact with electrical hazards.



# Preventing Injuries on a Project Site



# Preventing Injuries on a Project Site

## **Electrical Safety** (from the OSHA Pocket Guide):

Prohibit work on new and existing energized (hot) electrical circuits until all power is shut off and grounds are attached.

An effective Lockout/Tagout system must be in place.

Promptly replace frayed, damaged, or worn electrical cords or cables.

All extension cords must have grounding prongs.

# Preventing Injuries on a Project Site

## **Electrical Safety** (from the OSHA Pocket Guide):

Protect flexible cords and cables from damage. Sharp corners and projections should be avoided.

Use extension cord sets used with portable electric tools and appliances that are the three-wire type and designed for hard or extra-hard service. (Look for some of the following letters imprinted on the casing: S, ST, SO, STO.)

Maintain all electrical tools and equipment in safe condition, check them regularly for defects, and take them out of service if a defect is found.

Do not bypass any protective system or device designed to protect employees from contact with electrical energy.

# Preventing Injuries on a Project Site

## **Electrical Safety** (from the OSHA Pocket Guide):

Locate and identify all overhead electrical power lines.

Ensure that ladders, scaffolds, equipment or materials never come within 10 feet of electrical power lines.

All electrical tools must be properly grounded unless they are of the double insulated type.

Prohibit use of multiple plug adapters.



# Preventing Injuries on a Project Site

## **Trenching** (from the OSHA Pocket Guide)

Never enter an unprotected trench.

Always use a protective system for trenches 5 feet deep or greater.

Employ a registered professional engineer to design a protective system for trenches 20 feet deep or greater.

Implement Protective Systems: Sloping; Shoring; Shielding





# Preventing Injuries on a Project Site

## **Trenching** (from the OSHA Pocket Guide):

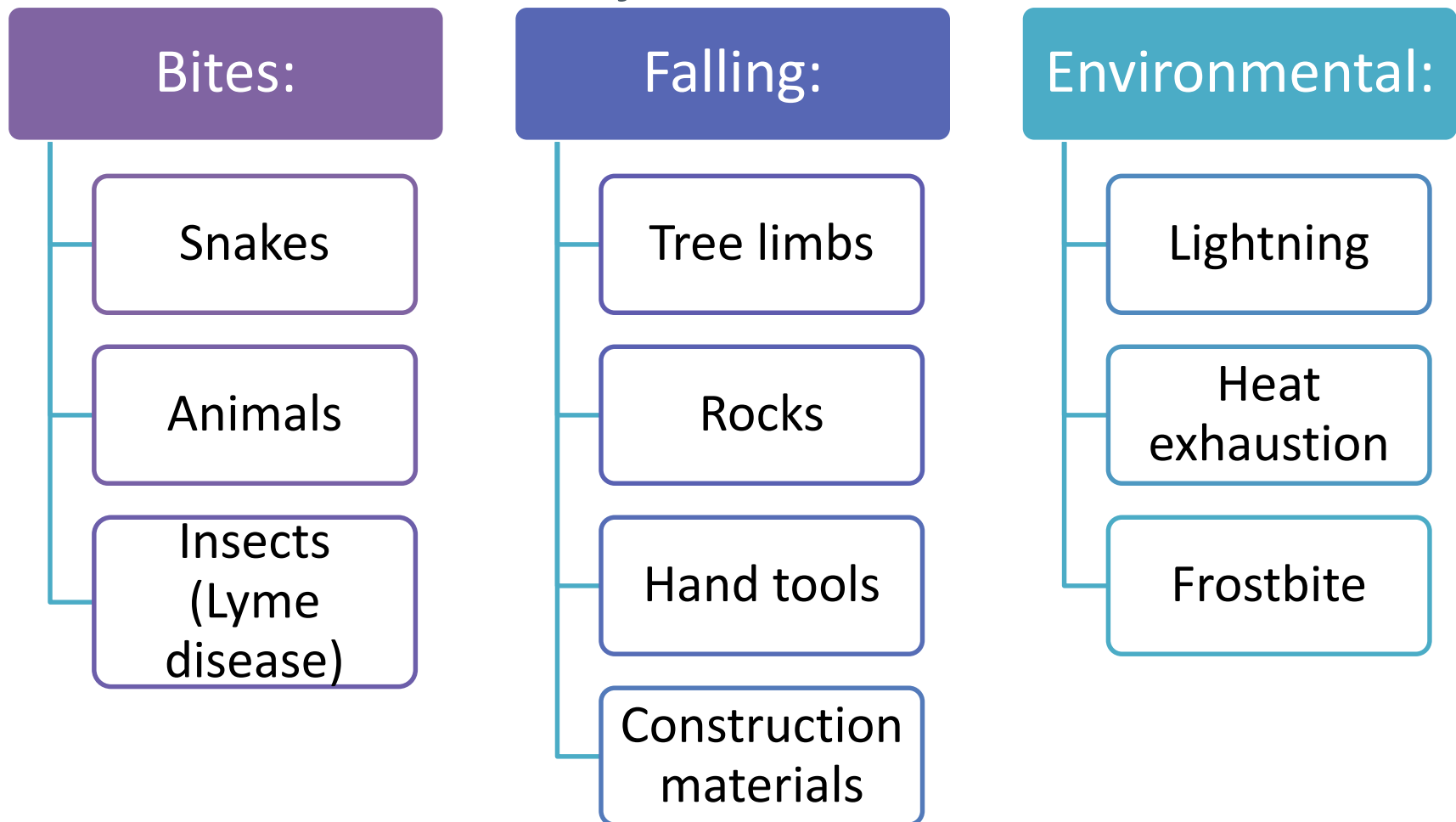
Always provide a way to exit a trench—such as a ladder, stairway or ramp--no more than 25 feet of lateral travel for employees in the trench.

