

Reed College Fall Protection Program

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1.0 Purpose and Scope

To protect faculty, staff, students, and visitors by reducing the risk of injury or fatality when working at heights 4 feet or more above ground level. All faculty, staff, students, visitors, volunteers, and contractors must comply with all elements of this fall protection program.

2.0 Responsibilities of Positions

2.1 Environmental Health and Safety Department (EHS)

EHS is responsible for policy development and review to insure compliance with all applicable federal and state regulations and with best industry practice. EHS will provide technical guidance and assistance in training and methods of compliance. EHS staff are authorized to halt any unsafe work practice that is not in accordance with this or any other health and safety policy.

2.2 Departments

Departments are responsible for providing a safe work environment for their staff/faculty by following posted health and safety policies and procedures. Departments are also responsible for ensuring that all of their outside contractors are properly trained and adhere to safety policies and procedures.

2.3 Supervisors

Supervisors must identify and provide the necessary personal fall protection equipment required for working in fall hazard situations. The supervisor should be a **competent person**, as defined by OSHA, or assign someone to be the competent person for the work group. OSHA defines a competent person as a person who is capable of identifying existing and predictable hazards in the surroundings or identifying working conditions which are hazardous or dangerous to employees and who has authorization to take prompt corrective measures to eliminate them.

2.4 Affected Employees

Employees are responsible for wearing the appropriate fall protection equipment when directed and for following the procedure specified in this policy. Employees are responsible for the proper care, use and inspection of their assigned fall protection equipment. Employees are expected to report any unsafe conditions to their supervisor.

3.0 General Principles

All work performed from elevated surfaces including roofs, building ledges, mobile lifts, scaffolding and other work platforms shall be in accordance with this policy.



4.0 Training

Each employee who may be exposed to fall hazards shall be trained to recognize the hazards and the procedures to follow to minimize the hazards. A competent person will provide the training.

The competent person must train employees in the following areas:

- Fall hazards in the work area
- Correct procedures for erecting, maintaining, disassembling and inspecting the fall protection systems used
- Selection, proper use, and care of equipment comprising of personal fall arrest system
- Role of employees in fall protection plans
- Rescue procedures to follow in case of a fall
- Overview of the OSHA fall protection standards

A training record shall be maintained for each employee. The record will contain the name of the employee trained, date of training, and the signature of the person who conducted the training. Retraining shall be required every two years in addition to training when there is a change in the fall protection system being used or if an employee's actions demonstrate that the employee has not retained the understanding or skills important to fall protection.

5.0 Fall Protection Systems

One of the following systems shall be in place whenever an employee is exposed to a fall hazard of four feet or higher:

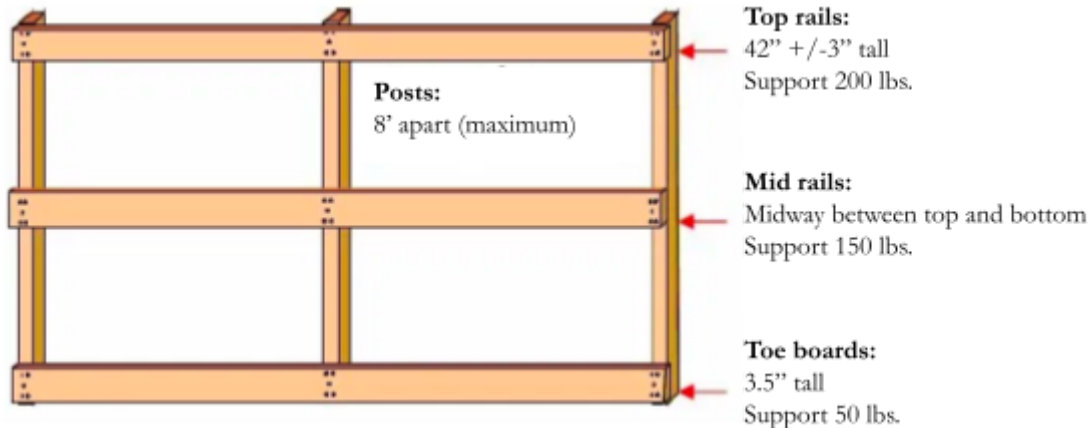
5.1 Guardrail Systems

The use of a guardrail system is considered a passive method of fall protection and is the preferred method for eliminating fall hazards. Guardrails are needed at the edge of work areas 4 feet or more in height to protect employees from falling. This includes the edge of excavations greater than four feet in depth. Working level is defined as the level where the work is being done. Someone working on a stepladder next to an edge may raise their working surface well above the walking surface. The Guardrail systems need to meet the following criteria:

