Roger Williams University
Fall Protection Policy

Roger Williams University
Dept. of Environmental Health and Safety
One Old Ferry Road
Bristol, RI 02809
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ROGER WILLIAMS UNIVERSITY
FALL PROTECTION POLICY

I. Introduction

Fall protection is defined as any means used to protect workers from falls when working in areas where fall hazards exist. Fall protection involves the elimination of fall hazards, the prevention of falls, and the control of falls. Fall protection is required whenever there is a ***change in working level*** of more than four feet (a drop of four feet or more to the ground or the next level).

The Occupational Safety and Health Administration (OSHA) has many standards related to fall protection, including: 29 CFR 1910.27 (Fixed Ladders), 29 CFR 1910.26 (Portable Ladders), 29 CFR 1910.25 (Portable Wood Ladders), ANSI A14.3-1956 (Safety Code for Fixed Ladders), 29 CFR 1910.66 (Powered Platforms), 29 CFR 1910.67 (Vehicle-Mounted Elevated and Rotating Work Platforms), 29 CFR 1910.23 (Guarding Floor and Wall Openings and Holes), 29 CFR 1910.128-.131 (Fall Arrest Systems), and the General Duty Clause (Section 5(a)(1), OSH Act).

Roger Williams University (RWU) departments are primarily responsible for compliance with, and safe implementation of, all RWU safety programs. RWU EHS is available to assist with compliance and provide policy clarification as necessary.

II. Fall Protection Guidelines and Program Scope

Fall protection begins with identifying a fall hazard. The following are examples of fall hazards which are covered by this policy:

- Elevated walking / working surfaces four feet or more above a lower level
- Skylights and smoke domes that workers could step into or fall through
- Wall openings such as those for windows or doors that workers could fall through
- Trenches and other excavations that are not readily seen and workers could fall into
- Walking / working surfaces from which workers could fall onto dangerous equipment
- Hoist areas where guardrails have been removed to receive materials
- Sides and edges of walking / working surfaces such as established floors, mezzanines, balconies, and walkways that are four feet or more above a lower level and not protected by guardrails at least 39 inches high
- Ramps and runways that are not protected by guardrails at least 39 inches high
- Leading edges — edges of floors, roofs, and decks — that change location as additional sections are added
- The leading edges of loading docks, which are not protected with guardrails
- Wells, pits, or shafts not protected with guardrails, fences, barricades, or covers
- Holes in walking/working surfaces that they could step into or fall through

When a fall hazard has been identified, the following steps should be followed in deciding the proper fall protection:

- Step 1: Can the hazard be eliminated by using engineering control? (relocate to ground level, utilize a contractor with expertise in extremely hazardous areas, etc.)
- Step 2: If the hazard cannot be eliminated, can the possibility of a fall be eliminated be creating a fall prevention system? (guardrails made from steel, wood, or wire rope which comply with OSHA standards, etc.)

A personal fall arrest system (i.e., a harness and lanyard) must be used only when all possibilities of using Step 1 or 2 options have been exhausted.

III. Roof Safety
RWU authorizes the following departments to access and perform work on campus roofs:

- Capital Projects
- Environmental Health & Safety
- Facilities Management
- Public Safety

In addition, third-party service/maintenance contractors (e.g. HVAC, electrical, roofing, etc.) may access and perform work on campus roofs if accompanied by an employee from one of the above-referenced departments. In addition, such third-party contractors may access and perform work on campus roofs without an RWU employee present in the discretion of a supervisory employee of one of the above-referenced departments. In such instances, the authorizing department should properly orient the third-party contractor to proper safety and risk issues associated with the roof being accessed.

All others (including, but not limited to, employees from other departments, faculty, students, student employees, etc.) may not access campus roofs without prior written authorization. A request for roof access form is attached hereto as Exhibit A.

Do not approach within six feet of any:

- **Roof edge**, unless protected by guardrails (See "Guardrail Requirement" section of this plan);
    - Exception: For intermittent work (less than four times per year), an approved personal fall arrest system may be used in lieu of guardrails (see "Personal Fall Arrest System Requirements" section of this plan).
- **Access hatch**, unless protected by hinged or removable cover, or removable railings; or
- **Skylight,** unless protected by skylight screens or covers, guardrails, or if employee is wearing a personal fall arrest system.

