WAC 296-59-115 Ski lift facilities and structures. (1) Existing ski lift facilities and structures must not be required to be retrofitted with standard construction work platforms, walkways, stairs or guardrails on exterior surfaces when such features would add significantly to snow loading considerations. When such standard protective features are omitted, alternative personal protective measures must be used where possible. Examples include, but are not limited to: Safety belt and lanyard, ladder climbing safety devices, temporary work platforms or scaffolds, temporary or removable handrails, guardrails, or walkways.

(2) Snow removal.

(a) During the operating season, standard guardrails which would interfere with snow removal may be omitted in areas where it can be anticipated that frequent snow removal will be necessary to maintain operability of ski lift apparatus. Examples could include, but are not limited to, the motor house roof or loading and unloading areas.

(b) Personnel barricades, signs, or other devices must be used to deflect traffic or warn personnel of existing fall hazards.

(3) All ski lift towers installed after the effective date of this standard must be equipped with permanent ladders or steps which meet the following minimum requirements:

(a) The minimum design live load must be a single concentrated load of two hundred pounds.

(b) The number and position of additional concentrated live load units of two hundred pounds each as determined from anticipated usage of the ladder must be considered in the design.

(c) The live loads imposed by persons occupying the ladder must be considered to be concentrated at such points as will cause the maximum stress in the structural member being considered.

(d) The weight of the ladder and attached appurtenances together with the live load must be considered in the design of rails and fastenings.

(e) All rungs must have a minimum diameter of three-fourths inch.

(f) The distance between rungs on steps must not exceed twelve inches and shall be uniform throughout the ladder length. The top rung must be located at the level of the landing or equipment served by the ladder.

(g) The minimum clear length of rungs or steps must be sixteen inches on new installations.

(h) Rungs, cleats, and steps must be free of sharp edges, burrs, or projections which may be a hazard.

(i) The rungs of an individual-rung ladder must be so designed that the foot cannot slide off the end. (A suggested design is shown in Figure D-1, at the end of this section.)

(j) Side rails which might be used as a climbing aid must be of such cross sections as to afford adequate gripping surface without sharp edges or burrs.

(k) Fastenings must be an integral part of fixed ladder design.

(l) All splices made by whatever means must meet design requirements as noted in (a) of this subsection. All splices and connections must have smooth transition with original members and with no sharp or extensive projections.

(m) Adequate means must be employed to protect dissimilar metals from electrolytic action when such metals are joined.

(n) All welding must be in accordance with the "Code for Welding in Building Construction" (AWS D1.0-1966).

(o) Protection from deterioration. Metal ladders and appurtenances must be painted or otherwise treated to resist corrosion and rusting when location demands.

(4) Installation and clearance.

(a) Pitch.

(i) The preferred pitch of fixed ladders is between the range of seventy-five degrees and ninety degrees with the horizontal (Figure D-4).

(ii) Substandard pitch. Fixed ladders must be considered as substandard if they are installed within the substandard pitch range of forty-five and seventy-five degrees with the horizontal. Substandard fixed ladders are permitted only where it is found necessary to meet conditions of installation. This substandard pitch range is considered as a critical range to be avoided, if possible.

(iii) Pitch greater than ninety degrees. Ladders having a pitch in excess of ninety degrees with the horizontal are prohibited.

(b) Clearances.

(i) The perpendicular distance from the centerline of the rungs to the nearest permanent object on the climbing side of the ladder must be thirty-six inches for a pitch of seventy-six degrees, and thirty inches for a pitch of ninety degrees (Figure D-2), with minimum clearances for intermediate pitches varying between these two limits in proportion to the slope.

(ii) A clear width of at least fifteen inches must be provided each way from the centerline of the ladder in the climbing space.

(iii) The side rails of through or side-step ladder extensions must extend three and one-half feet above parapets and landings.

(A) For through ladder extensions, the rungs must be omitted from the extension and must have not less than eighteen nor more than twenty-four inches clearance between rails.

(B) For side-step or offset fixed ladder sections, at landings, the side rails and rungs must be carried to the next regular rung beyond or above the three and one-half feet minimum.

(iv) Grab bars must be spaced by a continuation of the rung spacing when they are located in the horizontal position. Vertical grab bars must have the same spacing as the ladder side rails. Grab bar diameters must be the equivalent of the round-rung diameters.

