

# Scaffold Safety—6800-4.0

## Associated OHS Process: General Industry and Construction Safety

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## **1. Summary**

### **1.1 Objective**

The purpose of this Scaffold Safety Program is to provide policies and procedures in compliance with provisions set forth in OSHA's 29 CFR 1926.451, *Scaffolds*, to reduce the risk of physical injury or property damage associated with improper use of scaffolding systems.

Effective implementation of this Scaffold Safety Program requires this written program that is endorsed and advocated by the highest level of management within the University of Virginia (UVA) and outlines Facilities Management's (FM) goals and plans. This written program will be communicated to all required personnel.

### **1.2 Scope**

This program applies to all UVA FM employees who perform work from, erect or dismantle scaffolding systems. Elements of the Scaffold Safety Program include roles and responsibilities, training requirements, scaffold use and inspection requirements, and recordkeeping.

Contractor personnel operating on UVA property or projects are required to maintain their own Scaffold Program and be in compliance with Federal and State regulations.

## **2. Regulations & Other Requirements**

### **2.1 Occupational Safety & Health Administration (OSHA)**

This Scaffold Safety Program complies with the following OSHA standards:

- 29 CFR 1926 Subpart M Fall Protection
- 29 CFR 1926 Subpart L Scaffolds
- 29 CFR 1926.28 Personal Protective Equipment
- 29 CFR 1910.140 Personal Protective Equipment

### **2.2 University of Virginia**

This Scaffold Safety Program complies with UVA-FM requirements.

## **3. Roles and Responsibilities**

This program is a cooperative effort between FM-OHS and any FM departments using scaffolding systems. Specific responsibilities related to this Scaffold Safety Program are outlined below.

### **3.1 Facilities Management Occupational Health & Safety**

- a) Develop, administer, monitor effectiveness, and review this Scaffold Safety Program
- b) Coordinate with supervisors to provide Scaffold Safety Training
- c) Provide the general safety training requirements for the program
- d) Include visual inspection of scaffolds when conducting OHS site-visits and report findings to appropriate supervisor or Competent Person.
- e) Maintain training records and materials, program evaluation records, and a current copy of the written Scaffold Safety Program

### **3.2 Supervisors**

- a) Review and comply with the provisions outlined in this program

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- b) Ensure all employees are properly trained before working on scaffolds
- c) Ensure all employees have the appropriate personal protective equipment (PPE) prior to working on scaffolds
- d) Ensure employees are familiar with this Scaffold Safety Program
- e) Coordinate employee training with FM-OHS and certify that all required employees receive required training.
- f) Verify employee compliance with the principles and practices outlined in this Scaffold Safety Program
- g) Ensure scaffolds receive routine inspections by the manufacturer, authorized representative or Competent Person as required.
- h) Remove defective equipment from service until repairs are made by a qualified person
- i) Observe the use of scaffolds and correct unsafe practices

### 3.3 Competent Person

- a) Inspect scaffolding systems and surrounding areas at each shift before work may begin
- b) Inspect scaffolding systems and surrounding areas any time the system is altered, or an incident occurs to include any damage to scaffolding systems, surrounding areas, or foundations.
- c) Take prompt corrective action to eliminate hazardous conditions in the work area
- d) Oversee the erection and dismantling of scaffolding systems

### 3.4 Scaffold Users

- a) Follow the requirements stated in this program as part of an effort to foster a safe work environment for all parties involved
- b) Attend all required training
- c) Wear required personal protective equipment
- d) Report any unsafe conditions or hazards.

## 4. Scaffold Safety

### 4.1 General Scaffolding Requirements

All facilities and equipment owned by FM will be maintained in a safe manner. Certain work conditions may contain a reasonable probability of injury that can be prevented by supervision, proper maintenance, and an Emergency Action Plan (EAP) for each job. FM will do everything possible to ensure the safety of our employees. No employee will knowingly be subjected to a hazardous condition without all possible protective measure first being implemented.

### 4.2 Scaffold Manufacturers' Recommendations

To ensure safety, all scaffold manufacturers' recommendations for assembling and disassembling scaffolds shall be followed.