Protect the area below the elevated work height:

- When working close to the roof's edge, cordon off the area below to protect pedestrians from falling debris.
- Prevent materials from falling from exposed edges of fixed heights (roof, floor opening, wall opening, platform, runway or ramp) by erecting toeboards (vertical barriers erected at floor level and extending at least four inches in height).

Do not access the roofs of the following buildings without notifying and seeking clearance from the Department of Public Safety (x3333) and the Department of Environmental Health and Safety (x3494):

- Marine and Natural Science (MNS)
    - Hazard working near HVAC vents on the roof locations due to fume hoods releasing chemical fumes in exhaust
- Cedar Hall

    - RF (Radio Frequency) Safety and hearing protection hazards related to working next to Cooper Mass Notification (ESWS; Emergency Siren Warning System) speakers if activated (hearing protection is located at the roof access door)
- Recreation Center
    - RF Safety and hearing protection hazards related to working next to Cooper Mass Notification (ESWS; Emergency Siren Warning System) speakers if activated (hearing protection is located at the roof access door)
- Bayside 200 Building
    - RF Safety and hearing protection hazards related to working next to Cooper Mass Notification (ESWS; Emergency Siren Warning System) speakers if activated
- Maple Hall
    - RF Safety hazard related to working next to WQRI Radio broadcast tower
- North Campus Dorm
    - RF Safety hazard related to working next to Cox Communications broadcast tower

IV. Ladder Safety

Rules for Using all Ladders (Fixed and Portable)

- Do not use non-ladder objects (buckets, tables, chairs, etc.) in place of a ladder.
- Follow all manufacturer guidelines and all warnings and instructions on the ladder.
- Do not load ladders beyond their maximum intended load nor beyond their manufacturer's rated capacity.
- Use ladders only for their designated purpose.
- Use ladders only on stable and level surfaces unless secured to prevent accidental movement.
- Keep areas clear around the top and bottom of ladders.
- Secure ladders placed in areas such as passageways, doorways, or driveways, or where they can be displaced by workplace activities or traffic to prevent accidental movement. Or use a barricade to keep traffic or activity away from the ladder.
- Do not move, shift, or extend ladders while in use.
- Face the ladder when moving up or down.
- Use at least one hand to grasp the ladder when climbing.
- Do not carry objects or loads that could cause loss of balance or falling.
- Ladders must not be tied or fastened together to create longer sections unless they are specifically designed for such use.

Defective Ladders (Fixed and Portable)

Ladders having defects are to be marked or labeled as defective and taken out of service until repaired by either Facilities Management or the manufacturer.

Rules Specific to Portable Ladders (Step, Straight, and Extension Ladders)

Location Restrictions

All portable ladders (step, straight, and extension) have the following location restrictions:

- Ladders may not be placed in front of doors opening toward the ladder unless the door is blocked open, locked, or guarded;

- Do not use ladders on slippery surfaces unless secured or provided with slip-resistant feet to prevent accidental movement;
- Ladders may not be placed on boxes, barrels, or other unstable bases to obtain additional height; and
- No ladder may be used to gain access to a roof unless the top of the ladder extends at least 3 feet above the point of support, at eave, gutter, or roofline.

Prohibitions of Use

- Portable ladders must not be tied or fastened together to provide longer sections.
- Portable ladders must be equipped with the hardware fittings necessary if the manufacturer endorses extended uses.
- Do not use portable ladders as a brace, skid, guy, or gin pole, gangway, or for other uses then that for which they were intended, unless specifically recommended for use by the manufacturer.

Length Allowances for Portable Ladders

- Do not use portable ladders that exceed the heights listed in this table:

Type of Ladder	**Max. Length**
Portable Stepladders	
Type I – Industrial	3-20 feet
Type II – Commercial	3-12 feet
Type III - Household	3-6 feet
Portable Rung Ladders	
Single Ladders	30 feet
Two-Section Ladders	60 feet
Trestle Ladders or extension or base sections	20 feet
Special Purpose Ladders	
Painter's stepladder	12 feet
Mason's ladder	40 feet
Trolley and side-rolling ladders	20 feet

Stepladder-Specific Requirements

- The bottoms of the four rails are to be supplied with insulating nonslip material for the safety of the user.
- A metal spreader or locking device of sufficient size and strength to securely hold the front and back sections in the open position must be a component of each stepladder. The spreader must have all sharp points or edges covered or removed to protect the user.
- Does not use cross bracing on the rear section of stepladders for climbing unless the ladders are designed and provided with steps for climbing on both front and rear sections.
- Do not use the top or top step of a step ladder as a step.

