



# COCHISE COUNTY

## FALL PROTECTION PROGRAM

*OSHA Standard 29 CFR 1926, subpart M,  
29 CFR 1910 subpart D*

COCHISE COUNTY ADMINISTRATIVE PROCEDURE

FALL PROTECTION PROGRAM

Current Review: 7/30/20

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1. Scope .....	3
2. Purpose .....	3
3. Application .....	3
4. Reference documents .....	3
5. Program .....	3
6. Responsibility .....	3
7. Definitions .....	4
8. Fall Protection Requirements for Scaffolding and Scissor Lifts .....	7
9. Ladder Safety .....	7
10. Aerial Lifts/Bucket Trucks .....	8
11. Fall Protection Requirements .....	8
12. Fall Protection Systems Requirements .....	10
13. Personal Fall Arrest Systems .....	11
14. Warning Line Systems .....	11
15. Controlled Access Zone .....	12
16. Safety Monitor and Safety Monitoring Systems .....	12
17. Covers .....	12
18. Fall Protection Plan .....	13
19. Training Requirements .....	13

## 1. Scope

This program covers the maintenance, repair, replacement, alteration, demolition, and new construction for all occupancies in the county. This program applies to any employee working above levels as specified in the program.

## 2. Purpose

The purpose of the Fall Protection Guideline is to ensure the safety and well-being of persons working on and/or for the County, including employees and outside contractors, regardless of the type of work. In accordance with the (29 CFR 1910 and 29 CFR 1926) and other applicable regulatory requirements of local, state, and federal governments, the County has established this protection program to control hazards due to falls.

## 3. Application

The Fall Protection program shall be incorporated into all work activity involving employees of the County and contractors when engaged in construction activity working at a level 6 feet or more above the lower level, and when engaged in maintenance activity 4 feet or more above the lower level. Fall protection shall be required on or around dangerous equipment, elevated platforms, excavations, form work, hoist areas, open holes or access, leading edge work, pits, ramps and runways, roof scaffolding, skylights, stacks, staging tanks, unprotected sides and edges, wells, and other applicable locations.

### Exceptions:

- Fall protection is not required for the purpose of inspection, investigation or assessment of workplace conditions prior to the start of, or after completion of work.
- Fall Protection is not required for portable or straight ladders however, if possible, ladders shall be either tied to the structure to prevent movement of the ladder or shall be held in place by a properly protected employee.

## 4. Reference documents

OSHA [29 CFR 1910 Subpart D](#); [29 CFR 1926 Subpart M](#).

## 5. Program

Cochise County will protect its employees from occupational injuries by implementing and enforcing safe work practices and appointing a competent person to manage the program. A copy of the OSHA Fall Protection Standard is available online to all employees. The Department Program Coordinators (DPC) shall administer the program daily when applicable.

## 6. Responsibility

Cochise County will provide fall protection to affected employees and ensure that all employees understand and adhere to the procedures of this plan.

### Appointing Authority or Designee

1. Oversee the departmental fall protection program, ensuring that all program elements are fully implemented.
2. Assign as Program Coordinator, an employee(s) to be responsible for implementation of the respiratory protection program in that department.
3. Provide the Program Coordinator with adequate time and resources to implement the requirements of this program.
4. Enforce compliance with this written program, including appropriate disciplinary action for any

County employee failing to follow the requirements.

**Program Administrator (County Risk & Safety Administrator)**

1. Establish the County's written Fall Protection Program and revise as necessary
2. Coordinate an effective fall protection training program
3. Function as a resource for Program Coordinators on fall protection topics
4. Annually evaluate the effectiveness of the written program

**The DPC (Department Program Coordinator)** in each affected department will manage the program by:

1. Performing routine safety checks of work operations;
2. Enforcing Cochise County safety programs and procedures;
3. Correcting unsafe practices or conditions immediately;
4. Training employees and supervisors to recognize fall hazards and the use of fall protection systems;
5. Maintaining records of employee training, equipment issue, and fall protection systems used at Cochise County job sites; and
6. Investigating and documenting all fall incidents that result in employee or citizen injury on Cochise County property.

