

Fall Protection Program



TULANE UNIVERSITY
Office of Environmental
Health & Safety



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Fall Protection Program



1. SUMMARY

Falls from heights and on the same level (a working surface) are among the primary causes of severe workplace injuries and fatalities. Occupational Safety and Health Administration (OSHA) regulations on Walking-Working Surfaces and Personal Fall Protection Systems protect employees in the general industry against these hazards. The Occupational Safety and Health Administration (OSHA) has, to the greatest extent feasible, aligned the fall protection requirements for general industry with those for construction, making compliance easier for employers who perform both activities. Construction work is defined as “construction, alteration, repair, and demolition,” the construction standard pertains to all employees performing construction work, not just those in the construction industry. Renovations and repairs may be considered construction, whereas routine maintenance, small-scale activities, and repairs are typically not. Regularly maintaining the condition of a structure, fixture, or foundation is a definition of maintenance activities. When uncertain, the safest action is to adhere to the strictest regulations.

2. SCOPE

This program protects workers in general industry from fall hazards along unprotected sides or edges at least 4 feet above a lower level. This program protects workers in the construction industry from fall hazards along unprotected sides or edges at least 6 feet above a lower level. Fall protection must be provided when an employee works from a leading horizontal edge or vertical height of 4 or 6 feet above a lower level, depending on the type of industry. Personal fall protection or engineering controls must be used when going within 15 feet of a leading edge. Students and the general public are forbidden from accessing roofs with a leading edge, guardrail, or wall less than 39 inches without prior written approval from OEHS. Any employee, contractor, and/or student working on a rooftop shall comply with the Tulane Walking and Working Safety Policy and the Tulane Fall Protection Plan. Examples of fall protection include guardrail systems, travel restraint systems, safety net systems, and personal fall arrest systems.

The Fall Protection Program applies to the following areas:

- Aerial lifts
- Roof access or skylights
- Structural framing
- Manholes
- High/low voltage electrical work 4 ft. above the surface
- Fixed/portable ladders
- Stairways
- Tops of equipment
- Loading docks
- Watersumps, tanks, and vessels
- Scaffolds
- Trenching/excavation
- Window washing
- Tree trimming
- Wall openings (>18 inches) or open-sided floors

3. POLICY AND REGULATION

- [OSHA Regulation, 29 CFR Subpart D, 1910.21-1910.30: Walking-Working Surfaces](#)
- [OSHA Regulation, 29 CFR Subpart D, 1910.21-1910.23: Ladders](#)
- [OSHA Standard, 29 CFR Subpart I, 1910.140: Personal Fall Protection Systems](#)
- [OSHA Standard, 29 CFR Subpart F, 1910.67: Vehicle Mounted Elevating and Rotating Work Platform](#)
- [OSHA Regulation 29 CFR 1926 Subpart M, 1926.500-1926.503: Fall Protection](#)
- [OSHA Regulation 29 CFR 1926 Subpart L, 1926.451: Scaffolds](#)
- [ANSI/ASSE Z359: Fall Protection](#)

4. RESPONSIBILITIES

Tulane University provides all eligible employees with the necessary fall protection training, personal protective equipment, and documentation resources. Under this program, various Tulane University departments and employees have responsibilities, including:

A. Deans, Directors, and Department Heads are responsible to:

- Designate and empower the department’s Health and Safety Coordinator (or Program Coordinator or equivalent) and supervisors.

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- Actively support these procedures within individual units.
- Ensure an environment where employees are encouraged to follow these procedures.

B. Office of Environmental Health & Safety – Fall Protection Program Administrator:

- Preparing, reviewing, and periodically revising this program.
- Providing and overseeing program-related training.
- Monitoring and evaluating fall hazards in the workplace.
- Providing guidance to supervisors in selecting and purchasing approved fall protection equipment.
- Ensuring all incidents related to falls from heights are investigated, and corrective action is taken to prevent a reoccurrence.

C. Supervisors/Managers:

- Notifying Tulane Environmental Health & Safety about workplace conditions and potentially affected employees.
- Providing new employees with informal on-the-job instructions about potential fall hazards they may encounter in their work environment.
- Ensuring that affected employees receive necessary training before beginning work and are provided with the correct protective equipment.
- Ensuring pre-use inspections are performed and recorded by Authorized employees.
- Ensuring that equipment used by employees is inspected annually by a Competent Person and that appropriate records are maintained. A Supervisor or Manager may function as a Competent Person with appropriate documented training.
- Ensuring overall employee compliance with this program.

D. Employees:

- Comply with this Guideline and any further safety recommendations provided by supervisors and EHS regarding Fall Protection.
- Consult with their supervisor, EHS, or other knowledgeable personnel when they have questions regarding their safety.

- Report any accidents or job-related injuries or illnesses to their supervisor and seek prompt medical treatment, if necessary

E. Contractors:

- Verify that all their employees and subcontractors receive proper training; provide documentation of fall protection training, including but not limited to the limitations of applicable fall protection systems/equipment.
- Provide fall protection equipment for their employees and subcontractors (if subcontractors do not have their fall protection equipment).
- Verify that equipment can meet ANSI and OSHA standard requirements for live loads on anchorage and guardrails.
- Establish and maintain appropriate communication with affected employees and visitors.

5. DEFINITIONS

- **Authorized person:** An employee using fall protection equipment who understands the employer's policy, procedures, and instructions from the competent person regarding using fall protection and rescue systems.
- **Aerial lift device:** Equipment such as powered platforms, vehicle-mounted elevated and rotating work platforms, extensible boom platforms, aerial ladders, articulating boom platforms, vertical towers, and powered industrial truck platforms.
- **Anchor point:** A secure point of attachment for lifelines, lanyards, or deceleration (grabbing) devices.
- **Body belt:** A strap for securing it about the waist and attaching it to a lanyard, lifeline, or deceleration (grabbing) device. Using a body belt in a positioning restraint device system is acceptable and regulated under paragraph (e) of 29 CFR 1926.502. Body belts cannot be used as part of a personal fall arrest system.
- **Body harness (also referred to as the full-body harness):** An interconnected set of straps that may be secured about a person in a manner that distributes the fall arrest forces over at least the thighs, pelvis, waist, chest, and shoulders with a

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means for attaching the harness to other components of a personal fall arrest system.

