

## **Fall Protection and Walking/Working Procedures**

Employees who work or walk on elevated surfaces where there may be a fall hazard must have an approved form of protection to prevent falls to the lower level. Permanent types of protection, such as guardrails, walls, parapets, or covers for surface openings should typically be present. Construction, maintenance or inspection work may take workers to areas or situations where permanent protection is not present. In those cases, and any others, an adequate form of fall protection is required.

### **14.1 RESPONSIBILITIES**

#### **Management**

Department heads and Supervisors are required to execute the following:

- a. Oversee compliance of fall protection requirements
- b. Oversee training and employee competency of fall protection requirements
- c. Maintain copies of training completion records
- d. Consult with Safety Officer to discuss any complex fall protection situations
- e. The work supervisor shall determine which method of fall protection is optimal for the work to be conducted

#### **Employees**

All employees are required to execute the following:

- a. Follow the provisions of this program
- b. Inspect their assigned equipment prior to use
- c. Read and be familiar with manufacturers' operating manuals for all fall protection equipment they use
- d. Report immediately to their Supervisor or Crew Leader any fall protection equipment, facility, structure, or work practice that poses a fall hazard to themselves or other employees

### **14.2 PROCEDURES**

#### **1) Walking/Working Surfaces**

An appropriate type of fall protection is required for the following:

- a. Any walking/working surface with edges 4 feet or higher shall be protected by guardrails, personal fall arrest systems, personal fall restraint systems, or positioning systems are required unless they are infeasible.
- b. Any walking/working surface of any height where there could be a fall onto projections, items or machinery that could cause serious injury. Guardrails are required unless they are infeasible.
- c. Openings or holes in walking/working surfaces must be covered or have guardrails

- d. Wall openings, from which there is a drop of more than 4 feet, and the bottom of the opening is less than 39 inches above the working surface, shall be guarded

Exceptions to the 4-foot rule, apply to the following:

- a. For work on scaffolds
- b. During initial inspection or evaluation of an area or task
- c. If conventional means are infeasible as determined by supervisors and the Safety Officer and appropriate methods are utilized and determined sufficient

## **2) Articulated Boom Lifts, Bucket Trucks, Vertical Scissor Lifts, and Similar Vehicles**

Personal Fall Restraint Systems shall be the first considered item of fall protection in all articulated boom lifts, bucket trucks, and similar equipment/vehicles. If personal fall restraint systems are not possible, personal fall arrest systems may be utilized. Under no circumstances shall an employee be elevated on an articulated boom lifts, bucket trucks, or similar equipment/vehicle without a personal fall restraint or fall arrest system.

The following requirements shall be followed for utilizing articulated boom lifts, bucket trucks, and Similar Vehicles in the workplace:

- a. Employees shall utilize personal fall restraint or fall arrest system regardless of the height of work activities
- b. Employees shall not stand on guard rail system or lean their entire upper torso over the guard rail system
- c. All manufactures specifications and limitations of the equipment shall be followed

## **3) Scaffolds**

No scaffold shall be utilized without it first being determined as being adequately strong and properly secured in place. Scaffolds shall be inspected by a qualified individual before employees are allowed access for the work shift. The Qualified individual shall ensure the scaffold is constructed in compliance with CFR 1926 Subpart L Requirements for Scaffolding whether the scaffold is for use in general industry or construction applications.

The following are example of some of the requirements the qualified individual shall inspect the scaffold for, but does not include the entire requirements of CFR 1926 Subpart L that are to be followed for all scaffolds:

- a. Employees shall not utilize a scaffold that base to height ratio is greater than 1:4.
- b. A complete guardrail system shall be utilized on all open sides of the scaffold regardless of height.
- c. No scaffold shall be utilized without it first being determined that such support is adequately strong and properly secured in place.