### 4.3 Fixed Scaffolding Safety

To ensure safety and serviceability, the following general precautions concerning the care and use of fixed scaffolding will be observed:

- a) **Footing and anchorage.** The footing and/or anchorage for scaffold will be sound, rigid, and capable of carrying the maximum intended load without settling or displacement. Unstable objects such as barrels, boxes, loose brick, or concrete blocks will not be used to support scaffolds or planks.

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- b) Scaffolds and their components will be capable of supporting without failure at least four times the maximum intended load.
- c) Scaffolds will be always maintained in a safe condition in accordance with the manufacturers' recommendations. Fixed scaffolds will not be altered or moved horizontally while they are in use or occupied.
- d) Any scaffold damaged or weakened from any cause will be immediately removed and discarded.
- e) Scaffolds will not be loaded more than the working load for which they are intended.
- f) All load carrying timber members of scaffold framing will be a minimum of 1,500 lb.-f/in<sup>2</sup> (Stress Grade) construction grade lumber.
- g) All planking will be Scaffold Grade as recognized by grading rules for the type of wood used. The scaffold manufacturers' recommendations will be followed.
- h) Nails or bolts used in the construction of scaffolds will be of adequate size and in sufficient numbers at each connection to develop the designed strength of the scaffold. Nails will not be subjected to a straight pull and will be driven full length.
- i) All planking or platforms will be overlapped (minimum 12 inches) or secured from movement.
- j) An access scaffold or equivalent safe access will be provided
- k) Scaffold planks will extend over their end supports not less than 6 inches not more than 18 inches.
- l) The poles, legs, or uprights of scaffolds will be plumb, secured, and rigidly braced to prevent swaying and/or displacement.
- m) Materials being hoisted onto a scaffold will have a tag line.
- n) Overhead protection will be provided for employees on a scaffold exposed to overhead hazards.
- o) Falling object protection must be provided anytime persons could potentially work or pass under the scaffolds.
- p) Employees will not work on scaffolds which are covered with ice or snow, unless all ice or snow is removed, and planking sanded to prevent slipping.
- q) Tools, materials, and debris will not be allowed to accumulate in quantities to cause a hazard.
- r) The use of shore scaffolds or lean-to scaffolds will not be used by UVA personnel.
- s) Lumber sizes, when used in this section, refer to nominal sizes except where otherwise stated.
- t) Supported scaffolds with a height to base width ratio, including outriggers, if used, of more than 4:1 shall be restrained from tipping by guying, tying, bracing or equivalent means.
- u) Special precautions will be taken to protect scaffold members, including any wire or fiber ropes, when using a heat-producing process.

#### 4.4 Mobile (Rolling) Scaffolding Safety

To ensure safety and serviceability, the following general precautions concerning the care and use of Scaffolding will be observed:

- a) **Working loads.** Work platforms and scaffolds will be capable of carrying the design load under varying circumstances, depending upon the conditions of use.
- b) The design load of all scaffolds will be calculated on the basis of:
  - Light-Designed and constructed to carry a working load of 25 pounds per square foot
  - Medium-Designed and constructed to carry a working load of 50 pounds per square foot
  - Heavy-Designed and constructed to carry a working load of 75 pounds per square foot
- c) Nails, bolts, or other fasteners used in the construction of ladders, scaffolds, and towers will be of adequate size and in sufficient numbers at each connection to develop the designed strength of the

unit. Nails will be driven full length. All nails should be immediately withdrawn from dismantled lumber.