- **Connector:** A device that connects parts of a personal fall arrest system together (i.e., o-rings and snap hooks).
- **Competent person:** An individual designated by the employer to be responsible for the immediate supervision, implementation, and monitoring of the employer's managed fall protection program who, through training and knowledge, is capable of identifying, evaluating, and addressing existing and potential fall hazards, AND who has the employer's authority to take prompt corrective action concerning such hazards.
- **Deceleration device:** Any mechanism, such as a rope, grabbing device, rip stitch lanyard, specially woven lanyard, or automatic self-retracting lifeline/lanyard, which serves to dissipate a substantial amount of energy during a fall arrest, or otherwise limits the energy imposed on an employee during fall arrest.
- **Deceleration distance:** The additional vertical distance a falling person travels, excluding lifeline elongation and free fall distance, before stopping, from where a deceleration device begins to operate. It is measured as the distance between the location of an employee's body harness attachment point at the moment of activation (at the onset of fall arrest forces) of the deceleration device during a fall and the location of that attachment point after the employee comes to a full stop.
- **Designated area:** A space with a perimeter barrier erected to warn employees when approaching an unprotected side or edge and designate an area where work may be performed without additional fall protection.
- **Fall restraint:** Fall restraint is equipment that keeps someone from approaching a fall hazard. Restraint equipment differs from arrest equipment in that a body belt and a lanyard not containing a shock absorber may be used. The lanyard must be short enough to keep the individual from reaching the leading edge. The concept behind the restraint is that it allows someone to do work but keeps the individual from the potential of falling.
- **Fall arrest:** Fall arrest is the equipment used to stop a fall after someone has fallen. It is designed to stop someone before they strike the level below.
- **Fixed ladder:** A ladder, including individual rung ladders, permanently attached to a structure, building, or equipment. It does not include manhole steps.
- **Guardrail:** A barrier erected to prevent personnel from falling to lower levels. Hole: A void or gap 2 inches or more in its least dimension on a floor, roof, or other walking/working surface.
- **Horizontal lifeline:** A flexible line between two horizontal fixed anchorages connected to a fall arrest device.
- **Infeasible:** It is impossible to perform the construction work using a conventional fall protection system (i.e., guardrail system, safety net system, or personal fall arrest system), or it is technologically impossible to use any of these systems to provide fall protection.
- **Ladder:** A device typically used to access a different elevation consisting of two or more structural members crossed by rungs, steps, or cleats.
- **Lanyard:** A flexible line of rope or strap with a connector at each end for connecting the body harness to a deceleration device, lifeline, or anchor point.
- **Leading edge:** The edge of a floor, roof, or formwork for a floor or other walking/working surface (such as the deck) that changes location as additional floor, roof, decking, or formwork sections are placed, formed, or constructed. A leading edge is considered an "unprotected side and edge" when not actively and continuously under construction.
- **Lower levels:** Those areas or surfaces to which an employee can fall. Such areas include, but are not limited to, ground levels, floors, platforms, ramps, runways, excavations, pits, tanks, material, water, equipment, structures, or portions thereof.
- **Low-slope roof:** A roof having a slope less than or equal to 4 in 12 (vertical to horizontal).
- **Mechanical equipment:** All motor or human-propelled wheeled equipment used for roofing work,

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except wheelbarrows and mop carts.

- **Opening:** A gap or void 30 inches or higher and 18 inches or wider in a wall or partition through which personnel can fall to a lower level.
- **Orthostatic intolerance:** Orthostatic intolerance may be defined as “the development of symptoms such as light-headedness, palpitations, tremulousness, poor concentration, fatigue, nausea, dizziness, headache, sweating, weakness and occasionally fainting during upright standing.” While in a sedentary position, blood can accumulate in the veins, which is commonly called “venous pooling” and cause orthostatic intolerance. Orthostatic intolerance also can occur when an individual moves suddenly after being sedentary for a long time. For example, a person may experience orthostatic intolerance when they stand up quickly after sitting still for a long time.
- **Personal fall arrest system (PFAS):** A system used to arrest an employee in a fall from a working level. It consists of an anchorage, connectors, and body harness and may include a lanyard, deceleration device, lifeline, or suitable combinations.
- **Positioning device system:** A body harness system rigged to allow an employee to be supplied on an elevated vertical surface, such as a wall, and work with both hands free while leaning.
- **Program administrator:** The person responsible for the development, implementation, monitoring, and evaluation of the managed fall protection program.
- **Qualified person:** One with a recognized degree or professional certificate (Professional engineer PE) and extensive knowledge, training, and experience in the fall protection and rescue field who is capable of designing, analyzing, evaluating, and specifying fall protection and rescue systems to the extent required by these standards.
- **Restraint line:** A device attached between the employee and an anchorage to prevent the employee from walking or falling off an elevated surface.
- **Roof:** The exterior surface on the top of a building.
- **Roofing work:** The hoisting, storage, application, and removal of roofing materials and equipment, including related insulation, sheet metal, and vapor barrier work, but not including the construction of the roof deck.
- **Rope grab (grabbing device):** A deceleration device that travels on a lifeline and automatically, by friction, engages the lifeline and locks to arrest a fall.
- **Scaffold:** Any temporary elevated or suspended platform and supporting structures used to support employees, materials, or both.
- **Self-retracting lifeline/lanyard:** A deceleration device containing a drum-wound line that can be slowly extracted from, or retracted onto, the drum under minimal tension during normal movement and which, after the onset of a fall, automatically locks the drum and arrests the fall (usually within two feet or less).
- **Snap hook:** A connector consisting of a hook-shaped member with a normally closed keeper or similar arrangement, which may be opened to permit the hook to receive an object and, when released, automatically closes to retain the object.
- **Standard railing:** A vertical barrier erected along exposed edges of a floor opening, wall opening, ramp, platform, or runway to prevent falls of persons.
- **Steep roof:** A roof having a slope greater than 4 in 12 (vertical to horizontal).
- **Suspension trauma:** Suspension trauma, also known as harness hang syndrome (HHS), is an effect that occurs when the human body is held upright without any movement for a period. If the person is strapped into a harness or tied to an upright object, they will eventually suffer the Central Ischemic Response (commonly known as fainting). If one faints but remains vertical, one risks death due to one’s brain not receiving the required oxygen.
- **Tie-off:** A procedure of connecting directly or indirectly to an anchorage point.
- **Toe board:** A low protective barrier that prevents material and equipment from falling to lower levels and protects personnel from falling.
- **Unprotected sides and edges:** Any side or edge (except at entrances to points of access) of a walking/working surface, e.g., floor, roof, ramp, or



runway, with no wall or guardrail system at least 39 inches high.

