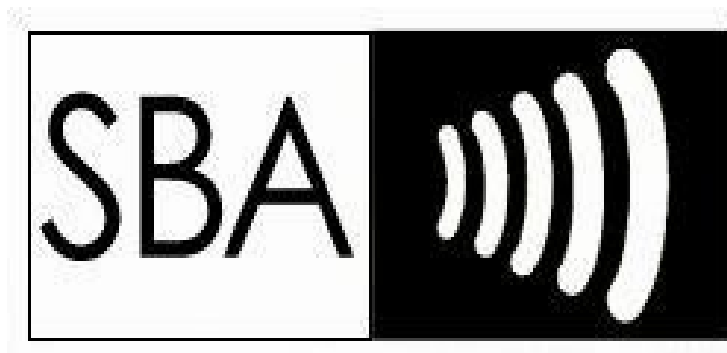


# **STANDARD OPERATING PROCEDURES ROOFTOP WORK**



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## SBA TELECOMMUNICATIONS, INC. Rooftop Work Procedure

### 1. SCOPE AND APPLICATION

This procedure is intended to inform all personnel of techniques involved during rooftop tasks so they can perform their work safely. This procedure is applicable to all employees and is a recommended guidance to subcontractors of SBA Telecommunications, Inc. (Collectively, "SBA") who performs rooftop work where a fall hazard of 6 feet or more exists. All equipment used for fall protection during rooftop work shall comply with ANSI Z359.1 and Subpart M (Fall Protection Standard).

### 2. REFERENCES

- 29 CFR 1926 Subpart M
- ANSI Z359.1 (Safety Requirements for Personal Fall Arrest Systems, Subsystems, and Components.
- OSHA Standard Interpretations (Acceptable Use of Warning Lines as Fall Protection for Roofer and Other Trades)

### 3. DEFINITIONS

*Guardrail System* – means a barrier erected to prevent employees from falling to lower level.

*Hole* - means a gap or void 2 inches or more in its least dimension, in a floor, roof, or other walking/working surface.

*Leading Edge* – means the edge of a floor, roof, or formwork for a floor or other walking/working surface (such as the 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.

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

*Lower Levels* - means 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 thereof.

*Opening* - means a gap or void 30 inches or more high and 18 inches or more wide, in a wall or partition, through which employees can fall to a lower level.

*Personal Fall Arrest Systems* – means a system used to arrest an employee in a fall from a working level. It consists of an anchorage, connectors, body harness, and may include a lanyard, deceleration device, lifeline, or suitable combination of these.

*Roof* – means the exterior surface on the top of a building. This does not include floors or formwork that, because a building has not been completed, temporarily become the top surface of a building.

*Roofing Work* – means 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. **Note: The installation or maintenance of rooftop telecommunication equipment is not considered roofing work.**

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

*Unprotected Sides and Edges* – means any side or edge (except at 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 high.



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*Walking/Working Surface* - means 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 in order to perform their job duties.

*Warning Line System* - means 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 work on a roof may take place without the use of guardrails, personal fall restraint/arrest system, or safety net systems to protect employees in the area.

#### **4. PRE ROOFTOP WORK SURVEYS**

- 4.1. When conducting rooftop pre-work walks/surveys the company representative shall note anchorage points for crews to use. If no anchorage points or too few anchorages exist, the representative should inquire about the possibility of adding anchor points with the customer, client, owner, or general contractor.
- 4.2. In addition to anchorage points, roof access points shall be discussed with the following; the customer, client, owner, or general contractor.
- 4.3. Attachment 1 contains a Rooftop Fall Protection Checklist.
- 4.4. The market shall review the Rooftop Fall Protection Checklist for each rooftop project with the appropriate Regional Health and Safety Manager. If the checklist is acceptable the Regional Health and Safety Manager will approve the plan and procure any additional fall protection equipment needed to complete the work.

#### **5. ROOFTOP SYSTEMS**

- 5.1. When crews/employees perform rooftop work they shall utilize one of the systems listed below or a combination of these systems.
  - 5.1.1. Guardrails/Parapet Wall
    - 5.1.1.1. The guardrail or parapet shall be least 39 inches in height and completely surround the crew's work area.
  - 5.1.2. Fall Restraint System
    - 5.1.2.1. A fall restraint system is a combination of an anchorage point and lanyard (self-retracting or shock absorbing) that does not allow the employee to fall.  
**Example:** The anchorage is 10 feet from the unprotected side/edge and the employee is attached to this point by a 9-foot self-retracting lanyard. This system would never allow the employee to reach the unprotected side/edge.
  - 5.1.3. Personal Fall Arrest System
    - 5.1.3.1. A personal fall arrest system uses a combination of an anchorage point (5000 pounds for each employee on the roof) and a shock absorbing lanyard, or vertical lifeline with rope grab or a horizontal lifeline with a shock-absorbing lanyard attached. When using the supervisor must ensure this system does not allow the employee to fall to the lower level.
  - 5.1.4. Warning Line System
    - 5.1.4.1. A warning line system shall be employed **15 feet** from the roof's unprotected side/edge. The warning line system shall meet the following requirements:



- The rope shall be flagged at not more than 6-foot (1.8 m) intervals with high-visibility material;
- The rope shall be rigged and supported in such a way that is between 34 and 39 inches from the walking/working surface;
- After being erected, with the rope, cone or supports shall be capable of resisting, without tipping over, a force of at least 16 pounds applied horizontally against them.
- The rope shall have a minimum tensile strength of 500 pounds.
- The line shall be attached at each support in such a way that pulling on one section of the line between supports will not result in slack being taken up in adjacent sections before the stanchion tips over.
- Points of access, materials handling areas, storage areas, and hoisting areas shall be connected to the work area by an access path formed by two warning lines.

5.1.4.2. When employees work outside this warning line area employees shall use one of the fall protection systems above.

## **6. FLOOR OPENINGS, SKYLIGHTS, AND ENTRYWAYS**

- 6.1. Crews shall utilize a fall restraint system, fall arrest system, covers, or a guardrail system when employees are exposed to fall hazards of 6 feet or more through holes (including skylights, entry ways).
- 6.2. In some cases covers can be used to eliminate fall hazards. The covers shall meet the following requirements:
  - 6.2.1. Able to withstand at least twice of the weight of employees, equipment, and materials that may be imposed on the cover at any one time.
  - 6.2.2. Covers shall be secured to prevent accidental displacement.
  - 6.2.3. Covers shall be color-coded or marked with the word **Hole** or **Cover**.