- d. Scaffold legs shall be on suitable base plates and mudsills and provide a firm and solid foundation
- e. Scaffold shall be plumb and stand level
- f. All manufactures specifications and limitations of the equipment shall be followed

#### **4) Personal Fall Arrest & Restraint Systems**

Where guard rail systems are infeasible a personal fall arrest and restraint system should be utilized. Both systems need to be inspected by a qualified individual before they are to be utilized by employees.

Personal Fall Restraint System will protect an employee from reaching a fall hazard. The user of a proper fall restraint system will be fully protected from the system and be physically unable to reach the fall hazard due to the restraint system and fully eliminating their access to the fall hazard. Personal fall restraint systems shall follow the following guidelines:

- a. Designed and inspected by a qualified individual
- b. All attachments include rope grab, shock absorber, lanyard extensions, self-retracting lifelines etc. shall be fully accounted for when calculating fall restraint limits
- c. Full body harnesses shall be utilized with the system
- d. Meet all other requirements of CFR 1926 Subpart M Requirements for Fall Protection Systems

Personal Fall Arrest Systems will protect an employee in free fall from contacting the lower level. The user of a personal fall arrest system has the ability to free fall, but the proper system shall safety stop them before they contact the lower level. Personal fall arrest systems shall follow the following guidelines:

- a. Designed and inspected by a qualified individual
- b. All attachments include rope grab, shock absorber, lanyard extensions, self-retracting lifelines etc. shall be fully accounted for when calculating fall distances and a safe factor of 3 feet from the lower level must be calculated at all times
- c. Full body harnesses shall be utilized with the system
- d. Meet all other requirements of CFR 1926 Subpart M Requirements for Fall Protection Systems

#### **5) Ladders**

Ladders are utilized in the workplace to gain access to a different elevation. The following requirements shall be followed for utilizing ladders in the workplace:

- a. Ladders shall be inspected before use and frequently and regularly. Ladders with damaged members shall be immediately tagged and removed from service
- b. Ladders designed for light duty and residential use shall not be utilized during any maintenance or construction like activity
- c. Ladders shall not be utilized in the vicinity of energized equipment unless designed for such purpose
- d. A-Frame Ladders shall not be utilized unless the ladder is fully open and the spreader bar is in the locked position
- e. Ladders shall not be utilized near door openings unless the door is open, locked, or guarded sufficiently
- f. Employees shall maintain 3 points of contact while climbing the ladder
- g. Employees shall not perform in work on ladders that could cause the ladder to fall and/or cause the employee to lose their balance
- h. Equipment and materials that inhibit safe ladder climbing shall be elevated by use of a winch, rope, or similar device once the employee is safely supported on the ladders work level or elevated surface
- i. Boxes and chairs may not be utilized as ladders
- j. Ladders shall be utilized at a one (horizontal length) to four (vertical height) ratio to ensure ladders do not tip over
- k. Ladders base shall be free of material and debris
- l. Ladders base shall be sufficient secured to prevent accidental displacement by means of secure placement, held at bottom, or tied to secure surface or structure.
- m. Extension ladders shall be closed/lowered while being transported
- n. All manufactures limitations and specifications shall be followed
- o. Meet all other requirements of CFR 1926 Subpart X Requirements for Stairways and Ladders

## **6) Stairways**

Whether permanent or temporary stairways, the following requirements shall be followed for utilizing stairways in the workplace:

- a. Stairways shall be inspected frequently and regularly. Stairways with damaged members shall be immediately tagged and removed from service
- b. Only approved, engineered, and sufficient stairways shall be utilized. Job made stairways must be inspected by the Safety Officer before being utilized in the workplace
- c. All risers on stairways must be equal and level
- d. Stairways that are expected to wet and/or slippery during use shall be provided a slip-resistant tread.
- e. All stairs with four or more risers shall be provided a guardrail
- f. Meet all other requirements of CFR 1926 Subpart X Requirements for Stairways and Ladders

### 14.3 **TRAINING**

Supervisors will either provide and document sufficient training or coordinate with Safety Officer to provide training for employees who may be exposed to fall hazards during work activities.