- **Vertical lifeline:** A component consisting of a flexible line for connection to an anchor point at one end to hang vertically and that serves as a means for connecting other components of a personal fall arrest system to the anchor point.
- **Walking/working surface:** Any surface, whether horizontal or vertical, on which an employee walks or works, including, but not limited to, floors, roofs, ramps, bridges, runways, formwork, and concrete reinforcing steel but not including ladders, vehicles, or trailers, on which employees must be located to perform their job duties.
- **Warning line system:** A barrier erected on a roof to warn employees that they are approaching an unprotected roof side or edge, and which designates an area in which roofing work may take place without the use of guardrail, or body belt, systems to protect employees in the area.
- **Work area:** That portion of a walking/working surface where job duties are performed.

6. FALL PREVENTION

It is always preferable to engineer out the hazard, e.g., using guardrails, designing walls with a height of at least 42 inches, plus or minus three (3) inches, or ensuring maintenance activities can be performed inside the building, not on the roof edge. If engineering controls cannot be implemented, active fall protection systems must be used. Passive fall protection systems, such as guardrails, are always preferred over active fall protection systems and require personnel to be actively engaged. They wear a personal fall protection device, such as a full-body harness. If any components of an active fall protection system fail, the user could come in direct contact with the hazard, which may result in injury or death.

Engineering controls are designed to eliminate hazards and are the preferred method for protecting from or controlling exposure to fall hazards. Examples of engineering controls used to eliminate or reduce exposure are: Changing equipment or processes to control the hazard (e.g., designing equipment to be maintained, operated, or inspected from the ground level).

Administrative controls reduce a hazard by changing

work practices or procedures. Examples of administrative controls that reduce exposure are: Restricting Access, Housekeeping, and Signage.

7. PASSIVE FALL PROTECTION SYSTEMS

Passive fall protection systems do not require operational involvement from the user to be protected while performing work at heights. Examples of passive systems are the installation of guardrail systems, the construction of parapet walls meeting the height criteria for guardrails, aerial lifts, and platforms that should be installed/used in place of active fall protection systems whenever possible.

Guardrails and parapets: The top edge height of the top rails, or equivalent guardrail system members, shall be 42 inches plus or minus 3 inches above the walking/working level. Personal fall arrest or restraint systems shall not be attached to guardrail systems unless they (guardrail systems) have been certified as permitted by a qualified person. When conditions warrant, the height of the top edge may exceed 45 inches, provided the guardrail system meets all other criteria. Midrails, screens, mesh, intermediate vertical members, or equivalent intermediate structural members shall be installed between the top edge of the guardrail system and the walking/working surface when there is no wall or parapet wall at least 21 inches high. Midrails shall be installed at a height midway between the top edge of the guardrail system and the walking/working level. Example: If the top edge of the guardrail is 42 inches, then the mid-rail must be 21 inches. If employees or students perform an action, such as working on a planter, that puts them above the roof surface and reduces the protection of the top rail of the guardrail or parapet, additional fall protection measures must be employed.

Skylights: Each employee and student on a walking/working surface shall be protected from objects falling through holes (including skylights) by placing covers over the holes. Unless the skylight has been designed to be walked on, a standard skylight screen shall guard every skylight, a fixed standard guardrail on all exposed sides, or personnel must use personal fall protection when working around them.

8. ACTIVE FALL PROTECTION SYSTEMS

Active fall protection systems necessitate employees

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and students to comprehend when they are exposed to fall hazards and have a functional knowledge of the available fall protection system. Active systems consist of a certified anchorage point and components connected to the worker (body harness, lanyard, self-retracting lifeline, rope grasp, etc.). Proper training in active systems is required for an effective fall protection system.

Before using personal fall protection systems, the employee/supervisor must evaluate the potential fall area and choose a system that prevents the user from coming into contact with the ground or other objects, such as the side of a building.

When engineering or administrative controls are insufficient to eliminate a fall hazard or in conjunction with engineering or administrative controls, personal protective equipment must be used to mitigate the risk. Individual fall protection systems include an Anchorage Point, a Lanyard, and a Full-body restraint. In addition, they may contain a deceleration device and a positioning belt. All fall protection equipment must meet or exceed ANSI requirements. Equipment for fall protection must bear the manufacturer's mark and approvals for specified use. The design capacity incorporates the user's full weight and the weight of any tools or materials carried, which could contribute to the load for fall protection equipment during a fall. Tulane personnel must use only commercially manufactured equipment designed for fall protection and certified by a nationally recognized testing agency.

Anchorage used for personal fall protection systems shall be independent of any anchorage that supports or suspends platforms. There are two types of anchorage points: noncertified and certified.

- **Non-certified anchor points:** Must support 5,000 pounds static per user for fall arrest, 3,000 lbs. for work positioning & rescue, and 1,000 lbs for fall restraint. These are under the supervision of a competent person. A competent person can identify existing fall hazards and has the authority to take prompt corrective measures to eliminate these hazards. Examples of non-certified anchorage points are beams, girders, columns, other building steel, or designated anchor points.
- **Certified anchorage points:** Must be capable of withstanding two times the foreseeable force for fall arrest, restraint, and work positioning. Certified anchor points must be capable of with-

standing five times the applied load for rescue. All certified anchor points must be certified by a qualified person. A qualified person has a recognized degree or professional certificate, is an engineer, typically structural or mechanical, and has extensive knowledge and experience capable of designing, analyzing, and evaluating fall protection system specifications. Qualified people may also work under the supervision of an engineer. Anchor points should, generally, be directly above the user's head and used as part of a complete fall arrest system. Anchor points in aerial lifts are typically located in the cage below the user's head. Personal fall arrest systems shall not be attached to guardrail systems unless certified as permitted by a qualified person.

Tying off around rough or sharp edges should be avoided.

Full body harness: The complete body harness is a piece of personal protective equipment designed to prevent injuries caused by a fall. A full-body harness consists of straps that can be secured around the user to distribute fall-arrest forces across the thighs, shoulders, torso, and pelvis. The full-body harness is compatible with other parts of a personal fall protection system. Only full-body harnesses are permitted for use. Choose the harness according to the activities it will be used for. Typically, the attachment point for a full-body harness is situated in the center of the user's back, approximately at shoulder level. The use of body belts for fall protection is prohibited. Body belts may only be worn in a hands-free work environment as part of a positioning system. Positioning devices must be secured to an anchorage point that can support at least twice the potential impact burden of the user's fall, or 3,000 pounds, whichever is greater. Body belts must be worn with a full-body restraint by all personnel. Where a positioning device is used, it must meet the following requirements: body belt must be worn with a full-body harness; body belts must be at least 1 5/8 inches broad; and positioning devices must be configured so that a free fall cannot exceed 2 feet.

