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I. PURPOSE

Individuals exposed to scaffolding hazards include scaffold erectors and dismantlers, personnel working on or under scaffolds, and employees and the general public near scaffolding. Scaffold erectors and dismantlers are at particular risk, since they work on scaffolds before ladders, guardrails, platforms, planks, and fall arrest systems are completely installed.

This Policy establishes safety guidelines designed to protect all faculty, staff, and students who either work on scaffolding or are exposed to scaffolding hazards. This includes safe work practices for the erection, inspection, use of, and dismantling of scaffolds, hazard identification, training requirements, and regulatory compliance.

II. SCOPE AND APPLICATION

This Policy applies to any department on campus, remote research locations, or on leased property where any type of scaffolding use or activity could result in injury. Policy guidelines apply equally to Villanova University faculty, staff, contract employees or students who are required/requested to use scaffolding equipment, or must supervise persons erecting, dismantling or working on and around scaffolding.

III. DEFINITIONS

Brace: A tie that holds one scaffold member in a fixed position with respect to another member. Brace also means a rigid type of connection holding a scaffold to a building or structure.

Competent Person: One who through a combination of knowledge, experience and training 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 the authority to take prompt corrective measures to eliminate those hazards.

Coupler: A device for locking together the component tubes of a tube and coupler scaffold.

Harness: A design of straps which is secured about the person in a manner to distribute the arresting forces over at least the thighs, shoulders, and pelvis, with provisions for attaching a lanyard, lifeline, or deceleration device.

Maximum Intended Load: The total load of employee, equipment, tool, materials, transmitted wind, and other loads reasonably anticipated to be applied to a scaffold or scaffold component at any one time.
Mechanically Powered Hoist: A hoist which is powered by other than human energy.

Outriggers: The structural member of a supported scaffold used to increase the base width of a scaffold in order to provide greater stability for the scaffold.

Platform: The horizontal working surface of a scaffold.

Qualified Person: A person who by possession of a recognized degree, certificate or professional standing or who by extensive knowledge, training and experience, has successfully demonstrated his/her ability to solve or resolve problems related to the subject matter, the work, or the project.

Scaffold: Any temporary elevated platform and its necessary vertical, diagonal, and horizontal members used to support workers and materials (also known as a scaffold tower).

IV. POLICY

Scaffolds shall be erected, moved, dismantled, or altered only under the supervision of a Competent Person and will have guardrails and toe-boards installed. When scaffolding hazards exist that cannot be eliminated, then engineering practices, administrative practices, safe work practices, personal protective equipment (PPE), and proper training regarding scaffolds will be implemented to minimize those hazards to ensure the safety of employees and the public.

V. PROCEDURES

A. Roles and Responsibilities

It is the responsibility of each affected director, supervisor, and employee to ensure implementation of this policy. It is also the responsibility of each Villanova University employee to report immediately any unsafe act or condition to his or her supervisor. Specific responsibilities are listed below.

Owner/User Department

Designate at least two “Competent Persons” to oversee erecting, securing, and dismantling of scaffolds. The competent person must understand the rules and regulations as they pertain to the scaffold he/she oversees, as well as conduct scaffold inspections and manage daily activities involving scaffold use.

Department Chair/Director

Department Chairs/Directors will:

- Ensure adequate funds are available and budgeted for the purchase of scaffolds and required safety equipment in their areas.
- Identify the employees affected by this safety policy and procedure.
• Assure affected employees attend training.
• Ensure compliance with this safety policy and procedure.

**Supervisors**

Supervisors will:

• Allow only employees who have received the required training to perform any tasks/activities related to scaffold erection and/or dismantling.
• Communicate appropriate needs to Directors and/or other supervisors.
• Ensure that employees are provided with personal protective equipment (PPE) as necessary for their job.
• Ensure that a Competent Person is in charge of scaffold erection and dismantling according to the manufacturer’s specifications.

**Competent Person**

The Competent Person will:

• Oversee the scaffold selection, erection, use, movement, alteration, dismantling, maintenance, and inspection.
• Be knowledgeable about proper selection, care, and use of the fall protection equipment.
• Assess hazards related to scaffolding use.

