CITY OF APPLETON POLICY	TITLE: **FALL PROTECTION POLICY**	
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I. PURPOSE

To establish guidelines to protect all employees engaged in work activities that expose them to potential falls from elevations and to comply with OSHA guidelines.

II. POLICY

The City is committed to providing a safe workplace. Employees and contractors are expected to follow all rules and regulations relating to this policy. Failure to comply with this policy may lead to disciplinary action up to and including discharge. This program includes all employees and contractors engaged in work activities that expose them to: falls from heights of 6 feet or more when engaged in construction activities; falls from 4 feet or more in general activities; or falls of 20 feet or more from ladders.

III. DEFINITIONS

A. Anchor Point**:** A secure point of attachment for lifelines, lanyards, or deceleration devices. An anchor point must be capable of supporting at least 5000 pounds (3600 pounds if engineered/certified by a qualified person) per person and must be independent of any anchorage being used to support or suspend platforms.

B. Authorized Person: A person approved or assigned by the City of Appleton to perform a specific type of duty or to be at a specific location or job site (e.g., building maintenance, roof repair, etc.).

C. Competent Person: A person capable of identifying existing and predictable hazards in the surroundings or working conditions that could be hazardous or dangerous to employees or contractors. A person who has the authorization to take prompt corrective action to eliminate such hazards.

D. Connector: A device which is used to couple (connect) parts of the personal fall arrest system.

E. Deceleration Device: Any mechanism, such as a rope grab, rip-stitch lanyard, a specially woven lanyard, tearing or deforming lanyard, automatic self-retracting lifeline/ lanyard, etc., which serves to dissipate a substantial amount of energy during a fall arrest.

F. 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 measured as the distance between the location of an employee's body harness attachment point at the moment of activation of the deceleration device during a fall, and the location of that attachment point after the employee comes to a full stop.

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

H. Free Fall Distance: The vertical displacement of the fall arrest attachment point on the employee's body harness between the onset of the fall and just before the system begins to apply force to arrest the fall. Free fall distance must not exceed 6 feet. This distance excludes deceleration distance and lifeline/lanyard elongation distance.

I. Full Body Harness: Webbing/straps which are secured about an employee's body in a manner that will distribute the fall arrest forces over the thighs, pelvis, waist, chest and shoulders. This harness includes the ability to attach it to other components of a personal fall arrest system, preferably at the shoulders and/or middle of the back.

J. Guardrail System: A barrier erected to prevent employees from falling to lower levels. This system includes a toe board, midrail, and toprail able to withstand 200 pounds of force applied in any direction.

K. Lanyard: A flexible line of rope or strap that has self-locking snaphook connectors at each end for connecting to body harnesses, deceleration devices, and anchor points.

L. Leading Edge: The edge of a floor, roof, or other walking/working surface, which changes location as additional floor, roof, etc., is placed or constructed. A leading edge is considered an unprotected side or edge when not under active construction.

M. Lifeline: 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). This serves as a means for connecting other components of a personal fall arrest system to the anchorage.

N. Personal Fall Arrest System: A system used to arrest (catch) an employee in a fall from a working level. It consists of an anchorage location, connectors, and a body harness. It may also include a lanyard, deceleration device, lifeline, or any combination of the before-mentioned items.

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

P. Rope Grab: A deceleration device, which travels on a lifeline and automatically, by friction, engages the lifeline and locks to arrest the fall of an employee.

Q. Snaphook: A connector comprised of a hook-shaped member with a closed keeper which may be opened to permit the hook to receive an object and, when released, automatically closes to retain the object. Snaphooks must be self-closing with a self-locking keeper which remains closed and locked until unlocked and pressed open for connection or disconnection, thus preventing the opportunity for the object to "rollout" of the snaphook.

R. Toeboard: A low protective barrier that will prevent the fall of materials and equipment to lower levels, usually 4 inches or greater in height.

S. Total Fall Distance: The maximum vertical change in distance from the bottom of an individual's feet at the onset of a fall to the position of the feet at the fall arrest. This includes the free fall distance and the deceleration distance.

T. Unprotected Sides and Edges: Any side or edge of a walking or working surface (e.g., floor, roof, ramp, runway, etc.) where there is no guardrail at least 39 inches high.

IV. DISCUSSION

A. Types of Fall Protection Systems

1. An articulating man lift provided with a restraint system and full body harness to an anchor point below the waist (preferably at the floor level).

2. Guardrail with a toe board, midrail and toprail.

3. Personal fall arrest systems;
   - Anchor points (rated at 5000 pounds per person).
   - Full body harness.
   - Restraint line or lanyard.
   - Retractable lanyard.
   - Rope grabs.
   - Connectors (self-locking snaphooks).