- d) All exposed surfaces will be free from sharp edges, burrs, or other safety hazards.
- e) **Work levels.** The maximum work level height will not exceed four (4) times the minimum or least base dimensions of any mobile scaffold. Where the basic mobile unit does not meet this requirement, suitable outrigger frames will be employed to achieve this least base dimension, or provisions will be made to guy or brace the unit against tipping.
- f) The supporting structure for the work level will be rigidly braced, using adequate cross bracing or diagonal bracing with rigid platforms at each work level.
- g) The work level platform of scaffolds (towers) will be wood, aluminum, or plywood planking, steel, or expanded metal for the full width of the scaffold, except for necessary openings. Work platforms will be secured in place. All planking will be 2-inch (nominal) scaffold grade minimum 1,500 feet (stress grade) construction grade lumber or equivalent.
- h) All scaffold work levels 4 feet or higher above the working surface, will have a standard (4-inch nominal) toe board.
- i) For all work levels 4 feet or higher above the ground or floor, workers will have to use fall protection or will have a guardrail installed no less than 39 inches or more than 45 inches high, with a mid-rail (halfway between deck and top rail) when required. Guardrail shall withstand 200 pounds applied in a downward or horizontal direction.
- j) Wheels or casters will be inspected to ensure that they are provided with strength and dimension to support four (4) times the designed working load.
- k) All scaffold casters will be inspected to ensure that they are provided with a positive wheel and/or swivel lock to prevent movement.
- l) Where leveling of the elevated work platform is required, screw jacks or other suitable means for adjusting the height will be used.
- m) Adjusting screw jacks may not be extended more than 12 inches for mobile scaffolding and 18 inches for stationary scaffolding.
- n) Before moving the platform, secure all equipment and material.
- o) Casters or wheels must have a serviceable locking device.
- p) Be aware of overhead obstructions when moving scaffolds.
- q) Never run over electrical cords.
- r) Never pull scaffolds from the top; always push at base level.
- s) Work only from the platform area; never extend work beyond guardrails.

#### 4.5 Erecting of Scaffolding

Only trained and authorized employees of UVA will supervise the erection of scaffolding. Pertinent OSHA regulations, information, and guidance provided by the manufacturer of the scaffolding will be used. The following apply:

- a) Manufacturer's erection instructions will be followed.
- b) Planning considerations will be followed during the erection process.
- c) Only trained and authorized employees will supervise the erection of scaffolding.
- d) Each component will be visually inspected before use.
- e) Defective or unserviceable materials will not be used.
- f) Only approved lumber will be used.
- g) Consult with the Competent Person where any instructions are unclear.

## 4.6 Inspection of Scaffolding

### 4.6.1 Pre-Inspection of Erected Scaffolding

The three main areas of inspection are for rust, straightness of members, and welds. Only trained UVA employees will conduct the pre-inspection. Pertinent OSHA regulation, information, and guidance provided by the manufacturer of the scaffolding will be used. The following, as a minimum, apply:

- a) **Rust.** Heavily rusted scaffolding equipment is a possible sign of abuse or neglect. Severely rusted components should be thoroughly inspected and cleaned before approved for use.
- b) **Straightness of members.** Mishandling, trucking, and storing may cause damage to scaffolding equipment. All members or parts of all steel scaffolding components should be straight and free from bends, kinks, or dents.
- c) **Welds.** Scaffolding equipment should be checked before use for damaged welds. Any piece of equipment showing damaged welds or re-welding beyond the original factory weld should not be used. The factory weld reference pertains to location and quality of re-welds.
- d) Check serviceability of locking devices.
- e) Check alignment of coupling pins and braces.
- f) Check serviceability of caster brakes (rolling scaffolds).

### 4.6.2 Final Inspection of Erected Scaffolding

Only trained and selected competent employees of UVA will conduct the final inspection of erected scaffolding. Pertinent OSHA regulations, information, and guidance provided by the manufacturer of the scaffolding will be used. The following, as a minimum, apply:

- a) Check for proper support under every leg of every frame.
- b) Check for wash out (if outside) due to rain.
- c) Check to ensure all base plates or adjustment screws are in firm contact with supports.
- d) Check frames for plumbness and squareness in both directions.
- e) Check serviceability and correctness of all cross braces.
- f) Check to ensure that all planking and accessories are properly installed.
- g) Check to ensure that all guard rails are in place.
- h) Recheck before each work shift to ensure conditions remain safe.

## 4.7 Dismantling of Scaffolding

Only trained and authorized UVA employees will supervise the dismantling of scaffolding. Pertinent OSHA regulations, information, and guidance provided by the manufacturer of the scaffolding will be used. The following apply:

- a) Manufacturer's dismantling instructions will be followed.
- b) Relocation planning considerations will be considered during the dismantling process.
- c) Dismantling will be supervised by a Competent Person.
- d) Each component will be visually inspected after use.
- e) Defective or unserviceable materials will not be stored with serviceable materials.
- f) Components should not be dropped or thrown as this could result in damage to the equipment.
- g) Consult with the Competent Person when any instructions are unclear.