The Competent Person must:

• Have specific training in and be knowledgeable about the structural integrity of scaffolds and the degree of maintenance needed to maintain them.
• Be able to evaluate the possible effects of occurrences such as a dropped load, or a truck backing into a support leg that could damage a scaffold.
• Be knowledgeable about the requirements of this policy.
• Assure that those working under a scaffold wear hard hats.

**Scaffolding Users**

Scaffolding users will:

• Comply with all applicable guidelines contained in this safety policy and procedure.
• Report damaged scaffolds, accessories, and missing or lost components.
• Assist with inspections as requested and will not work on a platform until it has been inspected by a Competent Person before every use.
• Wear hard hats while working on a scaffold.

**EH&S**

Environmental Health & Safety will:

• Provide prompt assistance to Directors, supervisors, or others as necessary on any matter concerning this safety policy and procedure.
• Develop or secure required training.
• Work with Procurement to ensure that all newly purchased scaffolds comply with current safety regulations and this safety policy and procedure.
• Provide consultative and audit assistance to ensure effective implementation of this safety policy and procedure.

Procurement:
The Procurement Department is responsible for ensuring that purchased scaffolds and related material and equipment meet or exceed current safety regulations.

B. Safe Scaffolding Use and Erection
Safe scaffold erection and use is important in minimizing and controlling the hazards associated with their use. Scaffold work practices and rules should be based on:
• Sound design
• Selecting the right scaffold for the job
• Assigning personnel
• Fall protection
• Guidelines for proper erection
• Guidelines for use
• Guidelines for alteration and dismantling
• Inspections
• Maintenance and storage

C. Types of Scaffolds
• Supported Scaffolding - Attachment 1
• Suspended Scaffolding – Villanova University employees are prohibited from using suspended scaffolds of any kind.
• Aerial Lifts – Attachment 2

D. Program Requirements and Procedures
Administrative Requirements
The user’s department is required to assure all employees who may use scaffolding attend training on the particular types of scaffolds which they are to use. Training should focus on proper erection, handling, use, inspection, and care of the scaffolds. Training must also include the installation of fall protection, guardrails, and the proper use and care of fall arrest equipment.

Operator Safe Work Practice
The footing or anchorage for scaffolds shall 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 shall not be used to support scaffolds or planks.
No scaffold shall be erected, moved, dismantled, or altered except under the supervision of Competent Persons or as requested for corrective reasons by Environmental Health and Safety.

Guardrails and toe-boards will comply with regulatory standards (See Scaffold Guardrail and Toe Board Assembly Checklist - Attachment 3.)

In areas where scaffolds are erected often the sidewalk is closed mandating pedestrians to cross the street, or walk under a protected covering.

**Hazard Evaluation and Control**

Scaffolds and Scaffold components shall be inspected for visible defects by a Competent Person before each work shift and after any occurrence which could affect a scaffold’s structural integrity as required by OSHA 29 CFR 1926.451(f)(3). Employees will be monitored for safe work practice by their supervisors and EH&S while using scaffolding.

**Training**

Affected employees will receive instruction on the particular types of scaffolds which they are to use. Training will focus on proper erection, handling, use, and care of the scaffolds. Training must also include the installation of fall protection and guardrails. Additional training regarding the proper use and care of fall arrest equipment will also be provided.

This training should be done before any assignment to use scaffolding. Retraining shall be done when job conditions change. Periodic refresher training shall be done at the discretion of the supervisor or Environmental Health and Safety.

University designated “Competent Person(s)” will receive additional training regarding the selection of scaffolds, recognition of site conditions, recognition of scaffold hazards, protection of exposed personnel and public, repair and replacement options, and requirements of standards.

The training is to be conducted by a person who:

- Is qualified in the subject matter.
- Can recognize hazards
- Understands the procedures to control or minimize the hazards

Training shall include:

1. The nature of any:
   - Electrical Hazards
   - Fall Hazards
   - Falling object hazards
2. The correct procedures for:
   - Dealing with electrical hazards
   - Erecting, maintaining, and disassembling fall protection systems.
   - Erecting, maintaining, and dismantling falling object protection systems.