Straight and Extension Ladder-Specific Requirements

- The minimum width between side rails of straight ladder or any section of an extension ladder must be 12 inches.

- Extension ladders must be equipped with positive stops which will insure the overlap specified in the table above.
- Based on the nominal length of the ladder, each section of a multi-section ladder must overlap the adjacent section by at least the number of feet stated in this table:

Normal length of ladder (in feet)	Rung Overlap (in feet)
Up to and including 36 …….	**3**
Over 36, up to and including 48……	**4**
Over 48, up to 60 ……..	**5**

V. Lift Safety

Fall Protection on Manlifts, Scissor Lifts, and Boom Lifts

Fall protection is required on all lifts (manlifts, scissor lifts, and boom lifts). RWU requires a harness and lanyard to be used at all times when using lifts (see "Personal Fall Arrest System Requirements" section of this plan)

Lift Safe Operating Requirements

- All users must be trained and certified in safe operating procedures and fall protection requirements prior to use.
    - RSC Equipment Rental provides this training for RWU employees.
- Inspect and check structural integrity before each use (at the beginning of each shift at a minimum) per manufacturer guidelines. An annual inspection of lifts will be completed by competent person with documentation maintained on file.
    - RSC Equipment Rental provides the yearly inspection of RWU lifts.
- Use the lift only for its intended purpose and follow the manufacturer's instructions.
- Keep the operating manual with the lift.
- Keep the lift level and stable by using outriggers and intermediate stabilizers.
- Never move the lift when the boom is up and workers are on the platform, unless allowed by the manufacturer.
- Stand on the platform floor. Don't sit or climb on the edge of the basket, guardrail, or midrail.
- Be sure to close the access gate while you're working from the platform.
- Inspect the lift before using it to make sure that it's working properly and it's in good condition.
- Know the lift's rated load capacity and don't exceed it.
- Stay at least ten feet away from electrical power lines.
- Never use the lift during severe weather.
- Use warning signs or barricades to keep others out of the work area.
- Never tie off to other equipment or to a structure next to the platform.

Third-parties Use of RWU Lifts

Third-parties (vendors, contractors, etc.) may accompany an RWU employee in an RWU lift provided the RWU employee operates the lift and such third-party complies with all safety requirements.

Third-parties are prohibited from using an RWU lift without an RWU employee accompanying the third-party in the lift unless such is approved in advance and in writing by RWU's Office of General Counsel (a fully signed "Agreement for Use of Equipment" will be required).

VI. Guardrail Requirements

Before using a guardrail system, check if the hazard be eliminated by using engineering control (relocate to ground level, or utilize a contractor with expertise in extremely hazardous areas, etc.).

If guardrails are used, they must meet these requirements:

- A standard railing shall consist of top rail, intermediate rail, and post, and shall have a vertical height of 42 inches nominal from upper surface of top rail to floor.
- The complete structure shall be capable of withstanding a load of at least 200 pounds applied in any direction at any point on the top rail.
- Construction requirements vary by construction type:

Wood	Posts at least 2 inches x 4 inches, and posts less than 6 feet apart
Pipe	Railings at least 1 ½ inches in nominal diameter, and posts spaced not more than 8 feet on centers
Structural Steel	Posts and top and intermediate rails 2 inches x 2 inches by 3/8 inch angles, and posts spaced not more than 8 feet on centers

Guardrails are required to be inspected on the following schedule:

- Temporary systems – Daily: A visual inspection will be completed by a competent person. OSHA defines a "Competent Person" as one who is capable of identifying hazardous and dangerous conditions.
- Temporary systems – Weekly: A complete structural inspection will be completed by a competent person.
- Permanent Systems – Annual: A structural inspection will be completed by a competent person, with future frequency of inspection defined based on conditions/controls present.

VII. Loading Dock Safety

Loading docks pose potential fall hazards because they are often elevated at a height of 4 feet or greater than the pavement below, and the leading edge of the loading dock has to be open-access (no guardrails) to allow materials to be on- and off-loaded.

