

CONSTRUCTION WORKPLACE
DESIGN SOLUTION #1
DESIGN CATEGORY: SITE
HAZARD: FALLS FROM NON-MOVING
VEHICLES
DESIGN SOLUTION: PROVIDE SAFE
ACCESS FOR LOADING AND
UNLOADING TRUCKS



This design solution reduces the risk of serious falls from non-moving vehicles. When a truck is on the road, it is controlled by DOT regulations. However, when vehicles are stopped for loading and unloading, or when a trailer is used for storage, the truck bed or trailer is in effect a working/walking surface. While OSHA 1926 excludes trucks and trailers from the agencies definition of "working/walking surface" thereby exempting these areas from fall protection requirements, workers are injured or killed in falls from non-moving vehicles. The same safety precautions that apply to open sided floors six feet above a lower level would also apply in preventing fall injuries during loading and unloading of trucks. Falls from non-moving vehicles can result in death or serious injury – about 22 fatalities per year [BLS, 2006] are reported.

SOLUTION

The bed of the truck or trailer should have a safe access, such as a stairway with railings, and guardrails around all open sides of the truck bed or platforms. Designers working with contractors can provide safe designs for access stairways, railings, and guardrails for loading and unloading trucks on a construction site, or when a trailer is used for storage. Permanent or movable stairway/platform/guardrail systems can be designed for loading and unloading areas of permanent buildings and structures.



The above two photos show how movable platforms with guardrails can be used around the open sides of a truck bed when loading and unloading trucks

The photo at the right shows a stairway and platform for accessing a trailer.



BACKGROUND INFORMATION

Applicable US Safety Regulations

OSHA Construction standards

1926.501(b)(1) Unprotected sides and edge. Each employee on a walking/working surface (horizontal and vertical surface) with an unprotected side or edge which is 6 feet or more above a lower level shall be protected from falling by the use of guardrails systems, safety net systems, or personal fall arrest systems.

1926.502(b)(1) Top edge height of top rails, or equivalent guardrail system members shall be 42 inches plus or minus 3 inches above the walking/working level.

1926.502(b)(2) Midrails, screens, mesh, 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 wall or parapet wall at least 21 inches high.

1926.502(b)(3) Guardrail systems shall be capable of withstanding, without failure, a force of 200 pounds applied within 2 inches of the top edge, in any outward or downward direction, at any point along the top edge.

1926.1052(a)(2) Stairs shall be installed between 30 deg. and 50 deg. from horizontal.

1926.1052(c)(1) Stairways having four or more risers or rising more than 30 inches (76 cm), whichever is less, shall be equipped with:

1926.1052(c)(1)(i) At least one handrail; and

1926.1052(c)(1)(ii) One stairrail system along each unprotected side or edge

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