- Toprail is 42 inches, +/- 3 inches above the walking/working level
- Midrail is located midway between the top rail and the walking/working level.
- Both top and midrails must be constructed of materials at least 0.25 inches in thickness or diameter. If wire rope is used for toprails, it needs to be flagged with high visibility material at least every 4 feet and can have no more than 3" of deflection.
- The top rail needs to withstand a force of 200 pounds when applied in any downward or outward direction.
- The midrail needs to withstand a force of 150 pounds applied in any downward or outward direction.
- Toeboards are required for all guardrails on elevated walking or working platforms where employees working below are exposed to falling objects.



- Toeboards must be 4 inches in height and must be securely fastened.
- The system must be smooth to prevent punctures, lacerations or snagging of clothing.
- The ends of the top rail should not overhang the terminal posts, except when such overhang does not present a projection hazard.
- When a hoisting area is needed, a chain, gate or removable guardrail section must be placed across the access opening when hoisting operations are not taking place.



5.2 Loading Docks

Loading docks and other open sided floors greater than 4 feet above ground level must be protected. The approved method of protection is the installation of a standard guardrail as described in this section. The guardrail may have removable sections to provide access for loading but rails must remain in place when access is not required.

5.3 Skylights

Skylights are considered an opening when present on a roof. A standard guardrail or skylight screens capable of supporting at least 200 pounds must be provided around the opening to prevent workers from falling through to the surface below. Skylights constructed at least 42 inches above the roof deck with sides capable of supporting 200 pounds do not require additional protection.

5.4 Personal Fall Arrest Systems

Personnel requiring the use of personal fall protection equipment must employ the "Buddy System" or have an observer to render assistance when and if required.

There are 3 main components to the personal fall arrest system:

- Personal protective equipment the employee wears.
- The connecting devices.
- The anchorage point.



Prior to tying off to perform the work, a means of rescue in the event of a fall must be immediately available. All personal fall arrest system components must meet the requirements of the ANSI Z359 standards. The system needs to meet the following criteria for each component:

Personal Protective Equipment

- Full body harnesses are required. The use of body belts is prohibited.
- The attachment point of the body harness is the center D ring on the back.
- Employees must always tie off at or above the D ring of the harness except when using lanyards 3 feet or less in length.
- Harnesses or lanyards that have been subjected to an impact load shall be destroyed.
- Load testing shall not be performed on fall protection equipment.



Connecting devices

The device can be a rope or web lanyard, rope grab, or retractable lifeline.

- Only locking snap hooks may be used
- Horizontal lifelines will be designed by a qualified person and installed in accordance with the design requirements.
- Lanyards and vertical lifelines need a minimum breaking strength of 5000 lbs.
- The length of a single lanyard shall not exceed 4 feet.
- The use of steel lanyards is prohibited.
- Lanyards may not be clipped back to itself (e.g. around an anchor point) unless specifically designed to do so.
- If vertical lifelines are used, each employee will be attached to a separate lifeline.
- Lifelines need to be protected against being cut or abraded.



Anchorage

Secure anchor points are the most critical component when employees must use fall arrest equipment. As a minimum, the following criteria must be considered for each type of anchor point:

- Structure must be sound and capable of withstanding a 5000 lb. static load.
- Structure/anchor must be easily accessible to avoid fall hazards during hook up.
- Direct tying off around sharp edged structures can reduce breaking strength by 70%, therefore, chafing pads or abrasion resistant straps must be used around sharp edged structures to prevent cutting action against safety lanyards or lifeline.



- Structures used as anchor points must be at the worker's shoulder level or higher to limit free fall to 4 feet or less and prevent contact with any lower level (except when using a self-retracting lifeline or 3 foot lanyard).
- Choose structures for anchor points that will prevent swing fall hazards.

Permanent Anchor Requirements

In addition to all the criteria listed above, the following points must be considered:

- Environmental factors and dissimilarity of materials can degrade exposed anchors.
- Compatibility of permanent anchors with employee's fall arrest equipment.
- Inclusion of permanent anchors into a Preventative Maintenance Program with scheduled annual recertification.
- Visibly label permanent anchors.
- Roof anchors must be immediately removed from service and re-certified if subjected to fall arrest forces.

Reusable Temporary Anchors

- Reusable temporary roof anchors must be installed and used following the manufacturer's installation guidelines.
- Roof anchors must be compatible with employee's fall arrest equipment.
- Roof anchors must be removed from service at the completion of the job and inspected prior to reuse following the manufacturer's inspection guidelines.
- Roof anchors must be immediately removed from service and disposed of if subjected to fall arrest forces.