3. The proper:
   - Use of the scaffold
   - Handling of materials on the scaffold

4. The maximum intended load and the load carrying capacity of the scaffold.
5. Any other pertinent parts of OSHA 29CFR 1926 Subpart L

A list of “Competent Persons” is maintained by the Office of Environmental Health and Safety.

Training shall include the following topics as applicable:
1. The nature of scaffold hazards.

2. The correct procedures for:
   - Scaffold erecting
   - Scaffold disassembling
   - Scaffold moving
   - Scaffold operating
   - Scaffold repairing
   - Scaffold maintaining

3. The design criteria, maximum intended capacity and the intended use of the scaffold.


Retraining Requirements:
Retraining of an employee is required when the employee lacks the skill or understanding needed for:
   - The safe erection of scaffold.
   - The safe disassembly of scaffolding.
   - The safe use of scaffolding. Training will be provided to the employee so the skills are regained. At a minimum retraining is also required in the following situations:
   - Where worksite changes present a hazard about which the employee has not been trained; or
• Where changes in the equipment, conditions, or process present a hazard about which the employee has not been trained; or
• Where the employee’s actions indicate he/she has forgotten what he/she has learned.

**Recordkeeping Requirements**
Owner Departments must keep records concerning scaffolding inspections and inventories. Environmental Health and Safety will maintain training records. All records must be kept for a minimum of 3 years. The records must be made available to regulatory agencies such as OSHA upon request.

**Inspection Requirements**
When in use, scaffolds and scaffold components shall be inspected for visible defects by a Competent Person before each work shift and after any occurrence which could affect a scaffold’s structural integrity. Inspections will be documented using a red/yellow/green tag system. Attachment 4.

VI. **Related Information**
Occupational Safety and Health Standards for General Industry 29 CFR1910 Subpart D
Occupational Safety and Health Standards for Construction 29 CFR1926 Subpart L

VII. **History**
Policy Effective: 10-6-17

VIII. **Responsible University Division Department**
Director, Environmental Health & Safety Department, 800 Lancaster Avenue
Villanova, PA 19085; 610-519-7838

IX. **Responsible Administrative Oversight**
Vice President, Facilities Management Office, 800 Lancaster Avenue
Villanova, PA 19085; 610-519-4589
## ATTACHMENT 1

### Supported Scaffolding – supported scaffolds used by VU

<table>
<thead>
<tr>
<th>Scaffold Type</th>
<th>Diagram</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adjustable Scaffold</td>
<td><img src="image" alt="Adjustable Scaffold" /></td>
</tr>
<tr>
<td>Bricklayer's Square</td>
<td><img src="image" alt="Bricklayer's Square" /></td>
</tr>
<tr>
<td>Hallway Scaffold</td>
<td><img src="image" alt="Hallway Scaffold" /></td>
</tr>
<tr>
<td>Mobile Scaffold (Manually Propelled)</td>
<td><img src="image" alt="Mobile Scaffold" /></td>
</tr>
<tr>
<td>Mobile Work Stand</td>
<td><img src="image" alt="Mobile Work Stand" /></td>
</tr>
<tr>
<td>Modular Scaffold</td>
<td><img src="image" alt="Modular Scaffold" /></td>
</tr>
<tr>
<td>Outrigger Scaffold</td>
<td><img src="image" alt="Outrigger Scaffold" /></td>
</tr>
<tr>
<td>Plasterers Decorators Scaffold</td>
<td><img src="image" alt="Plasterers Decorators Scaffold" /></td>
</tr>
<tr>
<td>Prefabricated mobile Tower Unit</td>
<td><img src="image" alt="Prefabricated mobile Tower Unit" /></td>
</tr>
<tr>
<td>Systems Scaffold (uses various industry joint connections)</td>
<td><img src="image" alt="Systems Scaffold" /></td>
</tr>
<tr>
<td>Scaffold Jacks</td>
<td>Tube and Coupler Scaffold (uses Swivel Clamp and Rigid Clamp joint connections)</td>
</tr>
<tr>
<td>-------------------------------------------</td>
<td>--------------------------------------------------------------------------------</td>
</tr>
</tbody>
</table>
## ATTACHMENT 2