Keep spoils at least two feet back from the edge of a trench.

Make sure that trenches are inspected by a competent person prior to entry and after any hazard-increasing event such as a rainstorm, vibrations or excessive surcharge loads.

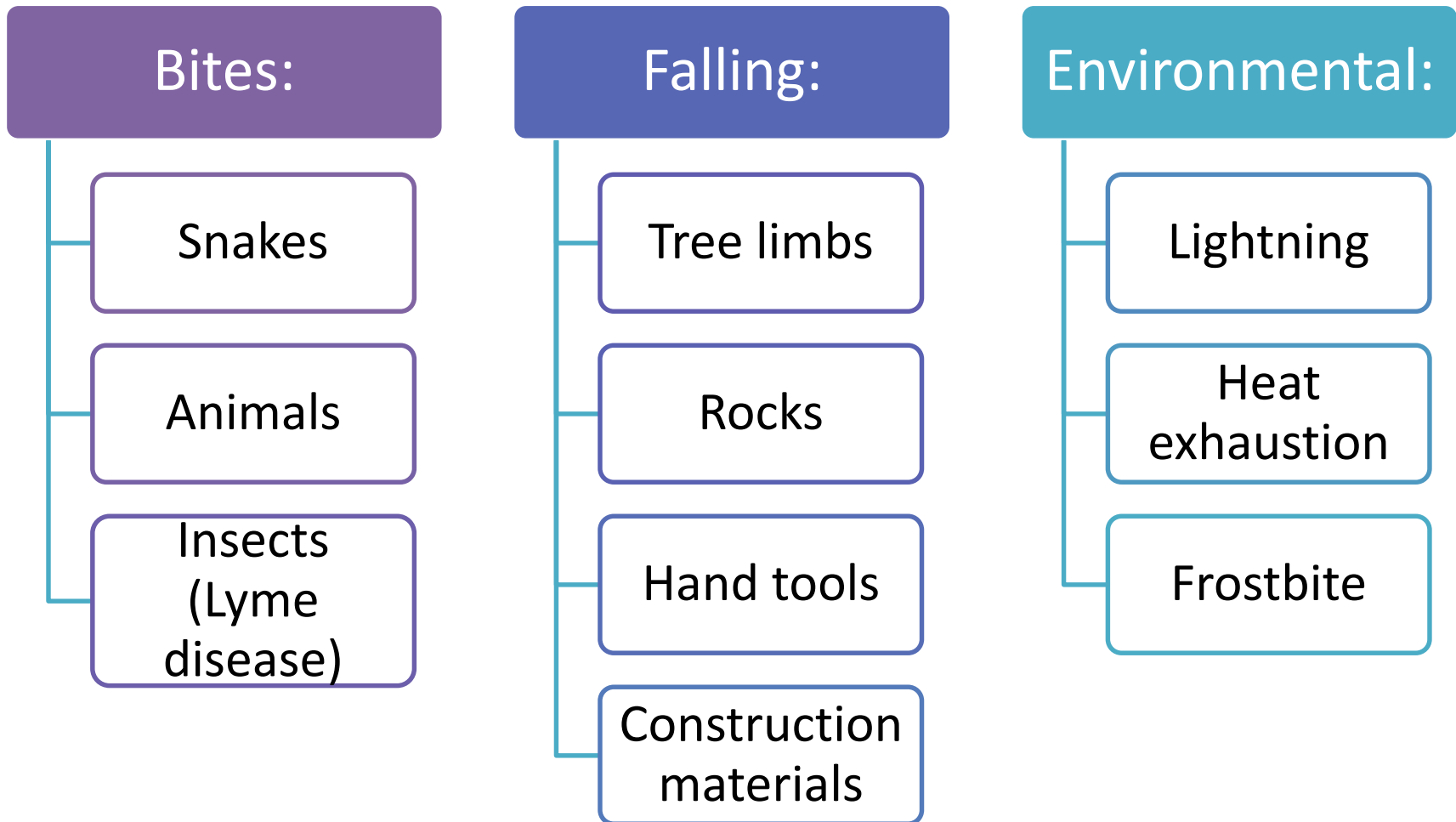
# Preventing Injuries on a Project Site

**Hazard:** common field injuries



# Preventing Injuries on a Project Site

**Hazard:** common field injuries



# Protecting Health, Safety, and Welfare



If you observe an **unsafe condition** on a construction site, what steps should you consider to protect the **health, safety, and welfare** of the public and your company, and... what **mistakes** may design professionals make in such circumstances?

# Protecting Health, Safety, and Welfare



Safety is generally not part of a consulting professional's contractual duties



Sole responsibility for safety of all individuals and property rests with contractor



Regardless of contractual safeguards, there is responsibility and potential liability for design professionals





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# Protecting Health, Safety, and Welfare

Give immediate verbal notification of the specific hazard to the contractor with overall safety responsibility.



Address only specific safety hazard posing an imminent risk of serious harm.



Do not give a recommended solution.



Thereafter, give written notification to the owner (client) with a copy to contractor.



Explain in writing that you do not have safety responsibility; this serious circumstance came to your attention and you are writing on a *one-time basis*.

# Court Cases

Secretary of Labor v. Simpson, Gumpertz & Heger, Inc.

Carvalho v. Toll Brothers Construction

Herczeg v. Hampton Township Municipal Authority  
and Bankson Engineers, Inc. (2001)