Fall prevention and protection training shall include instructions on the following topics:

- a. Types of fall hazards that may be encountered in the course of various field
- b. Description and limitations of all equipment and attachments such as rope grab, shock absorber, lanyard extensions, self-retracting lifelines etc.
- c. Fall distance calculation
- d. Guard rail requirements
- e. Inspection of equipment
- f. Safe use of various ladders

### 14.4 **DEFINITIONS**

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

**Body Harness:** Means straps which may be secured about the 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 personal fall arrest system (A body belt is not considered a body harness).

**Connector:** Means a device which is used to connect parts of the personal fall arrest system or positioning device system together.

**Deceleration device:** Means any mechanism, such as a rope grab, rip-stitch lanyards, and automatic self-retracting lifelines.

**Deceleration distance:** Means the additional vertical distance a falling employee travels before stopping due to deceleration device.

**Guard Rail System:** A barrier with a complete top rail of approximately 42 inches and a mid-rail of approximately 21 inches to prevent employees from falling to lower levels.

**Fall hazard:** Means any condition on a walking-working surface that exposes an employee to a risk of harm from a fall on the same level or to a lower level.

**Fall Protection Work Plan:** A written planning document which identifies and explains a complex fall protection situation. The plan describes the methods of fall protection to be utilized to protect employees, and includes the procedures governing the installation, use, inspection, and removal of the fall protection method(s) selected by the City of Manassas (see Attachment 1).

**Fixed ladder:** Means a ladder with rails or individual rungs that is permanently attached to a structure, building, or equipment. Fixed ladders include individual-rung ladders, but not ship stairs, step bolts, or manhole steps.

**Infeasible:** Means that is impossible to perform the task using a conventional fall protection system (guardrail or personal fall arrest or restraint system)

**Ladder safety system:** Means a system designed to eliminate or reduce the possibility of falling from a ladder. A ladder safety system usually consists of a carrier, safety sleeve, lanyard, connectors, and body harness. Cages and wells are not ladder safety systems.

**Opening:** Means a gap or open space in a wall, partition, vertical walking working surface, or similar surface that is at least 30 inches (76 cm) high and at least 18 inches (46 cm) wide, through which an employee can fall to a lower level.

**Qualified Person:** Means an individual in a specific field with a recognized degree, certificate, or extensive experience and ability to solve the subject problems.

**Personal Fall Arrest System:** A system (including all components) designed to arrest an employee in free fall from contacting the lower level. It consists of an anchorage, connector, and a body harness.

**Personal Fall Restraint System:** An approved device and any necessary components that function together to restrain an employee in such a manner as to prevent that employee from falling. Fall restraint systems include guardrails, walls 39" or higher, or personal fall protection systems.

**Positioning system (work-positioning system):** Means a system of equipment and connectors that, when used with a body harness or body belt, allows an employee to be supported on an elevated vertical surface, such as a wall or window sill, and work with both hands free. Positioning systems also are called "positioning system devices" and "work-positioning equipment."

**Scaffold:** Means any temporary elevated or suspended platform and its supporting structure, including anchorage points, used to support employees, equipment, materials, and other items. For purposes of this subpart, a scaffold does not include a crane-suspended or derrick-suspended personnel platform or a rope descent system.

**Stairway (stairs):** Means risers and treads that connect one level with another, and includes any landings and platforms in between those levels. Stairways include standard, spiral, alternating tread-type, and ship stairs.

**Walking/Working Surface:** Any surface, whether vertical or horizontal, on which an employee walks or works to perform his/her job duties including, but not limited to, floors, roofs, ramps, or bridges.

**Wall Opening:** An opening at least 30 inches in height and 18 inches wide, in any wall or partition, through which persons may fall, such as an opening for a window or chute.