**Cochise County employees shall:**

1. Understand and adhere to the procedures in this program;
2. Follow the instructions of Risk Management and the DPC;
3. Report to management unsafe conditions or practices; and
4. Report to management any incident that causes employee injury, regardless of the severity.

**7. Definitions**

Definitions used in this document can be found in 29 CFR 1910.21 and 29 CFR 1926.500.

**Anchorage:** secure point of attachment for lifelines, lanyards, or deceleration devices.

**Body Belt (safety belt):** a strap with means both for securing it about the waist and for attaching it to a lanyard, lifeline, or deceleration device.

**Body Harness:** straps which may be secured about employee in a manner that will distribute the fall arrest forces over at least the thighs, pelvis, waist, chest, and shoulders with means for attaching it to other components of a fall arrest system.

**Buckle:** any device for holding the body belt or body harness around the employee's body.

**Competent Person:** A person, who has the appropriate knowledge and training for the type of work being performed, is capable of identifying and correcting hazardous conditions, and who has the authority to take prompt corrective action. A competent person may be appropriately defined in specific OSHA regulations 29 CFR 1910 and 29 CFR 1926.

**Connector:** a device which is used to couple (connect) parts of the personal fall arrest system and positioning system device together. It may be an independent component of part of the system, such as a carabineer, or it may be an integral part of the system (such as a buckle or Dee-ring sewn into a body belt or body harness, or a snap-hook spliced or sewn to a lanyard or self-retracting lanyard).

**Controlled Access Zone (CAZ):** an area in which certain work (e.g. overland bricklaying) may take place without the use of guardrail systems, personal fall arrest systems, or safety net systems. Access to the zone is controlled.

**Dangerous Equipment:** equipment (such as pickling or galvanizing tanks, degreasing units, machinery, electrical equipment, and other units) which, as a result of form or function, may be hazardous to employees who fall onto or into such equipment.

**Deceleration Device:** any mechanism, such as rope grab, rip stitch lanyard, specially woven lanyard, tearing or deforming lanyards, automatic self-retracting lanyards/lifelines, etc., which serves to dissipate a substantial amount of energy during a fall arrest, or otherwise limit the energy imposed on an employee during fall arrest.

**Deceleration Distance:** the additional vertical distance a falling employee travels, excluding lifeline elongation and free fall distance, before stopping, from the point at which the deceleration device begins to operate. It is measure as the distance between the location of an employee's body belt or 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.

**Employer:** person(s) responsible for a business, company, or other employment category that utilizes workers for the purpose of providing a service, specialized function, or type of work. The employer shall be responsible for providing the necessary applicable training to each employee in accordance with local, state, and federal regulatory requirements, including the General Duty Clause, OSHA section 5A1.

**Equivalent:** alternative designs, materials, or methods to protect against a hazard which the employer can demonstrate will provide and equal or greater degree of safety for employees than the methods, materials, or designs specified in the standard.

**Failure:** load refusal, breakage, or separation of component parts. Load refusal is the point where the ultimate strength is exceeded.

**Free Fall:** the act of falling before a personal fall arrest system begins to apply force to arrest the fall.

**Free Fall Distance:** the vertical displacement of the fall arrest attachment point on the employee's body belt or body harness between the onset of the fall and just before the system begins to apply force to arrest the fall. This distance excludes deceleration distance and lifeline/lanyard elongation but includes any deceleration device slide distance or self-retracting lifeline/lanyard extension before they operate and fall arrest forces occur.