4. Engineered lifelines.

5. Warning lines.

6. Safety nets.

7. Safety monitor systems.

B. Fall Protection Locations

Fall protection is required wherever the potential exists to fall: 6 feet or more when involved in construction activities; 4 feet when involved in general activities; and 20 feet when on a ladder. Examples include:

1. All flat and low sloped roof locations, when within 6 feet of the roof edge or

during roof repair/maintenance (4:12 pitch or less).

2. All exterior and interior equipment platforms, catwalks, antennas/ towers, etc.

3. All exterior and interior fixed ladders above 20 feet.

4. All mezzanine and balcony edges.

5. All open excavations or pits.

6. All tasks requiring use of articulating man lifts.

7. All tasks requiring employees to lean outside the vertical rails of ladders (i.e., painting, stairwell light bulb replacement, etc.).

8. Scaffolding erection (10 feet in height or greater).

9. Mezzanine/catwalk areas - whenever an employee must step outside the catwalk, additional fall protection (i.e., 6-foot lanyard to full body harness, self-retracting lanyard or rope grab system) must be used.

C. Fall Protection Guidelines

1. Engineering Controls

This should always be the first option for selection whenever possible (e.g., light bulb changing telescoping arm, changing valve, relocate at ground level, etc.) or utilizing a contractor in extremely hazardous areas.

2. Guardrails

On all projects, only guardrails made from steel, wood, and/or wire rope will be acceptable. All guardrail systems must comply with the current OSHA standards (i.e., contain a 42" high toprail, a midrail and toe board, that can withstand 200 pounds of force in any direction). These guardrails will be placed in the following areas if necessary or feasible based on job location or requirements:

a. On all open sided floors.
b. Around all open excavations or pits.
c. On leading edges of roofs or mezzanines.

3. Personal Fall Protection Systems

All authorized persons on any project who will be required to wear a personal fall arrest or restraint system must comply with the following;

a. A full body harness must be used at all times.
b. Only shock absorbing lanyards or retractable lanyards must be used to keep impact forces at a minimum on the body.
c. Only nylon rope or nylon straps with locking snaphooks are to be used for restraints.
d. All lanyards must have self-locking snaphooks.

e. The authorized person will inspect all personal fall arrest equipment before each use. Any deteriorated, bent, damaged or impacted equipment, or harness showing excessive wear must immediately be removed from service.

4. Fall Distance

Consideration must be given to the total fall distance. The following factors can affect total fall distance:

a. Length of connecting means (i.e., lanyard length, use of carabiners, snaphooks, etc.).
b. Position and height of anchorage relative to work platform/area (must be kept above the head whenever possible).
c. Position of attachment and D-ring slide on the full body harness.
d. Deployment of shock absorber (max. 42").
e. Movement in the lifeline.
f. Initial position of worker before free fall occurs (i.e., sitting, standing, etc.).

5. Calculating Total Fall Distance

The total fall distance is the total length of shock absorbing lanyard + height of the person + the location distance of the D-ring from the work surface or platform.

Authorized persons must always allow a minimum of 6 feet of clearance above the ground, equipment, etc. at the end of the fall from the fall arrest point.

6. Engineered Lifeline

Lifeline systems must be designed and approved by an engineer or qualified person.

V. PROCEDURES

A. Inspection of Fall Protection Systems

The following criteria will be utilized to maintain all equipment in good working condition:

1. Full Body Harnesses

- Employee shall inspect before each use. Closely examine all of the nylon webbing to ensure there are no burn marks, which could weaken the material.
- Verify there are no torn, frayed, or broken fibers; pulled stitches; or frayed edges anywhere on the harness.
- Examine the D-ring for excessive wear, pits, deterioration, or cracks.
- Verify that buckles operate correctly and are not deformed or cracked.
- The harness should never have additional punched holes.
- All rivets should be tight and not deformed.
- Check tongue/straps for excessive wear from repeated buckling.

a. A competent person will complete and document an annual inspection of all harnesses. (see Appendix 1).
b. Storage will consist of hanging the harness in an enclosed cabinet to protect from damage.
c. All harnesses that are involved in a fall will be inspected by a competent person after the fall. A determination will then be made as to whether to destroy the harnesses or to reuse them.

2. Lanyards/Shock Absorbing Lanyards

a. Employee shall inspect before each use.
- Check lanyard material for cuts, burns, abrasions, kinks, knots, broken stitches, and excessive wear.
- Inspect the snaphooks for distortions in the hook, locks, and eye.
- Ensure that all locking mechanisms seat and lock properly.
- Once locked, locking mechanism should prevent hook from opening.
- Visually inspect shock absorber for any signs of damage, paying close attention to where the shock absorber attaches to the lanyard.
- Verify that points where the lanyard attaches to the snaphooks are free of defects.

b. A competent person will complete and document an annual inspection of all lanyards (see Appendix 2).
c. Storage will consist of hanging the lanyard in an enclosed cabinet to protect from damage.
d. All lanyards involved in a fall will be destroyed after accident investigation is complete.

