

## INCIDENT FACTS

### REPORT #:

71-201-2020

### REPORT DATE:

November 3, 2020

### INCIDENT DATE:

July 21, 2014

### VICTIM:

31 years old

### INDUSTRY:

Structural steel and precast  
concrete contractors

### OCCUPATION:

Ironworker

### SCENE:

Roof deck of three-story  
college building under  
construction

### EVENT TYPE:

Fall



Plywood cover that failed. Circles indicate the two nails that secured the cover to the stem wall sill.

[For a slideshow version, click here.](#)



This narrative is an alert about the tragic loss of life of a worker and is based on preliminary data ONLY and does not represent final determinations regarding the nature of the incident or the cause of the fatality. Developed by WA State Fatality Assessment and Control Evaluation (FACE) Program and the Division of Occupational Safety and Health (DOSH), WA State Dept. of Labor & Industries. The FACE Program is supported in part by a grant from the National Institute for Occupational Safety and Health (NIOSH grant# 5U60OH008487). For more information visit [www.lni.wa.gov/safety-health/safety-research/ongoing-projects/work-related-fatalities-face](http://www.lni.wa.gov/safety-health/safety-research/ongoing-projects/work-related-fatalities-face).

## Ironworker Falls 42 Feet through Hole when Cover Fails

### SUMMARY

A 31-year-old journeyman ironworker died when he fell through a covered hole, landing on concrete 42 feet below.

The incident happened on the roof deck of a three-story college building under construction. The ironworker's employer was a structural steel and precast concrete contractor acting as a subcontractor on the project.

The ironworker and his journeyman coworker, assisted by an apprentice, were constructing a mechanical enclosure windwall structure to house a rooftop HVAC unit. Inside the windwall was a wooden form for a concrete stem wall to support an HVAC unit. They were installing windwall sections. The ironworker was welding angle brackets to support these sections while working from an extension ladder leaning against the inside of the windwall. His coworker asked him to get a clamp to support a bracket prior to it being welded. The ironworker then stepped sideways from the ladder onto the top of the wooden form and then jumped down from the 32-inch-high form onto a sheet of plywood covering an HVAC ducting hole. He landed with both feet on the cover, which had the word "HOLE" painted on it. The cover failed and he fell through the hole, landing on concrete 42 feet below.

Investigators determined that the general contractor had installed the cover. The 32-inch by 62-inch hole was covered by a 5/8-inch thick piece of 10-year-old worn plywood. The plywood was 48 inches by 60 inches and was secured on one side with two nails to the stem wall sill. This placement left a gap of one inch on each end and only two sides of the plywood supported. When the ironworker landed on the plywood, it buckled in the center.

### REQUIREMENTS

- Hole covers must be capable of supporting, without failure, at least twice the weight of employees, equipment, and materials that may be imposed on the cover at any one time.

See [WAC 296-880-40015\(1\)\(b\)](#)

- Holes must be guarded by one of the following fall restraint systems: 1) a standard guardrail or equivalent, 2) a cover, 3) a warning line system. See [WAC 296-880-20005\(3\)](#)
- It is the responsibility of management to establish, supervise, and enforce, in a manner which is effective in practice:

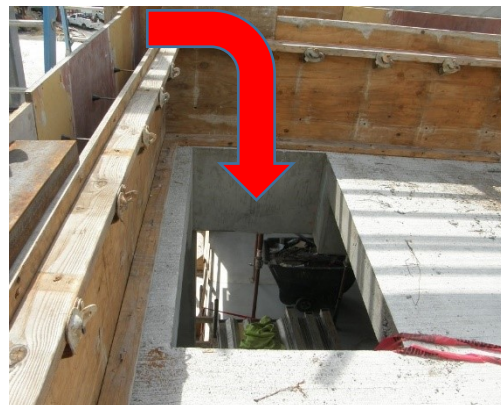
Training programs to improve the skill and competency of employees. In this instance:

- Recognize the hazard of falling into or through holes.
- How to select, place, and secure hole covers. See [WAC 296-155-100\(1\)](#)

### RECOMMENDATIONS

FACE investigators concluded that, to help prevent similar occurrences:

- Subcontractors should check hole covers to verify that the covers are adequate in strength and placement and report potential problems to the general contractor.
- Employers on multi-employer sites should use contract language that clearly defines the safety responsibilities of each contractor prior to initiation of work.



Incident scene on building roof deck showing the hole that the ironworker fell through when a plywood cover failed.