**Guardrail System:** a barrier erected to prevent employees from falling to lower levels. Guardrail systems shall comply with the following provisions:

- Top edge of the guardrail system shall be 42" in height, plus or minus 3" above the walking or working surface;
- Mid rails, screens, mesh and 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 parapet at least 21" in height;
- Mid rails, when used, shall be installed at a height midway between the top edge of the guardrail system and the walking/working surface;
- Screens and mesh, when used, shall extend from the top rail to the walking/working surface and along the entire opening between the rail supports and shall not be secured to the rails with connectors that may cause personal injury, such as metal banding or protruding nails/screws;
- Guardrails must be able to support a force of 200 lbs. applied down and out, at any point along the top edge of the guardrail;
- When material, equipment and supplies (including block, brick, slate, tools and debris are placed on the walking/working surface, above the level of the toe board, then a fence, mesh or screening shall be installed;
  - When using a suitable fence, mesh or plywood system, the mid rail can be eliminated.
    - Toe boards are required for every elevated work surface > 6' above the lower level.
    - Toe boards shall not be < 3 ½" above the walking / working surface.

**Hole:** a gap or void 2 inches (5.1 cm) or more in its least dimension in a floor, roof, or other walking/working surface.

**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 that it is technologically impossible to use any of these systems to provide fall protection.

**Lanyard:** a flexible line of rope, wire rope, or strap which generally has a connector at each end for connecting the body belt or body harness to a deceleration device, lifeline, or anchorage.

**Leading Edge:** the edge of a floor, roof, or formwork for a floor or other walking/working surface (such as a deck) which changes location as additional floor, roof, decking or formwork sections are placed, formed, or constructed. A leading edge is considered to be an “unprotected side and edge” during periods when it is not actively and continuously under construction.

**Life Line:** a component consisting of a flexible line for connection to an anchorage at one end to hang vertically (vertical lifeline), or for connection to anchorages at both ends to stretch horizontally (horizontal lifeline), and that serves as a means for connecting other components of a personal fall arrest system to the anchorage.

**Low-slope Roof:** a roof having a slope less than or equal to 4 in 12 (vertical to horizontal).

**Lower Levels:** those areas or surfaces to which an employee can fall. Such areas or surfaces include, but are not limited to, ground levels, floors, platforms, ramps, runways, excavations, pits, tanks, material, water, equipment, structures, or portions there-of.

**Mechanical Equipment:** all motor or human propelled wheeled equipment used for roofing work, except wheelbarrows and mop carts.

**Opening:** a gap or void 30 inches (76 cm) or more and 18 inches (48 cm) or wider in a wall or partition through which employees can fall to a lower level.

**Personal Fall Arrest System:** a system used to arrest an employee in a fall from a working level. It consists of an anchorage, connectors, a body belt or harness, and may include a lanyard, deceleration device, lifeline, or suitable combination of these. As of January 1, 1998, the use of a body belt for fall arrest is prohibited.

**Positioning Device System:** a body belt or body harness system rigged to allow an employee to be supported on an elevated vertical surface, such as a wall, and work with both hands free while leaning.

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

**Rope Grab:** a deceleration device which travels on a lifeline and automatically, by friction, engages a lifeline and locks to arrest the fall of an employee. A rope grab usually employs the principle of inertial locking, cam/level locking, or both.

**Roof:** the exterior surface on top of a building. This does not include floors or formwork which temporarily becomes the top surface of a building because a building has not been completed.

**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.

**Safety-Monitoring System:** a safety system in which a competent person is responsible for recognizing and warning employees of fall hazards.

**Safety Net System(s)** if used as a fall protection system, shall comply with the special provisions of 29 CFR 1926.502. Note: Safety nets, if used in Cochise County must be approved by a “Qualified” Fall Protection Engineer or Specialist.

**Self-retracting Lifeline/Lanyard:** a deceleration device containing a drum-wound line which can be slowly extracted from or retracted onto the drum under slight tension during normal employee movement, and which after onset of a fall will automatically lock the drum and arrest the fall.

**Snap Hook:** a connector comprised of a hook-shaped member with a normally closed keeper or similar arrangement that may be opened to permit the hook to receive an object, and when released closes to retain the object. Snap hooks are generally one of two types:

The locking type with a self-locking keeper remains closed and locked until unlocked and pressed open for connection or disconnection; or

The non-locking type with a self-closing keeper which remains closed until pressed open for connection or disconnection. As of January 1, 1998, the use of a non-locking snap hook as part of personal fall arrest systems and positioning devices is prohibited.