Personal fall arrest systems: Most personal fall arrest systems are designed to protect a person and equipment weighing less than 310 lb. The user must verify with the manufacturer and know all equipment specifications. With a complete body harness, a personal fall arrest

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system must limit the maximum arresting force to 1,800 pounds. The average length of a fall arrest lanyard is six feet, assuming the user will not come into contact with any objects or a lower level. The average deceleration distance, or distance required to bring a user to a halt, is 3.5 feet. Personal fall arrest systems must be strong enough to withstand twice the potential impact energy of the user plummeting. Personal fall arrest systems must have sufficient strength to withstand twice the potential impact energy of a user free-falling 6 feet or less, whichever is less. Personal fall arrest systems must restrict free falls to less than 2 feet. Lifelines must be protected from abrasion and severing.

Size and Harness Selection: Departments must have harnesses of the appropriate size for all personnel required to wear them. This may necessitate a selection of harness sizes. Only two fingertips should fit underneath the leg strap when the harness is properly adjusted. Harnesses that are improperly sized or adjusted may result in severe injury or even fatality. Departments must evaluate conditions and select fall protection equipment based on workplace activity. Before selecting personal fall protection apparatus, assessments should, at a minimum, identify the presence of the following: Hot objects, pyrotechnics, flames, or heat-generating processes; Sharp or abrasive objects or surfaces; Equipment in motion; Electrical hazards and substances used by or near the wearer. Anything else that might compromise the strength or integrity of personal fall protection devices or their components. Depending on their function, numerous materials are used to construct harnesses, which should be chosen appropriately. For instance, welders should wear a harness made of flame-resistant material, and painters should wear a harness resistant to grease, oil, and paint.

Restraint Systems: A restraint lanyard is a device that is attached between the user and an anchorage point to prevent the user from walking or falling off an elevated surface. It does not support a person at an elevated surface; it prevents them from leaving the high surface or work position. Restraint systems are not designed for fall arrest. Restraint systems should be used when an arrest would create the hazard of the user hitting an object during the deceleration. An example is using a fall arrest system on a roof edge. If the user falls from the edge, they will hit the side of the building. In this example, fall restraint – not arrest – is the fall protection system that should be used.

When selecting a fall restraint, ensure that the lanyard meets the following: it should only be long enough to get to the edge of the walking surface and not over it, and it can withstand a force of 3,000 lbs. applied to the device when the lifeline or lanyard is fully extended, and it does not have a deceleration device on it. All personal fall arrest/restraint systems components must be appropriate for the workplace conditions and environment.

- **Fall arrest lanyards and lifelines:** Fall arrest lanyards and lifelines shall have a minimum breaking strength of 5,000 pounds. Lanyards shall not exceed six feet in length. Lanyards used on aerial lift devices should not exceed 4 feet in length, reducing the possibility of leaving the safety of the basket.
- **Ropes and straps (webbing):** Ropes and straps used in lanyards, lifelines, and strength components of body harnesses shall be made from synthetic fibers.
- **Connecting assemblies:** Connecting assemblies shall have a minimum tensile strength of 5,000 pounds. Connectors shall have a corrosion-resistant finish, and all surfaces and edges shall be smooth to prevent damage to interfacing parts of the system.
- **Tie-off adapter:** Tie-off adapters must provide a secure point of attachment for a complete personal fall arrest system and be capable of supporting a load of 5,000 lbs.

Self-retracting lifelines and lanyards: Self-retracting lifelines and lanyards, which automatically limit free fall distance to 2 feet or less, shall sustain a minimum tensile load of 3,000 pounds applied to the device with the lifeline or lanyard in the fully extended position. Self-retracting lifelines and lanyards, which do not limit free fall distance to 2 feet or less, shall be capable of sustaining a minimum tensile load of 5,000 pounds. Rip-stitch lanyards, tearing, and deforming lanyards shall sustain a minimum tensile load of 5,000 pounds when applied to the device while the lifeline or lanyard is in the fully extended position.

Horizontal lifelines: Horizontal lifelines shall be designed, installed, and used under the supervision of a qualified person as part of a complete personal fall protection system that maintains a safety factor of at least two. On suspended scaffolds or similar work platforms with horizontal lifelines, the devices used to connect to a horizontal



lifeline shall be capable of locking in both directions on the lifeline. In this instance, each user shall be attached to a separate lifeline.

Vertical lifelines: Vertical lifelines shall have a minimum breaking strength of 5,000 pounds and be protected against being cut or abraded. Each user shall be attached to a separate lifeline when vertical lifelines are used.

D-rings and snap hooks: D-rings and snap hooks shall have a minimum tensile strength of 5,000 points. D-rings and snap hooks shall be proof-tested to a minimum tensile load of 3,600 pounds without cracking, breaking, or being permanently deformed. Snap hooks shall be of the double-locking type. The snap hook is a locking type designed for the following connections, and snap hooks shall not be engaged: Directly to webbing, rope, or wire rope To each other; To a D-ring to which another snap hook or connector is attached. To a horizontal lifeline. To any object which is incompatibly shaped or dimensioned concerning the snap hook such that unintentional disengagement could occur by the connected object depressing the snap hook keeper and releasing itself on suspended scaffolds or similar work platforms with horizontal lifelines that may become vertical lifelines. To prevent unintentional disengagement, snap hooks shall be sized to be compatible with the member to which they are connected and shall have the locking-type closure. This is to prevent unintentional disengagement of the snap hook. The devices connected to a horizontal lifeline shall be capable of locking in both directions on the lifeline. Connectors shall be drop forged, pressed, or formed steel or made of equivalent materials.

Warning lines: All warning lines consist of ropes, cables, chains, and stanchions installed as follows: The rope, wire, or chain must be designated every 6 feet with highly visible material and 15 feet from the leading edge. The rope, wire, or chain must be constructed and supported so that its lowest point (including sag) is at least 34 inches from the walking/working surface and its highest point is at most 39 inches. Stanchions must be able to withstand, without toppling, a horizontal force of at least 16 pounds (71 N) applied 30 inches (.8 m) above the walking/working surface, perpendicular to the warning line, and in the direction of the floor, roof, or platform edge, after being erected and with the rope, wire, or chain attached. No work or work-related activities are permitted between the warning line and the edge.