3. Snaphooks

a. Employee shall inspect before each use.
- Inspect snaphook for any hook and eye distortions.
- Verify there are no cracks or pitted surfaces.
- The keeper latch should not be bent, distorted, or obstructed.
- Verify that the keeper latch seats into the nose without binding.
- Verify that the keeper spring securely closes the keeper latch.
- Test the locking mechanism to verify that the keeper latch locks properly.

b. A competent person will complete and document an annual inspection of all snaphooks (see Appendix 3).
c. All snaphooks involved in a fall will be destroyed.

4. Self-Retracting Lanyards/Lifelines

a. Employee shall inspect before each use.
- Visually inspect to ensure there is no physical damage.
- Make sure all nuts and rivets are tight.
- Ensure the entire length of the nylon strap/wire rope is free from any cuts, burns, abrasions, kinks, knots, broken stitches/ strands and excessive wear, and retracts freely.
- Test the unit by pulling sharply on the lanyard/lifeline to verify that the locking mechanism is operating correctly.

b. A competent person will conduct and document monthly inspection of all self-retracting lanyards/lifelines (see Appendix 4).
c. Service per manufacturer specifications (1-2 years).
d. Inspect for proper function after every fall. Any lanyard showing excessive wear or damage will be destroyed.

5. Tie-Off Adapters/Anchorages

a. Employee shall inspect for integrity and attachment to solid surface.
b. A competent person will complete and document an annual inspection of all tie-offs and anchorages and documentation will be maintained
c. All tie-offs and anchorages involved in a fall will be destroyed. (see Appendix 3)

6. Articulating Man Lift

a. Employee shall inspect/service per manufacturer guidelines before each use: forklift, scissors lifts, forklift basket and safety nets.
b. A competent person will complete and document an annual inspection of the forklift basket. (see Appendix 3)

7. Horizontal Lifelines

a. Employee shall inspect before each use for structural integrity of line and anchors.
b. A competent person will complete and document an annual inspection. (see Appendix 4)

8. Guardrails

a. Temporary systems – On a daily basis a visual inspection will be completed by a competent person.
b. Temporary systems – On a weekly basis a complete structural inspection will be completed by a competent person.
c. Permanent systems - Annual structural inspections will be completed and documented by a competent person with future frequency of inspection defined based on conditions/controls present.

B. Storage and Maintenance of Fall Protection Equipment

1. Hang equipment in a cool, dry location in a manner that retains its shape. Do not expose to excessive sunlight as UV rays can cause damage/weaken rope or webbing.

2. Clean with a mild, nonabrasive soap and hang to dry.

3. Never use this equipment for any purpose other than personal fall arrest.

4. Once exposed to a fall, remove equipment from service immediately.

5. Do not drop hardware, as impacts from drops could cause damage that is not visible to the eye and hardware could fail under load/stress, if it has been previously damaged.

C. Training

1. Supervisors/Safety Coordinators will ensure that all employees engaged in fall protection will be trained bi-annually and have the knowledge to:
   a. Recognize the fall hazards of/on their job sites.
   b. Understand the hazards associated with working near fall hazards.
   c. Work safely in hazardous areas by utilizing appropriate fall protection measures.
   d. Understand and follow all components of this fall protection program.
   e. Identify and understand the enforceable OSHA standards and ANSI standards that pertain to fall protection.

D. Rescue Procedures

1. Rescue Methods/Options of Fallen Personnel
   In the event that a fall arrest occurs on-site, personnel with the use of an articulating man lift or ladders, will rescue employees when feasible. Emergency services should be immediately be contacted for alternate rescue.

2. Communication Issues
   In the event of a fall, the following people will be notified as soon as possible:
   a. Rescue personnel (Emergency services - 911)
   b. Manager/Supervisor
   c. Safety coordinator
   d. City Safety Coordinator/HR Generalist

All employees involved in a fall arrest or fall will be sent immediately for a medical evaluation to determine the extent of injuries, if any.

E. Fall Investigation

1. The following documentation will be completed as part of the fall investigation:
   a. Interviews with staff and witnesses.
   b. City of Appleton injury/accident report.

F. Outside Contractors

All outside contractors working in or on the City of Appleton premises will be required to follow the guidelines set forth in this fall protection program and OSHA guidelines.