**Steep Roof:** a roof having a slope greater than 4 in 12 (vertical to horizontal).

**Toe board:** a low protective barrier that will prevent the fall of materials and equipment to lower levels and provides protection from falls for personnel.

**Unprotected Sides and Edges:** any side or edge (except entrances to points of access) of a walking/working surface (e.g. floor, roof, ramp, or runway) where there is no wall or guardrail system at least 39 inches (1.0 m) high.

**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 excluding ladders, vehicles, or trailers on which employees must be located in order to perform their duties.

**Warning Line System:** a barrier erected on a roof to warn employees that they are approaching an unprotected roof side or edge, and that designates an area in which roofing work may take place without the use of a guardrail, body belt, or safety net systems to protect employees in the area.

**Work Area:** the portion of a walking/working surface where job duties are being performed.

## 8. Fall Protection Requirements for Scaffolding and Scissor Lifts.

Each employee on a scaffold more than 10 feet (3.1 m) above a lower level shall be protected from falling to the lower level. The following details the types of fall protection to be provided to the employees on each type of scaffold.

- Each employee on a boatswains' chair, catenary scaffold, float scaffold, needle beam scaffold, or ladder jack scaffold shall be protected by a personal fall arrest system;
- Each employee on a single-point or two-point adjustable suspension scaffold shall be protected by both a personal fall arrest system and guardrail system;
- Each employee on a walkway located within a scaffold shall be protected by a guardrail system (with minimum 200 pound top rail capacity) installed within 9 1/2 inches (24.1 cm) of and along at least one side of the walkway.
- For all scaffolds not otherwise specified above, each employee shall be protected using personal fall arrest systems or guardrail systems meeting the requirements of paragraph (g)(4) of [29 CFR 1926.451](#).
- Scissor lifts that have the required guardrails in place do not require the use of personal fall arrest systems.

## 9. Ladder Safety

Portable ladders are exempt from personal fall protection requirements however, precautions are still necessary when using a ladder. Properly rated hardhats are required when working near electricity and when working at the base of a ladder. The following procedures must be followed when using a portable ladder:

- Inspect the ladder before each use and tag out-of-service if found defective.
- Read and follow all labels/markings on the ladder.
- Only Type 1 and Type 1A are acceptable for use.
- Avoid electrical hazards; Avoid using a metal ladder near power lines or exposed energized electrical equipment.
- A 3-point (two hands and a foot, or two feet and a hand) contact on the ladder is required when climbing. Keep your body near the middle of the step and always face the ladder while climbing.
- Only use ladders and appropriate accessories (ladder levelers, jacks or hooks) for their designed purposes.
- Do not use a self-supporting ladder (e.g., step ladder) as a single ladder or in a partially closed position.

- Use a ladder only on a stable and level surface, unless it has been secured (top or bottom) to prevent displacement.
- An extension or straight ladder used to access an elevated surface (roof) must extend at least 3 feet above the point of support. Do not stand on the three top rungs of a straight, single or extension ladder.
- The proper angle for setting up a ladder is to place its base a quarter of the working length of the ladder from the wall or other vertical surface
- A ladder placed in any location where it can be displaced by other work activities must be secured to prevent displacement or a barricade must be erected to keep traffic away from the ladder.
- Secure doorways or use a coworker to warn when using a ladder in or near a doorway.
- Be sure that all locks on an extension ladder are properly engaged.
- Do not exceed the maximum load rating of a ladder. Be aware of the ladder's load rating and of the weight it is supporting, including the weight of any tools or equipment.

## 10. Aerial Lifts/Bucket Trucks

The operator of the bucket truck is expected to follow fall protection guidelines below regarding use of aerial lifts.

**PPE Required:** ANSI approved hard hat rated for electrical work; eye protection; insulated gloves where there is a risk of electric shock; personal fall arrest system, including lanyard and body harness tied off to the appropriate anchor on the bucket truck boom. Any other PPE is required as the situation requires.