9. PROHIBITED CONDITIONS

- Using or providing damaged or defective equipment.
- Use of a body belt for anything other than a positioning device.
- Improper dimensions of the D-ring, rebar, or another connection point concerning the snap hook keeper are to be depressed by a turning motion of the snap hook.
- Using equipment for activities other than its intended, specified purpose.
- Putting a load on any component greater than it has been rated for.
- Not notifying supervisors of activation through a fall of anchor points, lanyards, harnesses, or any fall protection device or system component.
- Warning lines on steep slope surfaces exceeding a 4/12 roof pitch (must use personal fall protection equipment instead).
- Tying off to an anchorage below the dorsal D-ring unless using an aerial lift platform that places the anchorage below the dorsal D-ring.
- Attaching personal fall protection systems to guardrails or hoists not certified by a qualified person.
- Tying a knot in lanyards, lifelines, or anchorage connectors. The use of knots decreases the efficacy of the load rating.
- Tying off to fire protection piping, conduit, ductwork piping, or other structures that are not intended nor designed for fall protection and haven't been approved for such application by a qualified person.
- Tying around "H" or "I" beams unless a webbing lanyard or wire core lifeline, or other equivalent connector is used (beam straps or cross-arm straps). Avoid tying off around rough or sharp edges.

10. INSPECTIONS

Active fall protection apparatus, including anchor points, lifelines, lanyards, full-body harnesses, snap hooks, and connectors, must be inspected before each use by

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the user. At a minimum, users must adhere to the manufacturer's inspection instructions. Departments will keep instructions, manuals, and inspection records for every piece of equipment they own, making them easily accessible to all users. Defective equipment must be removed from service and rendered useless.

- On the inspection before each use, the following should be noted: Examine webbing for cuts, tears, holes, mildew, enlarged eyeholes, and other symptoms of wear that could compromise the integrity of the equipment. Examine the needlework for signs of deterioration or damage. Examine all metal hardware for cracks, fractures, deformation, anchorage loosening, and other symptoms of wear or deterioration that may affect the equipment or its ability to fasten/close. Examine lifelines and lanyards for fraying, fractured strands, cuts, abrasions, chemical damage, discoloration, and deterioration that could compromise the equipment's effectiveness. Examine the anchor points to ensure they have not become dislodged, and there are no fractures, deformities, or other damage.

Damaged or altered personal fall protection equipment must be removed from service until a competent or qualified person or the manufacturer verifies that it is in good working order.

If a user is involved in an incident involving a fall from an elevated work surface. In that case, a qualified individual must inspect the fall protection equipment to determine whether it can be reused or discarded.

Annual inspection: Fall protection systems require annual or manufacturer-recommended inspections. Inspections must be conducted by a trained employee who has completed an approved competent person course. An annual inspection of all fall protection system components, such as lifelines, structural components, and personal protective equipment, is recommended. Follow manufacturer recommendations and guidelines during annual inspections. Verify equipment compliance with the manufacturer's specifications. Deficiencies found during the fall protection system inspection or certification must be corrected before use. An annual inspection of full-body harnesses, shock-absorbing lanyards, anchorage connector straps, and lifelines is necessary to ensure competence. Insufficient or unclear marking. No elements

that affect the apparatus's form, fit, or function are present. Indications of hardware defects or damage include fractures, sharp edges, deformation, corrosion, modification, and excessive wear. Defective or damaged straps/strands include frayed, unspliced, kinked, knotted, broken or pulled stitches, excessively elongated, soiled, abraded, altered, mildewed, excessively worn, or aged. Modified mechanical devices and connectors may have missing parts or defects that cause damage or malfunction. Worn or damaged metal hardware can weaken equipment and fastening devices. Inspect the stitching for signs of wear, such as breaks, frayed strands, loose or decaying threads, and other indications of deterioration. Any factor that questions the appropriateness of the equipment for its intended purpose. The yearly equipment assessment should be recorded on a form as stated in Appendix A. Defective, damaged, or poorly maintained equipment identified during an inspection must be permanently taken out of service and disposed of. The yearly inspection should encompass all relevant daily or pre-use inspection components. Retractable lifelines require a periodic inspection as per the manufacturer's instructions.

Inspection of guardrails and railings: The user will visually inspect before using a guardrail as passive fall protection. The visual inspection will note deformation or wear that could reduce the designed capacity or effectiveness of the guardrails. If the visual inspection notes potential problems, the user should immediately stop and notify Facilities Services, who will be responsible for evaluating the issue and repairs, if needed. Examples of some common issues with guardrails are:

- Loose connections, components, deformation, cracks, or damage.
- Corrosion.
- Gates at ladders and similar unprotected edges should operate smoothly with one hand.
- Spring closures should be able to close and secure the gates entirely.
- Removable railings should not show excessive play at the connections.
- Pins and removable components should be in place.
- Removable components like pins should be tethered to the railing or socket to prevent them from being lost.

Inspections of anchor points by a qualified per-

Fall Protection Program, cont.



son: Anchor points must be load tested upon installation. Points must be inspected by a qualified person after a fall, following any significant alteration to existing equipment, or annually if they are in a corrosive environment. Load testing is required initially when design documents are not available. Follow all manufacturers' recommendations for care and inspection. Anchor points used regularly by the departments that use them will be inspected by Facilities Services' designated vendor every two years in a typical environment and every year in a corrosive environment. The vendor will be a qualified person. All users should perform a visual inspection before clipping in and should look for the following items:

- Verify with Facilities Services or the supervisor that the anchor is in good working order.
- If the anchor point has become unseated or moved.
- If the anchor point shows signs of wear or corrosion.
- If the area around the anchor point has cracks, deformation, or other signs of damage.

Should any of the above conditions be noted, notify Facilities Services and:

- Provide the equipment ID number and location to tag the anchor point.
- It must only be used once a qualified person can test it.
- If the anchor point is removed from service, the tag must state the individual's name and the contact number of the person who tagged it.
- Anchor points tagged out must not be used until Facilities Services' designated vendor performs an inspection and verifies that it is in good working condition and safe to use.

11. CARE AND STORAGE OF EQUIPMENT

Refer to the manufacturer's instructions for caring for and storing all personal fall protection equipment. These instructions must be made available to users of fall protection equipment. Equipment needing maintenance or repair must be tagged 'Out of Service' or with similar phrasing and removed from service. Equipment damaged or needing repair should be separated from equipment in good working order. Generally, fabric webbing harnesses,

lanyards, and anchorage connecting straps can be washed using a mild detergent, rinsed, and dried.

Fall protection equipment should be stored in a clean, dry area at a normal temperature not to be damaged by environmental factors such as heat, light, excessive moisture, temperature extremes, and other degrading elements. Keep in clean, dry areas and away from direct sunlight, which can degrade synthetic webbing. When feasible, Harnesses should be hung up by their D-rings.

Fall protection equipment must be protected from solvents, acids, corrosives, oils, or any materials that could damage or degrade them.

Ensure fall protection equipment is protected from sharp objects or conditions such as hot surfaces, sparks, or flames that could damage it.