Appendix 1

Full Body Harness

Annual Inspection Checklist

Harness Model/Name: _____
Serial Number: _____ Lot Number: _____
Date of Manufacture: _____ Date of Purchase: _____
Comments:
_____
_____
_____

General Factors	Accepted/Rejected	Supportive Details/Comments
1) **Hardware**: includes D-rings, buckles, keepers and back pads. Inspect for damage, distortion, sharp edges, burrs, cracks and corrosion.	Accepted Rejected	
2) **Webbing**: inspect for cuts, burns, tears, abrasions, frays, excessive soiling and discoloration.	Accepted Rejected	
3) **Stitching**: inspect for pulled or cut stitches.	Accepted Rejected	
4) **Labels**: inspect, making certain all labels are securely held in place and are legible.	Accepted Rejected	
5) Other:	Accepted Rejected	
6) Other:	Accepted Rejected	
7) **Corrective Action taken:**	**Supervisor signature:**	
Inspected By: **Date Inspected:**		

Lanyards
Annual Inspection Checklist

Lanyard Model/Name: _____
Serial Number: _____ Lot Number: _____
Date of Manufacture: _____ Date of Purchase: _____
Comments:
_____
_____

General Factors	Accepted/Rejected	Supportive Details/Comments
1) **Hardware**: includes snaphooks, carabiners, adjusters, keepers, thimbles and D-rings. Inspect for damage, distortion, sharp edges, burrs, cracks, corrosion and proper operation.	Accepted Rejected	
2) **Webbing**: inspect for cuts, burns, tears, abrasions, frays, excessive soiling and discoloration.	Accepted Rejected	
3) **Stitching**: inspect for pulled or cut stitches.	Accepted Rejected	
4) **Synthetic Rope**: inspect for pulled or cut yarns, burns, abrasions, knots, excessive soiling and discoloration.	Accepted Rejected	
5) **Energy Absorbing Component**: inspect for elongation, tears and excessive soiling.	Accepted Rejected	
6) **Labels**: inspect, making certain all labels are securely held in place and are legible.	Accepted Rejected	
7) **Corrective Action taken:**	**Supervisor signature:**	
Inspected By: **Date Inspected:**		

Appendix 3

Snaphooks/Carabiners/Tie-Off Adapters/Anchorages

Annual Inspection Checklist

Hook/Carabiner Model/Name: _____
Tie-Off Adapter/Anchorage Location:_____
Serial Number: _____ Lot Number: _____
Date of Manufacture: _____ Date of Purchase: _____
Comments:
_____
_____
_____

General Factors	Accepted/Rejected	Supportive Details/Comments
1) **Physical Damage**: inspect for cracks, sharp edges, burrs, deformities and locking operations.	Accepted Rejected	
2) **Excessive Corrosion**: inspect for corrosion, which affects the operation and/or the strength.	Accepted Rejected	
3) **Markings**: inspect and make certain marking(s) are legible.	Accepted Rejected	
4) Other:	Accepted Rejected	
5) Other:	Accepted Rejected	
6) Other:	Accepted Rejected	
7) **Corrective Action taken:**	**Supervisor signature:**	
Inspected By: **Date Inspected:**		

Appendix 4

Self-Retracting Lanyard/Lifeline
Annual Inspection Checklist

Self-Retracting Lanyard/Lifeline Model/Name: _____
Serial Number: _____ Lot Number:_____
Date of Manufacture: _____ Date of Purchase: _____
Department/Location: _____
Comments:
_____
_____

General Factors	Accepted/Rejected	Supportive Details/Comments
1) **Impact Indicator:** inspect indicator for activation (rupture of red stitching, elongated indicator, etc.).	Accepted Rejected	
2) **Screws/Fasteners:** inspect for damage and make certain all screws and fasteners are tight.	Accepted Rejected	
3) **Housing:** inspect for distortion, cracks and other damage. Inspect anchoring loop for distortion or damage.	Accepted Rejected	
4) **Lanyard/Lifeline:** inspect for cuts, burns, tears, abrasion, frays, excessive soiling and discoloration. (See impact indicator section.)	Accepted Rejected	
5) **Locking Action:** inspect for proper lock-up of brake mechanism.	Accepted Rejected	
6) **Retraction/Extension:** inspect spring tension by pulling lanyard out fully and allowing to retract fully (lifeline must e taut with no slack).	Accepted Rejected	
7) **Hooks/Carabiners:** inspect for physical damage, corrosion, proper orientation and markings.	Accepted Rejected	
8) **Labels:** inspect, making certain all labels are securely held in place and are legible.	Accepted Rejected	
7) **Corrective Action taken:**	**Supervisor signature:**	
Inspected By: **Date Inspected:**		