RWU has one loading dock on campus. It is located at the Dining Commons building on the east side of the building. There are two thirty-yard trash compactors permanently stationed at either end of the dock, and three open bays for receiving materials. The loading dock is concrete and has one hydraulic dock leveler (metal plate used to span the gap between the dock and the truck) located at the center bay. The other bays do not have dock levelers. The dock's non-leading edges have structural steel guardrails which are installed and maintained in accordance with OSHA requirements (see "Guardrail Requirements" section of this policy).

RWU will provide loading dock safety training to all employees that routinely work on the loading dock, specifically: Dining Commons, Public Safety, Facilities Management, and Environmental Health and Safety. Training topics will include: proper use of the dock leveler,

situational awareness, safe materials handling (including pallet jack and hand truck / dolly usage), and inclement weather safety (ice, snow, rain, etc.).

In general, employees working on loading docks should observe these basic safety principles:

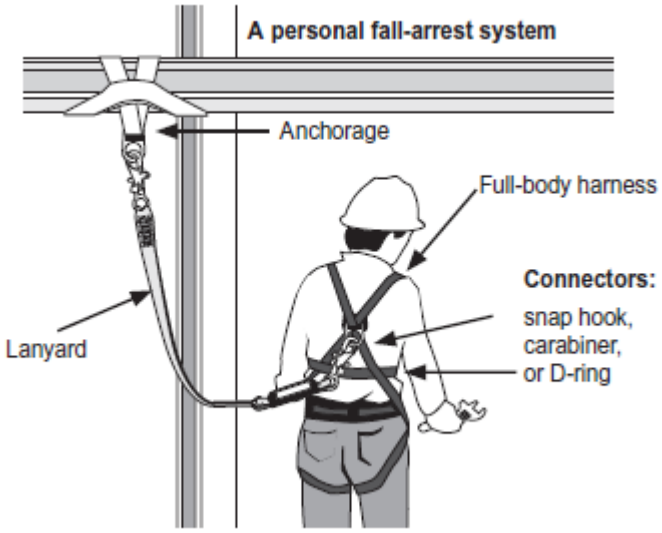
- Use the dock leveler when loading and off-loading materials from / to a truck and the loading dock.
- Immediately report all unsafe loading dock conditions to supervisor or Facilities Management (cracks or breaks in the concrete, ice or snow on the loading dock surface, insects such as bees at the trash compactors, etc.).
- When traveling back and forth across the loading dock, stay at least six feet away from the dock's leading edge.
- Stay in the center of the dock leveler when on- and off-loading materials between a truck and the loading dock. Always enter and exit the back of the truck at a 90-degree angle to the loading dock's leading edge.
- Follow the safe usage requirements when using pallet jacks and hand trucks / dollies. Do not walk along the leading edge of the loading dock while using this equipment. Push the equipment and load straight off the truck and continue moving straight back until the load is at least six feet back from the leading edge, then move in the desired direction.
- Do not store items on the loading dock. Keep the loading dock clear so there is plenty of room to safely work away from the leading edge, and to move materials as necessary.
- Maintain the loading dock in a clean and clutter-free manner to prevent slip/trip/fall hazards.
- Be aware of other people working and walking on the loading dock.

VIII. Personal Fall Arrest Systems Requirements

When a fall hazard has been identified, the following steps should be followed in deciding the proper fall protection:

- Step 1: Can the hazard be eliminated by using engineering control? (i.e., relocate to ground level, or utilize a contractor with expertise in extremely hazardous areas)
- Step 2: If the hazard cannot be eliminated, can the possibility of a fall be eliminated be creating a fall prevention system? (i.e., guardrails made from steel, wood, or wire rope which comply with OSHA standards)

A personal fall arrest system (i.e., a harness and lanyard) must be used only when all possibilities of using Step 1 or 2 options have been exhausted.



Example of the type of personal fall arrest system employed at RWU

Personal fall arrest systems stop a worker's fall from a height, and can include the following components: a full body harness, lanyard, rope grabs, lifelines, anchorage points, and rigging. RWU personal fall arrest systems include a harness and lanyard. Personal fall arrest systems and components are used only for employee fall protection, and are rigged such that an employee can neither free fall more than six feet nor contact any lower level.