Take fall protection equipment out of service if burn marks or material stiffening is noted.

Equipment should be dried thoroughly before putting away.

12. EMERGENCY PROCEDURE / RESCUE

Before using any personal fall protection equipment, an area assessment must be made, a vital piece of an assessment that includes the rescue plan. Rescue plans must include the following:

- An attendant or coworker who remains in contact with the person using personal fall protection; this can be visual contact, radio, etc.
- The attendant must be able to contact rescue personnel immediately.
- Trained rescue personnel should be available on-site. However, rescue operations may be coordinated with outside agencies, such as local fire departments or consultants.
- This can be accomplished by calling TUPD, who will contact emergency services (EMT, fire dept., etc.)
- TUPD can be reached by dialing 6411 from any landline or by calling 985-971-6411 from any

Work shall only be performed where it is possible to identify an emergency, summon and promptly ensure rescue.

In some cases, if the student or employee who has fallen can be reached safely using an aerial lift, rescue can be performed by placing the lift underneath the fallen in-

Fall Protection Program, cont.



dividual. The suspended individual must only be detached from their lanyard once inside the lift.

Some Tulane campuses are in remote locations, and rescue by local emergency services may not be available to prevent the employee from sustaining injury or death due to suspension trauma. Staff may perform a rescue, provided they have been appropriately trained and can do so safely.

Sometimes, personnel may need to work alone at heights. A formal rescue plan must be created before commencing work if their duties require active fall protection equipment and they are working alone. Students are not allowed to work alone on roofs. For departments with employees who have to work alone at heights, they must have a system to periodically communicate with them to ensure their safety while working at heights.

Suspension trauma: Suspension trauma—also known as harness hang syndrome (HHS) or orthostatic intolerance—can occur in fall arrest system users. A harnessed user can stay suspended after falling. Inactivity can cause unconsciousness. The suspended user's unconsciousness, immobility, and venous pooling may determine orthostatic intolerance's fatality. According to the Journal of Emergency Medical Services, suspension trauma can cause a critical circulatory collapse in 30 minutes. Physical condition determines suspension trauma onset. Being upright may slow suspension trauma. In equilibrium, leg muscles must contract to maintain balance by applying pressure to the veins. Personal fall arrest systems rescue people, but suspension trauma may occur while waiting for rescue. Elevated workers need comprehensive fall prevention training. Suspension trauma relief straps may improve harnesses. Fall victims can use suspension trauma relief straps. The straps are looped to form a standing position for the feet. This mechanism helps leg muscles contract and reduces leg strap pressure, improving blood flow.

13. AERIAL LIFTS / ELEVATED WORKING PLATFORMS

Certain types of aerial lifts necessitate the implementation of fall protection measures. It is recommended that the user consult the manufacturer's specifications before operating an aerial lift. Before operating an aerial lift, any Tulane employee who utilizes or may utilize said equipment must receive proper training from a qualified

individual. The Tulane University Aerial Lift Safety Program provides further information on the requirement of fall protection when individuals such as students, staff, or faculty must exit the safety of the lift.

14. LADDERS

Ladders must meet OSHA requirements for General Industry ([OSHA 1910.23](#)) and Construction Industry ([OSHA 1926.1053](#)). For guidelines on properly selecting and using a ladder per OSHA, follow the guidelines below. Ladder selection must be determined by the work process that will be performed. Portable ladders must have a duty rating label to notify users of their limitations. All ladders must be inspected before each use and follow the ladder safety work practices for ascending and descending. Keep ladders clean and free from oil, grease, or slippery material. If ladders are found to be defective, they must be removed from service and destroyed. Metal rungs, including individual rungs, will have protection from deterioration by being painted or otherwise treated to resist corrosion or rusting from location demands. Repair or replace rungs/ladders immediately if corrosion is discovered. See Ladder Basics Fact Sheet for more information.

15. SCAFFOLDING

All scaffolds will be Erected per [OSHA Standards 1926.451](#) and [1926.452](#) of the Construction Safety Orders. Erected and dismantled by qualified personnel only. All exposed surfaces shall be free from sharp edges or other laceration hazards. Scaffolds shall not be subjected to loads greater than their maximum intended working load. A qualified person shall determine the maximum intended working loads for scaffolds that are neither manufactured nor engineered.

Other requirements: Scaffolding shall be inspected by a competent person after installation, before first use, before each work shift, and after any adverse weather condition (e.g., high winds) that can affect a scaffold's structural integrity. Anchorage and bracing shall be such that scaffolds and falsework will be prevented from swaying, tipping, or collapsing. All scaffold planks shall be visually inspected for defects before use each day. Preventive maintenance shall be performed on all fall protection from equipment to personal protective equipment to re-



duce the risk of malfunction during use. All fall protection equipment shall be visually inspected for defects before each use. If there is evidence of excessive equipment wear or deterioration or if mechanical malfunction is detected, the item shall be removed from service.

Narrow frame scaffolding: Narrow frame scaffolds, also known as Baker/Perry style scaffolds, are among the most popular pieces of construction equipment. Due to their versatility, many contractors use them instead of ladders because they allow workers to maintain their balance and work more easily from the platform.



Figure 1

A narrow frame scaffold has wheels and is often used as a mobile scaffold, with the end frame measuring 3 feet or less in width. (See Fig. 1.) Designed to be easily moved, they are used for painting, drywall installation, plastering, and other jobs where workers must frequently change positions. Scaffolds can be adapted to stairs, ramps, and other uneven surfaces. Scaffolds may sometimes be a better and safer choice than ladders. Some of the hazards associated with narrow frame scaffolds can lead to personal injury or death; they include:

- Falls from an elevated level.
- Tip-overs
- Electric shocks
- Structural failures (collapse)

Only trained and authorized persons should be allowed to use scaffolding. This training must be provided by a qualified person who recognizes the hazards associated with the type of scaffold used and understands the procedures to control or minimize those hazards. Training must include how to safely use the scaffold and determine the maximum load limits when handling materials. Recogni-

ze and avoid scaffolding hazards such as electric shock, falls from heights, and being hit by falling objects. Erect, inspect, move, operate, maintain, and repair scaffolds.

16. WORKING AT HEIGHTS: PEDESTRIAN PROTECTION

Hazards from falling objects must be controlled whenever work at heights must be performed. This can be accomplished in various ways: Using toe boards for scaffolding, wearing tool belts or securing tools, and barricading the area below to protect pedestrians from falling objects. Toe boards should be used whenever overhead work may present the possibility of kicking tools over the side. Toe boards shall be capable of withstanding, without failure, a force of at least 50 pounds applied in any downward or outward direction at any point along the toe board.