### Aerial Lifts

<table>
<thead>
<tr>
<th>Vehicle Mounted Boom Lift</th>
<th>Vehicle Mounted Aerial Platform (Scissor Type)</th>
<th>Manually Propelled Elevating Aerial Platforms</th>
<th>Scissors Lift (Self Propelled Elevating Work Platform)</th>
<th>Boom Supported Elevating Work Platforms</th>
</tr>
</thead>
</table>

Refer to Environmental Health and Safety Policy, Safe Use of Elevated Work Platforms
ATTACHMENT 3
Scaffold, Guardrail and Toe board Assembly Checklist

_____ Guardrails and toe-boards shall be installed on all open sides and ends of platforms more than 10 feet above the ground or floor, except needle beam scaffolds and floats.

_____ Scaffolds 4 feet to 10 feet in height having a minimum horizontal dimension in either direction of less than 45 inches shall have standard guardrails installed on all open sides and ends of the platform.

_____ Guardrails must be 2 X 4 inches, or the equivalent, not less than 36 inches or more than approximately 42 inches high with a mid-rail, when required, of 1 X 4 inch lumber, or the equivalent.

_____ Supports must be at intervals not to exceed 8 feet.

_____ Toe-board and the guardrails shall extend along the entire opening.

_____ Scaffolds and their components must be capable of supporting without failure at least 4 times the maximum intended load.

_____ Any scaffold, including accessories such as braces, brackets, trusses, screw legs, ladders, couplers, etc., damaged or weakened from any cause must be repaired or replaced immediately, and shall not be used until repairs have been completed. Appropriate “Do Not Use” tags shall be attached to such scaffolding.

_____ Scaffolds shall be provided with a screen between the toe-board and guardrail, extending along the entire opening, consisting of No 18 gauge US Standard wire on-half inch mesh or the equivalent, when personnel are required to work or pass underneath the scaffolds.

_____ All load-carrying timber members of scaffold framing shall be a minimum of 1500 fiber (Stress Grade) construction grade lumber.

_____ All planking must be Scaffold Grade, or equivalent, as recognized by approved grading rules for the species of wood used.

_____ The maximum permissible span for 1 ¼ X 9 inch wider plank of full thickness shall be 4 feet with medium duty loading of 50 p.s.i.

_____ All planking or platforms must be overlapped (minimum 12 inches) or secured from movement.

(Continued)
ATTACHMENT 3 (CONTINUED)
Scaffold, Guardrail and Toe board Assembly Checklist

_____ An access ladder or equivalent safe access must be provided.
_____ Scaffold plank must extend over the end supports not less than 6 inches or more than 18 inches.
_____ The poles, legs, or uprights of scaffolds must be plumb and securely and rigidly braced to prevent swaying and displacement.
_____ Overhead protection must be provided for employees on a scaffold exposed to overhead hazards.
_____ Slippery conditions on scaffolds shall be eliminated immediately after they occur.
_____ No welding, burning, riveting, or open flame work shall be performed on any staging suspended by means or fiber of synthetic rope. Only treated or protected fiber or synthetic ropes shall be used for or near any work involving the use of corrosive substances or chemicals.
_____ A safe distance from energized power lines is maintained (minimum of 10 feet).
_____ Tag lines shall be used to hoist materials to prevent contact.
_____ Suspension ropes shall not be used.
_____ Scaffolds shall not be used during high wind storms.
_____ Ladders and other devices are not used to increase working heights on scaffold platforms.
_____ Scaffolds shall not be moved while employees are on them.
_____ Loose materials, debris, and/or tools shall not be accumulated to cause a hazard.
_____ Scaffold components shall not be mixed or forced to fit which may reduce design strength.
_____ Scaffolds and components shall be inspected at the erection location. Scaffolds shall be inspected before each work shift, after changing weather conditions, or after prolonged work interruptions.
_____ Casters and wheel stems shall be pinned or otherwise secured in scaffold legs. Casters and wheels must be positively locked if in a stationary position.
_____ Tube and coupler scaffolds shall be tired to and securely braced against the building at intervals not be exceed 30 feet horizontally and 26 feet vertically.
ATTACHMENT 4
Scaffold Inspection Tags