- Always wear required fall protection!
- Always keep feet on the floor of bucket.
- Do not sit, stand, or climb on the edge of the basket.
- Do not place any item in the bucket for the purpose of increasing work height (ladders, step stools).
- Do not try to climb down from the bucket when it is raised.
- Make sure bucket floor is clear of debris.
- Do not move the truck when someone is in the bucket.

## 11. Fall Protection Requirements

The employer shall determine if the walking / work surface has the structural integrity to support the weight of the employees, their equipment and any materials that are placed upon that surface.

Unprotected edges or sides of a walk / work surface that is > 6' in height above a lower level shall be protected from falling by either a guardrail, personal fall arrest system, safety net, or other approved method.

If an employee is constructing a "**leading edge**" as identified in the definition section, which is > 6' above a lower level (ground, lower roof, dangerous equipment etc.) they shall be protected from falling by either a guardrail, personal fall arrest system, safety net, or other approved method.

1. **Leading Edge** - Each employee on a walking / working surface > 6' above a lower level where leading edges are under construction, but who is not engaged in the leading edge work, shall be protected by either a guardrail, personal fall arrest system, safety net, or other approved method. If a guardrail is chosen to provide the fall protection, and a "**controlled access zone**" has already been established for the leading edge work, the control line may be used in place of a guardrail along the edge that parallels the leading edge.
2. **Hoist Areas** - such as those used on scaffold/staging systems to receive equipment and materials shall, if > 6' above a lower surface shall be protected by a guardrail, personal fall arrest system, safety net, or



other approved method. If the guardrail system component (chain, guardrail, gate or similar) is removed to facilitate hoisting operations, and the employee(s) must either lean through or over the access opening to receive the equipment or material, that employee must be protected from the hazard of a fall by a personal fall arrest system, such as a harness and lanyard.

3. **Holes** – every employee on a walk / work surface shall be protected from falling or stepping into or through a hole (including skylights and wall openings) > 6’ above a lower level, by a personal fall arrest system, guardrail systems around the hole or opening, or a suitable marked cover meeting the requirements of this regulation.
4. **Formwork and Reinforcing Steel** – each employee on the face of formwork or reinforcing steel shall be protected from falling > 6’ above a lower level by personal arrest systems, safety net systems, or positioning devices.
5. **Ramps, Runways, and other Walkways** – every employee on a ramp, runway or walkway > 6’ above a lower level shall be protected from falling by a guardrail system with appropriate mid and top rails, as well as toe boards.
6. **Excavations and Trenches** – every employee at the edge of a trench or excavation > 6’ in depth shall be protected by a guardrail system meeting the requirements of an approved guardrail system. In lieu of the guardrail system, an employer can utilize a fence or other barricade when the excavations are not readily visible. If a controlled access line (such as yellow “caution tape” or ropes with flags are to be used, in low hazard areas, then the control line shall be at least 6’ from the edge of the excavation or trench. *A Warning Line cannot be used as a guardrail or fence.*
7. **Wells, Pits, Shafts etc.** – every employee at the edge of a well, pit, shaft (inclusive of elevators) > 6’ in depth shall be protected from falling by a guardrail system, fence, barricade or cover. The fall protection system used must be capable of preventing a person from falling into the hazard and shall be structurally capable of holding back the force of 200 lbs., when applied down and outward.
8. **Dangerous Equipment** - every employee less than 6’ above dangerous equipment shall be protected from falling into or onto the dangerous equipment by a guardrail system or equipment guards. In addition, any employee who is > 6’ above dangerous equipment shall be protected from falling by an approved guardrail system, personal fall arrest system, or safety net system.
9. **Low Slope Roof Work** – If work must be performed > 6’ above a lower level, unless modified by other exception within this program, all employees engaged in any roofing activities on a low slope roof (< 4 in 12 slope), with unprotected sides and edges (inclusive of a parapet or similar wall less than 42”, plus or minus 3” above the walking working surface) shall be protected from falling by:
  - a guardrail system; or
  - safety net system; or
  - personal fall arrest system; or
  - a combination of warning line system and guardrail system; or
  - warning line and safety net system, or
  - warning line and safety monitoring system, or
  - warning line and personal arrest system.