17. CONFINED SPACE

Refer to Tulane University Confined Space Program.

18. TRAINING/ RETRAINING

No student, staff, or faculty shall work at heights without the proper training. All students, staff, or faculty who work at heights must complete both the online training initially and annually after that and hands-on site-specific training initially and every two years after that. A competent person will give hands-on site-specific training. May use a qualified third party to conduct hands-on site-specific training. Site-specific training must be included as a minimum.

Retraining: Retraining will occur when OEHS or a supervisor has reason to believe that any employee or student, who has already been trained, needs more understanding and skills. Circumstances where retraining is required include but are not limited to, situations where: An incident in the workplace has occurred associated with fall protection. Changes in the workplace render previous training obsolete. Changes in the types of fall protection systems or equipment to be used render previous training obsolete. Inadequacies in an affected user's knowledge or use of fall protection systems or equipment indicate that the user needs to retain the requisite understanding or skill.

Fall Protection Program, cont.



19. RECORD RETENTION

Manufacturer's instructions, inspection, and maintenance records must be kept for as long as the equipment is in use. This includes qualification records for designing and installing anchorage points and systems. The annual inspection records for personal fall protection and anchorage systems must be kept for at least three years. Training records for all users must be kept for a minimum of 3 years.

20. PROGRAM EVALUATION

OEHS may perform departmental audits at any time. OEHS will evaluate the Tulane Fall Protection Program for not exceeding five years. Additionally, the program and departments will be evaluated when deficiencies are noted after incidents involving injuries or near misses occur. In the event of a fall, an incident investigation will be conducted by OEHS in conjunction with the department supervisor and the employee involved promptly.

Fall Protection Plan: Annual Inspection Forms



Anchor Point Inspection Form

Tulane requires documentation of inspection annually on all fall protection equipment. All damaged equipment must be removed from service until it is replaced or repaired. Contact your supervisor with questions or concerns regarding fall protection equipment.

Name of Competent Person Conducting the Inspection: _____

Date of Inspection: _____ Serial #: _____

Anchor Point Manufacturer: _____

Yes	No	Labels and Markings
		Labels and markings are intact and legible
Yes	No	Hardware
		Signs of deformity
		D-ring/connection points
		Hook gate/rivets (if applicable)
		Corrosion/pitting/nicks
Yes	No	Anchorage Connector
		Deterioration/corrosion
		Cuts/burns/holes
		The integrity of welds/rivets
		Paint contamination
		Stitching/wire condition
		Heat corrosion/UV damage
		Separation/bird caging
Yes	No	This anchor point has passed inspection.

If an anchor point does not pass inspection, it must be tagged out and removed from service immediately!

Fall Protection Plan: Annual Inspection Forms



Fall Assessment Evaluation Form

Each department is responsible for assessing the potential fall hazards in their area. Below is a list of questions to help you perform a hazard assessment for your area. Contact your supervisor or Facilities Services if deficiencies are noted. This assessment must be completed for each area initially, annually, and if conditions change.

Name (print): _____ Date: _____

Assessment Area: _____

Yes	No	N/A	
			Can I work safely from the ground by bringing the work down?
			Can I work safely using a ladder?
			Are there guardrails in place?
			Can I use portable guardrails?
			Will I be performing work that will make the use of guardrails ineffective?
			Will my activities present a hazard for those below?
			Are there any unstable, uneven, slippery walking/working surfaces?
			Are there any unguarded wall openings?
			Will work be performed using an aerial lift?
			If an aerial lift is used, do I have the proper training to use the aerial lift?

If personal fall protection equipment is necessary and ***you have received the proper training***, address all the questions below before beginning work:

Yes	No	N/A	
			Are there existing anchor points that can be used?
			Is the anchor point in service?
			If not, can pre-fabricated or engineered anchor points be installed?
			Do I have all the right equipment for the job at hand (such as full body harness, connecting hardware, lanyard, etc.)?
			Are all the pieces of my personal fall protection equipment in good working order?
			Will I exceed manufacturer's specifications once I have added the weight of all tools?
			If a fall arrest system is used, do I have clearance for the entire distance I may fall?
			If using a fall restraint, is my lanyard a length so I cannot go over the edge?
			Have I completed the Rescue Plan (Appendix H) if using a fall arrest?

Signature of the person doing the assessment: _____

Fall Protection Plan: Annual Inspection Forms



Full Body Harness Inspection Form

Tulane requires documentation of inspection annually on all fall protection equipment. All damaged equipment must be removed from service until it is replaced or repaired. Contact your supervisor with questions or concerns regarding fall protection equipment.

Name of Competent Person Conducting the Inspection: _____

Date of Inspection: _____ Serial #: _____

Lanyard and/or SRL Manufacturer: _____

Yes	No	N/A	Labels and Markings	Yes	No	N/A	D-Ring Plate (back pad)
			Labels and markings are intact and legible				Missing
Yes	No	N/A	Impact Indicator				Damaged
			Damaged	Yes	No	N/A	Stitching
			Missing				Cut
			Deployed				Broken
Yes	No	N/A	Buckles				Pulled
			Cracked				Mussing stitch patterns
			Poor function				Burned
			Missing parts	Yes	No	N/A	Webbing
			Corroded				Cuts/tears/holes
			Burrs/sharp edges				Burns
			Bent				Frays
			Distorted				Knots
			Damaged				Uv damage
Yes	No	N/A	D-Rings				Grease/grime
			Cracked				Paint
			Welded				Discoloration
			Bent/distorted				Mold
			Corroded				Missing/damaged stitch pattern
			Sharp edges				Permanent marking on load bearing webbing
Yes	No	N/A	Connectors				Heat damage/glazing
			Cracked				Abrasions
			Sharp edges	Yes	No	The full-body harness has passed inspection.	
			Missing parts				
			Corroded				
			Bent/distorted				
			Stays open/won't lock				
			Closes but doesn't lock				
			Single action (no lock on the gate)				

If the full body harness did not pass inspection, it must be tagged out and removed from service immediately!

Fall Protection Plan: Annual Inspection Forms



Lanyards and Self-Retracting Lifeline Inspection Form

Tulane requires documentation of inspection annually on all fall protection equipment. All damaged equipment must be removed from service until it is replaced or repaired. Contact your supervisor with questions or concerns regarding fall protection equipment.