Inspection Requirements

Prior to each use, personal fall arrest systems shall be inspected for mildew, wear, damage and other deterioration, and defective components removed from service if strength or function may be adversely affected.

Lifelines are required to be inspected annually by a competent person, and the documentation must be maintained on file. OSHA defines a "Competent Person" as one who is capable of identifying hazardous and dangerous conditions in the personal fall arrest system or any component thereof, as well as in their application and use with related equipment. RWU will contract RSC Rentals to perform and document the annual inspections.

Storage and Maintenance of Personal Fall Arrest System Equipment

- Never store the personal fall arrest system equipment in the bottom of a tool box, on the ground, or outside exposed to the elements (i.e., sun, rain, snow, etc.).
- Hang equipment in a cool dry location in a way that retains its shape.
- Always follow manufacturer recommendations for inspection.
- Clean according to manufacturer recommendations, typically with a mild, nonabrasive soap, and hang to dry.

- Never dry using heat or sun exposure or use strong detergents in cleaning.
- Never store equipment near excessive heat, chemicals, moisture, or sunlight.
- Never store in an area with exposures to fumes or corrosives elements.
- Avoid dirt and build-up on equipment.
- Never use this equipment for any purpose other than personal fall arrest.
- Remove equipment from service immediately once it's been exposed to a fall.

Usage Requirements

- Unless of a locking type designed for the following connections, snap-hooks must not be engaged:
    - Directly to webbing, rope or rope wire;
    - To each other;
    - To a dee-ring to which another snap hook or other connector is attached;
    - To a horizontal lifeline; or
    - To any object which is incompatibly shaped or dimensioned in relation to the snap-hook such that unintentional disengagement could occur by the connected object being able to depress the snap-hook keeper and release itself.
- Devices used to connect to a horizontal lifeline which may become a vertical lifeline must be capable of locking in either direction on the lifeline.
- Personal fall arrest systems must be rigged such that an employee can neither free fall more than 6 feet, nor contact any lower level or the ground (which may be closer than 6 feet).
- Personal fall arrest systems must be worn with the attachment point of the body belt located in the center of the wearer's back, and the attachment point of the body harness located in the center of the wearer's back near shoulder level, or above the wearer's back.
- When vertical lifelines are used, each employee must be provided with a separate lifeline.
- Inspect all lifelines before each use for structural integrity of line and anchors.
- Lifelines must be protected against being cut or abraded.
- The employer must provide for prompt rescue of employees in the event of a fall or must assure that employees are able to rescue themselves.
    - Employees will work in pairs when performing roof work that requires a personal fall arrest system. In the event of a fall, the second employee will call Facilities Management for assistance, and Facilities employees will assist with a lift. The fallen employee cannot continue to perform work using the personal fall arrest system he or she was wearing when he or she fell. The equipment involved in the fall must be immediately taken out of service because it has been exposed to an impact.

Personal Fall Arrest System Performance Criteria

Personal fall arrest systems must, when stopping a fall:

- Limit the maximum arresting force on an employee to 900 pounds when used with a body belt
- Limit maximum arresting force on an employee to 1,800 pounds when used with a body harness
- Bring an employee to a complete stop and limit maximum declaration distance an employee travels to 3.5 feet, and have enough strength to withstand twice the potential

impact of the energy of an employee free fall a distance of 6 feet, or the free fall distance permitted by the system, whichever is less.

- Connector shall be drop forged, pressed, or formed steel, or made of equivalent material, and have a corrosion-resistant finish. All surfaces and edges shall be smooth.
- Anchorages for personal fall arrest equipment shall be capable of supporting at least 5,000 pounds per employee attached, or shall be designed, installed and used as part of a complete personal fall arrest system which maintains a safety factor of at least two, under the supervision of a qualified person. OSHA defines a "qualified person" as one with extensive knowledge and experience in the subject field who is capable of design, analysis, evaluation, and the specifications in the subject work, project, or product.
- Ropes and straps (webbing) used in lanyards, lifelines, and strength components of body belts and body harnesses shall be made from synthetic fibers or wire rope.