Complete Systems

- If a fall occurs, the employee must not be able to free fall more than 4 feet nor contact a lower level.
- A personal fall arrest system that was subjected to an impact needs to be removed from service immediately.
- Personal fall arrest systems need to be inspected prior to each use and damaged or deteriorated components removed from service.
- Personal fall arrest systems must not be attached to guardrails or hoists.

Work from Mobile Elevating Work Platforms

Training in the proper operation and inspection of the equipment must be received prior to operating or working from a mobile elevating work platform, regardless of the type.

Body harnesses must be worn with shock absorbing lanyard (preferably not to exceed 3 feet in length) and must be worn when working from an elevated work platform (exception: scissor lifts and telescoping lifts that can move only vertically do not require the use of a harness and lanyard as long as the work platform is protected by a guardrail system). The point of attachment must be the anchor point installed by the equipment manufacturer. Personnel cannot attach lanyards to adjacent poles, structures or equipment while they are working from the aerial lift.



Personnel cannot move an aerial lift while the boom is in an elevated working position and the operator is inside of the lift platform.

Further information on mobile elevating platforms can be found in the Reed College Mobile Elevating Lift Platform Safety Program.

6.0 Inspections

The employee shall inspect the entire personal fall arrest system prior to every use. The competent person will inspect the entire system in use at the initial installation and yearly thereafter. The visual inspection of a personal fall arrest system shall follow the manufacturer's recommendations. Any components of a personal fall arrest system noted to be damaged shall be removed from service immediately. Yearly inspection checklists are maintained by the competent person or can be accessed here. Before use inspections shall be done at time of checkout and maintained near equipment.



Appendix A: Fall Risk Evaluation Form

This fall risk evaluation form must be job and site specific, and should be filled out and turned in to your supervisor for both frequent and one-time work operations. This form can be used as a guideline for annual fall risk inspections. The form must include the following required information:

- Name of employee and supervisor
- Date, Department, and Reed ID Number
- A list of all possible risk exposures
- The frequency of work
- Requires horizontal or vertical movement?
- Type of walking or working surface?
- Whether the edge has an adequate guardrail
- Any additional safety hazards

Note that the form should be used for any work conducted above 4 ft of elevation.

The Fall Risk Evaluation form is on the following page.





Reed College

Fall Risk Evaluation Form

Employee: _____ Supervisor: _____

Date: _____ Reed ID Number: _____

Department: _____

Mark all possible exposures:

Check all that apply:	Frequency of work?	Requires horizontal or vertical movement?	Type of walking or working surface?	Does edge have adequate guardrail?	Are there any other safety hazards?
<input type="checkbox"/> Protected sides & edges					
<input type="checkbox"/> Floor holes					
<input type="checkbox"/> Wall openings & hoisting areas					
<input type="checkbox"/> Slippery floors					
<input type="checkbox"/> Ramps or elevated walkways					
<input type="checkbox"/> Portable ladders & stairways					
<input type="checkbox"/> Excavations					
<input type="checkbox"/> Working above elevated equipment					
<input type="checkbox"/> Obstructions					
<input type="checkbox"/> Overhead bricklaying					
<input type="checkbox"/> Scaffolds					
<input type="checkbox"/> Roofing/Gutter work					
<input type="checkbox"/> Aerial lifts					
<input type="checkbox"/> Other work above 4 feet					



Appendix B: Rescue Plan

The rescue plan must be job and site specific and include the following required information:

- Name of authorized rescuers.
- Method of communication.
- How will rescuers reach the fallen worker? List pieces of equipment available (ladder, lift, hoist).
- Self-rescue is preferred but if this is not an option how will an assisted rescue be performed?
- When will you require off site assistance?
- Potential hazards (electrical, public, confined space).
- Follow-up medical care/procedures.

Note the maximum limit a person can be left in suspension is 15 mins.

The Rescue Plan form is on the following page.



Rescue Planning Form	
Name of Authorized Rescuers:	
Method of Communication:	
Potential Hazards Present (electrical, confined space, etc):	
The maximum limit a person can be left in suspension is 15 minutes.	
Describe the rescue steps to be taken after a fall occurs.	
Describe how assisted rescue be performed if self-rescue is not an option?	
Describe pieces of equipment that would be used to reach fallen worker (lift, ladder, hoist) .	
When will you require off site assistance?	
Plan for follow-up medical care?	