Name of Competent Person Conducting the Inspection: _____

Date of Inspection: _____ Serial #: _____

Lanyard and/or SRL Manufacturer: _____

Yes	No	N/A	Labels and Markings	Yes	No	N/A	Housing
			Labels and markings are intact and legible				Cracks/distortion
Yes	No	N/A	Impact Indicator (where applicable)				Dents impeding operation
			Damaged				Dirty/contaminated
			Missing				Missing parts (screws, bolts, etc.)
			Deployed	Yes	No	N/A	Shock Absorber
			Reserve lifeline deployed (if applicable)				Cuts/tears/abrasions
			Connectors				Deployed/stretched/elongated
			Cracked				Plastic cover missing
			Sharp edges				Holes/burns
			Missing parts				UV damage
			Corroded				Excessive soiling
			Bent/distorted	Yes	No	N/A	Wire Rope (Self-Retracting Lifeline)
			Stays open/won't lock				Heat damage
			Excess dirt/grease				Kinked
			Closes but doesn't lock				Corrosion
			Single action (no lock on the gate)				Distortion
Yes	No	N/A	Webbing				Loose terminations
			Cuts/tears/holes				Separations of strands
			Burns				Damaged wire (broken wire, bird caging, etc.)
			Frays	Yes	No	N/A	Rope (Lanyard)
			Knots				Loose splice
			UV damage				Fraying
			Grease/grime				Cuts/pulls in fiber
			Paint				Burns
			Discoloration				Knots
			Mold				Heat damage/glazing
			Missing or damaged stitch patterns				Damaged rope (bird caging, stretching, kinking)
			Permanent markings on load bearing webbing				Core damage (voids, core showing through sheath)
			Heat damage/glazing				Discoloration
			Abrasions				Paint/rust staining
Yes			No			This Lanyard or SRL has passed inspection.	

If the lanyard did not pass inspection, it must be tagged out and removed from service immediately!

Fall Protection Plan: Annual Inspection Forms



Personal Fall Protection Training Form

Tulane requires documentation of inspection annually on all fall protection equipment. All damaged equipment must be removed from service until it is replaced or repaired. Contact your supervisor with questions or concerns regarding fall protection equipment.

Name (print): _____ Date: _____

Department: _____ Name of Trainer (print): _____

The University requires documentation that all personal fall protection users have received hands-on training. A competent person shall provide the training. The supervisor is responsible for ensuring that all employees and students are trained.

1. This training must be provided initially and:
2. All work is stopped during a near miss or accident.
3. Whenever a new piece of personal fall protection equipment is received and requires training.
4. Hands-on training is required initially and every two years (online training is required annually).

Yes	No	N/A	General
			How to select personal fall protection equipment
			How to put on personal fall protection equipment
			How to properly fit personal fall protection equipment
			How to identify fall hazards
			How to calculate fall distance
Yes	No	N/A	Personal Protective Equipment
			How to properly inspect personal fall protection equipment
			How to properly maintain personal fall protection equipment
			How to properly clean personal fall protection equipment
			How to properly store personal fall protection equipment
Yes	No	N/A	Emergency Procedures
			Elements of a fall rescue plan
			How will rescue or retrieval occur
			How to contact emergency services

I certify that the topics indicated on this checklist were covered (as applicable) during this training session:

Signature of Trainee: _____ Date: _____

Signature of Trainer: _____ Date: _____

Fall Protection Plan: Annual Inspection Forms



Rescue Plan

A rescue plan must be completed whenever personal fall protection, or fall arrest, is used. Include the name(s) of all user(s) who will be performing work while wearing fall arrest equipment. An attendant is required at all times. The attendant must remain in direct contact with the user(s). The attendant must be familiar with the dangers of suspension trauma and have immediate access to medical emergency services. Any deviation must obtain prior approval from their supervisor. Contact Facilities Services if a fall occurs to have the anchor point inspected.

Date: _____ **Building Name and Location:** _____

Name of User(s): _____

Name of Attendant(s): _____

Will the attendant use a cell phone or landline to contact emergency services, and where is it located?

What rescue equipment is immediately available in the event of a fall?

Describe obstacles and/or obstructions that would hinder rescue in the event of a fall:

How will prompt rescue occur?

Are trauma straps present on the fall protection equipment being used? _____

How will the rescuer and the suspended worker's safety be assured? _____

Emergency #'s: TUPD: _____ **Occupational Health:** _____

OEHS: _____ **Facilities Services:** _____

Fall Protection Plan: Annual Inspection Forms



Rope Grabs, Vertical Lifelines, Temporary Horizontal Lifelines Inspection Form

Tulane requires documentation of inspection annually on all fall protection equipment. All damaged equipment must be removed from service until it is replaced or repaired. Contact your supervisor with questions or concerns regarding fall protection equipment.

Name of Competent Person Conducting the Inspection: _____

Date of Inspection: _____ Type of Equipment: _____

Equipment Manufacturer: _____ Serial #: _____

Yes	No	N/A	Labels and Markings	Yes	No	N/A	Rope
			Labels and markings are intact and legible				Loose splice
Yes	No	N/A	General				Frayed strands
			Vertical lifeline matches rope grab as per manufacturer				Inner core damage (core showing through a sheath, etc.)
			“Up” arrow legible				Cuts/pulls in fiber
			Springs operate correctly				Burns
			Corrosion				Knots
			Burns/cracks/sharp edges				Heat damage/glazing
			Unusual discoloration				Rope damage (bird caging, stretching, etc.)
			Deformation				Discoloration
			Connectors functioning properly				Dirt/grease
Yes	No	N/A	Manual Device				Paint/rust staining
			Damaged	Yes	No	N/A	Wire Rope
			Operates without restriction				Heat damage
			Locks onto rope properly and cleanly				Kinked
			Internal wear				Missing/damaged thimble
			Missing Parts				Loose termination
			All moving parts operate without restriction				Damaged wires (broken strands, bird caging, abraded wires, etc.)
Yes	No	N/A	Rivets, Bolts, and Rollers				Corrosion/distortion
			Corroded	Yes	No	N/A	Shock Absorber
			Missing				Cuts/tears/abrasions
			Loose/bent				Deployed/stretched/elongated
			Excess dirt/grease				Protective cover missing
Yes	No	N/A	Vertical and Horizontal Lifelines				Holes/burns
			Screws, nuts, and bolts secure				UV damage/fading
			Thimbles held firm				Rust damage
			Covers free from cracks/dents				Corrosion/Distortion
			Metal components corroded/rusting	Yes	No	This rope grab, vertical lifeline, or temporary horizontal lifeline has passed inspection.	
		Broken impact indicator pin (if applicable)					
		No substitutions or alterations					

If the rope grabs, vertical lifelines, or temporary horizontal lifelines do not pass inspection, they must be tagged out and removed from service immediately!