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# Contract Clauses

The Architect is not responsible for site safety nor construction means and methods.



AIA Document B101 §3.6.1.2



EJCDC Document E-500 6.01  
(I, J, & K)



# Contract Clauses

**§ 3.6.1.2 . . .**The Architect **shall not** have **control** over, **charge** of, or **responsibility** for the **construction means, methods, techniques, sequences or procedures**, or for **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*

# Contract Clauses

H. 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 the means, methods, techniques, sequences, or procedures of construction** selected or used by any contractor, or the **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 Document E-500 - 6.01*

# Contract Clauses

I. Engineer **neither guarantees the performance of any Contractor nor assumes responsibility for any Contractor's failure** to furnish and perform the Work in accordance with the Contract Documents.

*EJCDC Document E-500 - 6.01*

# Contract Clauses

K. Engineer **shall not** be responsible for **the acts or omissions of any Contractor, Subcontractor, or Supplier**, or of any of their agents or employees or of any other persons (except Engineer's own agents, employees and Subconsultants) at the Site or otherwise furnishing or performing any Work; or for **any decision made** regarding the **Contract Documents**, or any application, interpretation, or clarification, of the Contract Documents, **other than those made by Engineer**.

*EJCDC Document E-500 - 6.01*

# Conclusion

Recognize the hazard



Understand the hazard



Control or act on the hazard



Thank you for your time!

# QUESTIONS?

This concludes The American Institute of Architects  
Continuing Education Systems Program

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