(v) Clearance in back of ladder. The distance from the centerline of rungs, cleats, or steps to the nearest permanent object in back of the ladder must be not less than seven inches, except that when unavoidable obstructions are encountered, minimum clearances as shown in Figure D-3 shall be provided.

(vi) Clearance in back of grab bar. The distance from the centerline of the grab bar to the nearest permanent object in back of the grab bars must be not less than four inches. Grab bars must not protrude on the climbing side beyond the rungs of the ladder which they serve.

(c) The step-across distance from the nearest edge of a ladder to the nearest edge of the equipment or structure must not be more than twelve inches, or less than two and one-half inches. However, the step-across distance may be as much as twenty inches provided:

(i) The climber is wearing a safety belt and lanyard; and

(ii) The lanyard is attached to the tower structure before the climber steps off the ladder.

(5) Ski lift towers are not required to be equipped with ladder cages, platforms or landings.

(6) Maintenance and use.

(a) All ladders must be maintained in a safe condition. All ladders must be inspected regularly, with the intervals between inspections being determined by use and exposure.

(b) When ascending or descending, the climber must face the ladder.

(c) Personnel must not ascend or descend ladders while carrying tools or materials which could interfere with the free use of both hands.

(7) Personnel must be provided with and must use ladder safety devices or safety belts and lanyards whenever feasible.

(8) Personnel must not place mobile equipment or personal equipment such as skis, ski poles, or large tools within the falling radius of the lift tower while climbing or working on the lift tower.

(9) Ski lift towers and terminals are not required to be equipped with sheave guards on the haulrope wheels.

(10) Ski lift towers are not required to be equipped with work platforms.

(11) Personnel must use personal protective equipment such as a safety belt and lanyard in accordance with the requirements of chapter 296-880 WAC, Unified safety standards for fall protection.

(12) When fixed ladders on towers do not reach all the way down to the ground or snow level, a specifically designed and constructed portable ladder must be used for access to and from the fixed ladder. Portable ladders must be constructed and maintained to the following requirements:

(a) The portable ladder must be constructed in accordance with applicable provisions of subsection (3) of this section.

(b) The portable ladder must be constructed with a minimum of two attachment hooks near the top to be utilized for securing the portable ladder onto the fixed ladder.

(c) The attachment hooks must be installed to support the portable ladder near the fixed ladder side rails.

(d) Rungs or steps on the portable ladder must be spaced to be identical with rungs or steps on the fixed ladder when the portable ladder is attached for use. The design criteria must achieve a horizontal plane relationship on the top (walking surface) portion of both steps when overlapping is necessary.

(e) The portable ladder must be equipped with a hold-out device near the bottom to assure clearance behind the steps as required by subsection (4)(b)(v) of this section.