## 4.8 Training



Training will consist of two programs: **Scaffold User** and **Scaffold Competent Person**

- a) Scaffold User Training is a mandatory class for ALL FM personnel that perform work on scaffolding.
- b) Scaffold Competent Person is a mandatory class for all FM personnel who will be their zone or shops' Competent Person for scaffolding. Note: passing this class does not automatically make an FM employee a Competent Person.
- c) A training program will be provided for all employees who will be using scaffolding in the course of their duties. The training will include, but not be limited to:
  - A description of fall hazards in the work area or job site
  - Scaffolding access and egress procedures
  - Scaffolding equipment limitations
  - Inspection and storage procedures for the equipment
- d) For procedures using Fall Prevention and Protection Systems, see FM's Fall Protection Program, available on the FM-OHS website under programs.

#### 4.8.1 Initial Training

- a) Training will be conducted prior to job assignment.
- b) UVA will provide training to ensure that the purpose, function, and proper use of scaffolding is understood by employees and that the knowledge and skills required for safe application and usage is acquired by employees. This standard practice instruction will be provided to and read by all employees receiving training. The training will include, as a minimum, the following:
  - Types of scaffolding used by FM
  - Recognition of applicable fall hazards associated with the work to be completed and the locations of such
  - Load determination and balancing requirements
  - Safety precautions in the use of scaffolds
  - Equipment maintenance and inspection requirements
- c) All other employees whose work operations are, or may be, in an area where scaffolding may be utilized will be instructed at an awareness level concerning the associated hazards.

#### 4.8.2 Refresher Training

- a) This standard practice instruction will be provided to and read by all employees receiving refresher training.
- b) The training content will be identical to initial training.
- c) Refresher training will be conducted when the following conditions occur, whichever event occurs sooner:
  - A change in an employee's job assignment
  - A change in the type of scaffolding equipment used
  - A known hazard is added to the work environment which affects this program
  - A scaffolding safety procedure fails

- d) Additional retraining will also be conducted whenever a periodic inspection reveals, or whenever FM has reason to believe, that there are deviations from or inadequacies in the employee's knowledge or use of scaffolding equipment or procedures.
- e) The retraining will reestablish employee proficiency and introduce new or revised methods and procedures, as necessary.

#### **4.8.3 Certification**

FM supervisors and FM-OHS will certify that employee training has been completed and is kept up to date. The certification will contain each employee's name and dates of training.

#### **4.9 In-House Scaffolding Request**

Requests for scaffolds and related equipment should be directed first to [fmscaffold@virginia.edu](mailto:fmscaffold@virginia.edu). Follow-up, if necessary, can be directed to [fm-ohs@virginia.edu](mailto:fm-ohs@virginia.edu).

### **5. Review and Recordkeeping**

#### **5.1 Program Review**

This Scaffold Safety Program shall be reviewed and updated at least annually and whenever necessary to reflect changes in UVA FM policies or procedures, industry standards, or government regulations.

#### **5.2 Training Records**

FM-OHS will maintain Scaffold Safety Program training/attendance records.

#### **5.3 Program Recordkeeping**

Records of this Scaffold Safety Program will be considered obsolete when the new version is issued. Obsolete versions will be destroyed after three years.

## Appendix A: Definitions

**Competent Person** means a UVA employee who has passed the UVA Competent Person Scaffold Safety Training class, and is chosen by the Scaffold Safety Team and said employees' supervisor. A Competent person is capable of identifying existing and predictable hazards in the surroundings or working conditions which are unsanitary, hazardous, or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them.

**User** means a UVA employee that has passed the UVA User Scaffolding Safety Training class. Users cannot assemble or dismantle scaffolds without a competent person's supervision. All UVA employees who do ANY work from scaffolds must have passed this class.

**Qualified Person** means one who, by possession of a recognized degree, certificate, or professional standing, or who by extensive knowledge, training, and experience, has successfully demonstrated ability to solve or resolve problems related to the subject matter, the work, or the project.

**Emergency Action Plan** means a written document required by OSHA standards used to facilitate and organize employer and employee actions during workplace emergencies.

**Appendix B: Acronyms**

EAP	Emergency Action Plan
FM	Facilities Management
FM-OHS	Facilities Management Occupational Health & Safety
UVA	University of Virginia