If a low slope roof is < 50’ wide, a safety monitor can be used in lieu of a guardrail, safety net or personal fall arrest system, provided:

- The safety monitor is performing no work related tasks, he/she must only monitor the workforce for a potential fall hazard;
  - The safety monitor can supervise not more than six employees at one time, in the same area;
  - The safety monitor shall wear either a reflective vest or blue hard hat to indicate their work specific function.
10. **Steep Roofs** – employees performing work on a steep roof (a slope of > 4 in 12) with unprotected edges and sides > 6’ or more above a lower level or surface shall be protected from falling by:
    - a guardrail system with toe boards, or

- safety net system, or
  - other suitable personal fall arrest system.
11. **Wall Openings** – employees working on, at, above or near a wall opening, including, but not limited to a chute, where the outside bottom edge of the wall opening is > 6’ above the lower level and the inside bottom edge of the wall opening is < 39” above the walking/working surface, shall be protected from falling by a guardrail system, a safety net system, or a personal fall arrest system.
12. **Protection from Falling Objects** – employees exposed to falling objects, or other potential head hazards, shall wear hard hats that meet the applicable ANSI standards for head protection.

In addition:

- All walking / working surfaces > 6’ above a lower level, from which employees are working shall have appropriate guardrails with toe boards and screens to prevent equipment, materials and tools from falling to the lower level.
- A canopy structure can also be utilized to keep potential fall objects far enough from the edge of the higher level so that those objects would not go over the edge, if accidentally displaced.
- Barricade the area to which objects would fall, prohibit the employees from entering the barricaded area, and keep objects away from the edge that could become displaced and cause injury from above.
- When equipment, material and tools are placed at a level, above the height of the toe board, and employees are or can work below the walk work surface, the employer shall prevent objects from falling over the edge with either a fence, wood or other appropriate barrier.

**Exception to Fall Protection Requirements:** If the employer can demonstrate that it is infeasible or creates a greater hazard to use one of these fall protection systems, the employer shall develop and implement a fall protection plan that complies with the requirements of 29 CFR 1926.502 – Fall Protection Systems Criteria and Practices.

## 12. Fall Protection Systems Requirements

- All employers shall provide and maintain fall protection systems for any work > 6’ above the next lower level.
- Cochise County shall provide all necessary training, as it pertains to fall protection, and shall continuously evaluate the practices and training for modifications, to ensure the safety of the persons using the fall protection systems.
- Guardrail Systems shall be capable of withstanding, without failure, a force of at least 200 lbs., applied within 2” of the top edge, in any downward or outward direction, at any point along the top edge.
- Mid rails, screens, mesh, intermediate vertical members, solid panels and equivalents structural members shall be capable of withstanding, without failure, a force of at least 150 lbs. applied in any outward or downward direction, at any point along the mid rail or other member.
- If wire rope(s) are used as top rails, they must have a minimum diameter of ¼”, and shall be flagged every 6’ with highly visible material. Wire roping must always remain secure and tight.
- When guardrail systems are used around open holes, they shall be erected on all open sides or edges of the hole.
- When guardrail systems are used around holes, used for the passage of equipment and materials, the hole shall have not more than 2 sides provided with removable guardrail sections to allow the passage of material. When the hole/opening is not in use, it shall be closed over with a cover, or a guardrail system shall be provided along all unprotected sides and edges.
- When guardrail systems are used around holes that are used as points of access, such as from a ladder or scaffold/staging, they shall be provided with a gate, or be so off-set that a person cannot walk directly into the hole/opening, or off the elevated platform walk / work surface.
- Guardrail systems must also be used on ramps and runways, along each unprotected side or edge.

**Safety Net Systems** - if utilized at Cochise County must be inspected and approved by “qualified” Fall Protection Specialist or Engineer.