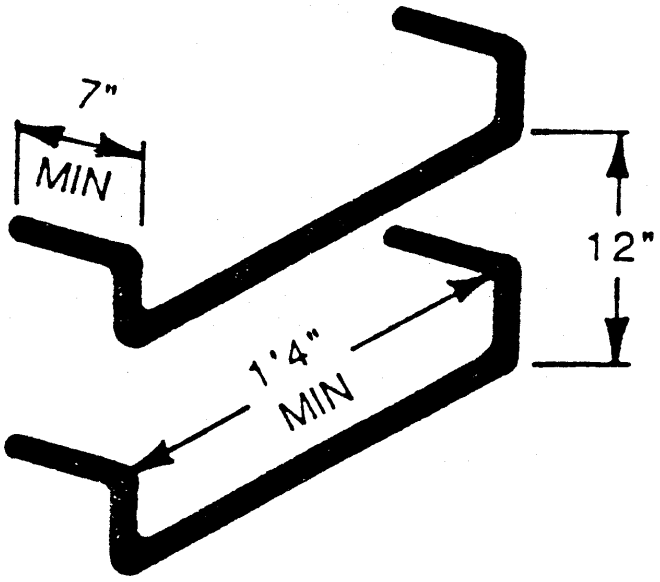

FIGURE D-1

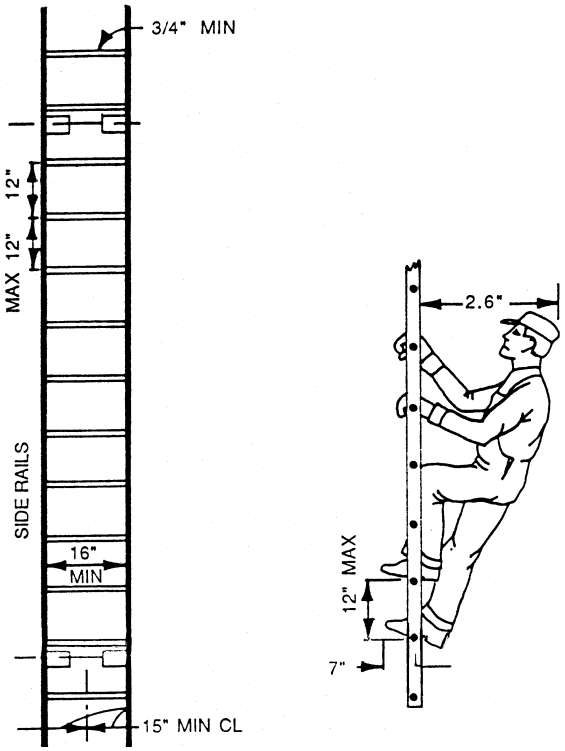

FIGURE D-2
Minimum Ladder Clearance

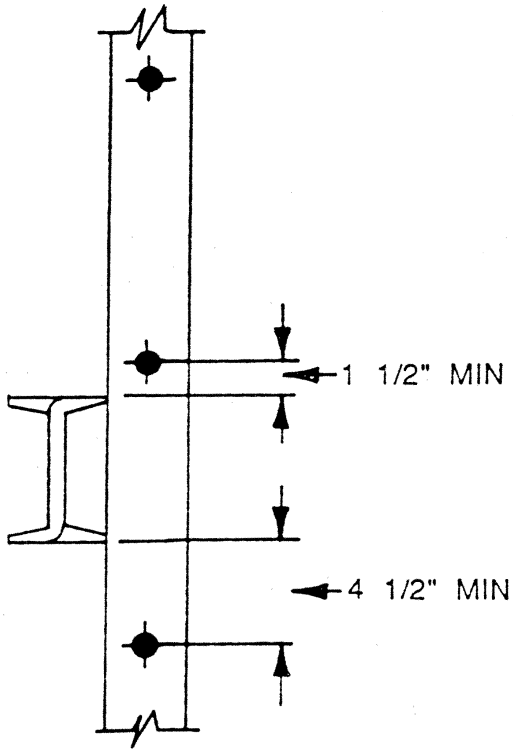

FIGURE D-3
Clearance for Unavoidable Obstruction
at Rear of Fixed Ladder.

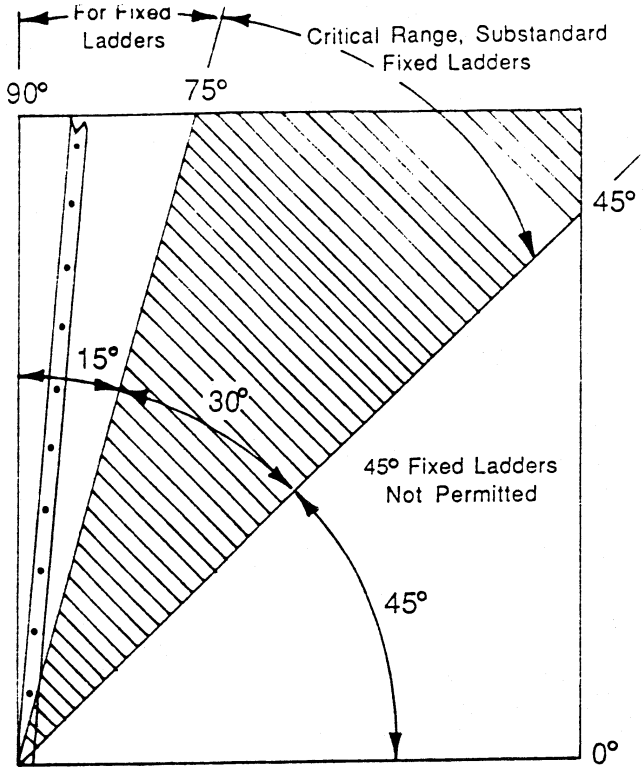

FIGURE D-4
Fixed Ladder Range

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, and chapter 49.17 RCW. WSR 20-12-091, § 296-59-115, filed 6/2/20, ef-

fective 10/1/20. Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. WSR 17-16-132, § 296-59-115, filed 8/1/17, effective 9/1/17. Statutory Authority: Chapter 49.17 RCW. WSR 88-14-108 (Order 88-11), § 296-59-115, filed 7/6/88.]