IX. Training

RWU requires all employees with roof access (Public Safety, Facilities Management, and Environmental Health and Safety Department members) to be knowledgeable in identifying potential fall hazards and how to apply the fall protection procedures in this plan as necessary. RWU EHS will provide required annual fall hazard recognition / fall protection procedures training to employees in these departments. RSC Equipment Rentals will provide training and certification on the various lifts (aerial, scissor, and boom) as necessary.

RWU EHS will provide required annual loading dock safety training to the departments which routinely access and perform work on the loading dock (Dining Commons, Public Safety, Facilities Management, and Environmental Health and Safety).

As previously noted, RWU departments are primarily responsible for compliance with, and safe implementation of, all RWU safety programs. RWU EHS is available to assist with compliance and provide training as necessary.

Fall hazard recognition / fall protection training requirements are not specified in the general industry OSHA standards (29 CFR 1910), so RWU will develop and provide trainings that meet the requirements listed in the construction industry OSHA standards as a matter of best practice. The training requirements in 29 CFR 1926 are as follows:

OSHA 29 CFR 1926.503(a)(1)

The employer shall provide a training program for each employee who might be exposed to fall hazards. The program shall enable each employee to recognize the hazards of falling and shall train each employee in the procedures to be followed in order to minimize these hazards.

29 CFR 1926.503(a)(2)

The employer shall assure that each employee has been trained, as necessary, by a competent person qualified in the following areas:

1926.503(a)(2)(i)

The nature of fall hazards in the work area;

1926.503(a)(2)(ii)

The correct procedures for erecting, maintaining, disassembling, and inspecting the fall protection systems to be used; and

1926.503(a)(2)(iii)

The use and operation of guardrail systems, personal fall arrest systems, safety net systems, warning line systems, safety monitoring systems, controlled access zones, and other protection to be use

X. Contractor Guidelines

Contractors working as part of an RWU / contractor team must follow all requirements in the RWU Fall Protection Policy. They must follow all of their own company's requirements as well. They must provide proof of certification and training to RWU EHS before operating any RWU lifts. They must have been trained on the same make and model as the equipment being used. They may use RWU personal fall arrest system components (harness and lanyard) if they choose to and the equipment fits properly. They have the right to inspect the equipment prior to use.

Contractors not working with RWU employees must follow RWU's all requirements in the RWU Fall Protection Policy. They must follow all of their own company's requirements as well. They must be provided a copy of the RWU Fall Protection Policy by the RWU contact they are working for. They must provide their own fall protection equipment, including personal fall arrest system components. They must be certified and trained on any equipment they operate, and proof of training and certification must be available for review by RWU EHS upon request. They must notify RWU Public Safety Dispatch at x3333 (401-254-3333) prior to beginning any work, and again when they have finished their work. Their RWU contact must make them aware of any special hazards in their work area, such as the RF / noise hazards associated with the Cooper Notification System.

Request for Roof Access

Submit to the Office of Environmental Health & Safety at least 10 days prior to date requested for access

Roger Williams University authorizes the following departments to access and perform work on campus roofs:

Capital Projects **Environmental Health & Safety** **Facilities Management** **Public Safety**

In addition, third-party service/maintenance contractors (e.g. HVAC, electrical, roofing, etc.) may access and perform work on campus roofs if accompanied by an employee from one of the above-referenced departments. In addition, such third-party contractors may access and perform work on campus roofs without an RWU employee present in the discretion of a supervisory employee of one of the above-referenced departments. In such instances, the authorizing department should properly orient the third-party contractor to proper safety and risk issues associated with the roof being accessed.

All others (including, but not limited to, employees from other departments, faculty, students, student employees, etc.) may not access campus roofs without prior written authorization. Use the following form to request roof access:

Requestor

Name: _____ Department: _____

Building for which roof access is sought: _____

Date requested for access: _____ Time: _____ Anticipated length of time on roof: _____

Please provide a brief description for reason for roof access:

_____

_____

_____

_____

Individuals who will be accessing roof (list all, use separate sheet if necessary):

Name	Relationship to RWU (e.g. Faculty, staff, student, contractor, and vendor)
_____	_____
_____	_____

Approval For internal use only Y N

Environmental Health & Safety: ☐ ☐

Signature of authorizing EHS Employee _____

Name of EHS / Public Safety / Facilities / Capitol Projects Employee providing escort_____

Conditions/limitations on access: _____

_____