### 13. Personal Fall Arrest Systems

- Fall protection equipment, including but not limited to connectors, dee-rings, harnesses, lanyards and snap hooks must be compatible.
- Employers and their personnel must follow manufactures specifications for type, use, maintenance and storage of the equipment.
- In order to perform work from any elevation > 6' above a lower level, the employee must first be trained on how to recognize the fall protection hazards, select the appropriate equipment and follow the policies and procedures of the County Fall Protection Program.
- Any Fall Protection Equipment used shall be inspected daily by the user, before use, and removed from service (labeled Out-of-Service) if a problem has been identified.
- Fall Protection Equipment must always be kept clean and shall be properly packaged to prevent damage or deterioration.
- Personal Fall Arrest Systems shall not be attached to a guardrail system.
- When a Personal Fall Arrest System is used as a "restraint device", which prevents an employee (as an example) from walking off the edge of a walk / work surface >6', it must be capable of preventing the employee from reaching the edge.

**Lanyards and Lifelines** must have a minimum breaking strength of 5,000 lbs.

- Lifelines must be protected against being abraded or cut.
- Each employee must be attached to a separate vertical lifeline.

**Self-Retracting Lifelines and Lanyards** must limit free fall distance to < 2' and shall be capable of sustaining a minimum tensile load of 3,000 lbs. applied to the device with the lifeline or lanyard in the fully extended position.

- If the self-retracting lifeline and lanyard does not limit the free fall distance to < 2', then ripstich lanyards and tearing/deforming lanyards shall be capable of sustaining a minimum tensile load of 5,000 lbs. applied to the device with a lifeline or lanyard in the fully extended position.

**Rope and Straps** (webbing) used in lanyards, lifelines and strength components of body harnesses must be synthetic and compatible with the equipment it is being used with, in accordance with manufacturers specifications.

**Anchorage** used for attachment of personal fall arrest equipment and systems shall be independent of any anchorage being used to support or suspend platforms, and capable of supporting at least 5,000 lbs. per attached employee.

Personal fall arrest systems, when "stopping" a fall, shall:

- Limit maximum arresting force on an employee to 1,800 lbs. when used with a body harness;
- Be set up to prevent an employee from free-falling more than 6', nor contact a lower level, such as a lower roof or ground;
- Be limited in weight to 310 lbs. for each employee, including tool weight, in accordance with the manufacturer's specifications.

All Personal Fall Arrest Systems shall be utilized for the protection of the employee, and shall not be used for lifting equipment, materials or tools.

Any part of the fall arrest system that was, or is believed to have been subjected to "impact loading" from a slip or fall shall be immediately removed from service, and shall not be used again for employee protection until inspected and determined by a competent person to be undamaged and suitable for reuse.

A plan to rescue a fallen employee shall be devised, and equipment available, before the work begins.

### 14. Warning Line Systems

Warning line systems shall be erected around all sides of the roof work, not less than 6' from the edge.

- Points of access, material handling areas, storage areas, and hoisting areas shall be connected to the work area by an access path formed by 2 warning lines.
  - When the path to the point of access is not in use, a rope, wire, chain or other barricade, equivalent in strength and height to the warning line, shall be placed across the path at the point where the path intersects the warning line, erected around the work area, or the path shall be off-set, so that a person cannot walk directly into the work area.

Warning lines shall consist of rope, wires and or chains and supporting stanchions erected in the following manner:

- Flagged at not greater than 6' intervals with highly visibility material;
- The lowest point (inclusive of sag) is not less than 34", nor greater than 39" above the walking/ working surface;
- Stanchions must be capable of withstanding (without tipping) a force of 16 lbs., applied horizontally against the stanchion;
- The rope, wire or chain shall have a minimum tensile strength of 500 lbs.;
- Employees, unless specifically working along the edge (at that time), will not be permitted in the area between the roofs edge and the warning line; and
- When mechanical equipment, such as cutters, rollers, blowers etc., are used or stored on the roof in areas where employees are protected by a warning line, guardrail or personal fall arrest system.

## 15. Controlled Access Zone

When used to control access to areas where leading edge and other similar operations are taking place, the controlled access zone (CAZ) shall be defined by a control line or by any other means that restricts access.

- Control lines shall be erected not less than 6', nor more than 25' from the unprotected or leading edge. except when erecting pre-cast concrete members. For pre-cast concrete erection, the control line shall not be greater than 60' from the leading edge or ½ the length of the member being erected, whichever is less from the leading edge.
- The control line must extend along the entire length of the unprotected or leading edge.
- The line must be connected at each end to a guardrail system or wall.

## 16. Safety Monitor and Safety Monitoring Systems

The Safety Monitor shall be a "competent person", as defined by OSHA, and the policies and procedures of Cochise County and:

- Shall not be responsible for > 6 employees at one time, working in a small area, as determined by the "competent person".
- Shall be wearing either a reflective vest or blue hardhat to identify them as the Safety Monitor
- Shall not be permitted to perform work, as it will prevent him/her from fulfilling their obligation to protect the employee.
- Shall alert the employee, in a suitable manner (noise, environmental conditions etc.) when they are at risk from a fall or working in an unsafe manner.

Mechanical equipment cannot be used or stored in areas where a Safety Monitor is being used.

Only personnel engaged in roof work can be permitted to work in an area where a safety monitor is being utilized.

## 17. Covers

- Covers for holes in floors, roofs and other walk / work surfaces shall meet the following requirements:

- Covers in roadways, sidewalks and other similar areas where either vehicle or pedestrians/employees travel shall be capable of supporting, without failure, at least twice the maximum weight load expected to cross over.
- All covers must be secured to prevent accidental displacement by wind, equipment or employees
- All covers must be labeled HOLE or COVER to provide warning of the hazard.
- If the cover is above or below the actual walk / work surface, the hazard shall be identified by orange or yellow paint or shall (if necessary) be blocked or protected to prevent a trip and fall incident.
- If a barricade or other system to temporarily protect the hazard is used, it shall have the appropriate top and mid rails as well as the required toe board to prevent a drop down hazard, when employees are working below.

## 18. Fall Protection Plan

- Contractors working on or for Cochise County at > 6' above the lower level, including platforms, roofs and other similar situations shall have their own company specific Fall Protection Plan, before initiating work at Cochise County.
- Work needing fall protection and a Fall Protection Plan shall be supervised by a "qualified" and/or "competent person" as required by the Occupational Safety and Health Administration (OSHA).
- A copy of the Fall Protection Plan shall be available on site in accordance with the requirements of [29 CFR 1926.502\(k\)\(3\)](#).
- It shall be the employer's responsibility to prevent any and all fall hazards on site. In the event of an incident involving a fall, the employer shall investigate, and make the necessary modifications to prevent incident from re-occurring. The incident reports shall be submitted to the Cochise County Risk Management in a timely manner, in order to identify a potential hazard and the corrective action for future work by in-house staff.

## 19. Training Requirements

Training is required for any employee that is or might be exposed to fall hazards.

The County or its contractors must assure that every employee involved in work, at elevated surfaces has had the necessary, required training, in accordance with [29 CFR 1926.503\(a\)\(2\)](#).

All applicable areas of fall protection shall be covered in the training session, and shall be instructed by a trained, competent person.

In addition to having a written Fall Protection Plan on site, the contractor shall have proof of training for all employees working at elevated levels.

If an employee has not been trained in a specific area of fall protection, such as safety monitoring, leading edge work, roof work etc., they shall not be permitted to perform that type of work activity.

If, in the opinion of the DPC, supervisor, or safety inspector, an employee does not demonstrate proper knowledge or understanding of the Fall Protection program or is working in an unsafe manner, the supervisor/ DPC responsible for that employee shall take the appropriate action by immediately removing that employee from the hazard, and providing the necessary refresher or initial training, before they are permitted to return to that specific task or hazard.

