

Sample Fall Protection Plan for Bridge Work



This template is intended to aid bridge contractors in developing an overall fall protection plan that includes use of conventional fall protection systems (guardrails, personal fall arrest, personal fall restraint, safety nets, and/or work positioning devices). Such an overall plan can then be adapted for specific work sites. The written plan tells how to control each fall hazard. It lists the fall protection measures to be used, how they are to be used, and who is responsible for supervision and training.

If a bridge contractor wishes to declare an exception to the use of conventional fall protection, Occupational Safety and Health Administration (OSHA) regulation requires a site-specific fall protection plan for using alternative fall protection methods. Such an exception can be made only when the contractor demonstrates that use of conventional systems is not feasible and/or will create a greater hazard. OSHA and the Occupational Safety and Health Review Commission (OSHRC) have placed the burden of establishing "infeasibility" and "greater hazard" claims on the employer. When contractors declare an exception, they must implement a written site-specific fall protection plan which complies with 29 CFR 1926.502(k), in lieu of implementing conventional fall protection.

Bridge contractors can declare an exception to use of conventional fall protection equipment only for leading edge work and precast concrete work. The ARTBA position is that conventional fall protection equipment is feasible and that implementation of the use of conventional fall protection systems will not create a greater hazard.

THIS BRIDGE FALL PROTECTION PLAN WILL BE AVAILABLE ON THE JOBSITE FOR INSPECTION

All employees who will be working on this job site will be made aware of the fall hazards and will understand the means to prevent falls and to minimize the injury or death potential of a fall. All employees will be informed of the company policy of enforcement and discipline for this plan. All employees will also be aware of the employer's rescue plan in the event of a fall.

(a) Site-Specific Job Information:

Company Name:	Date of Plan:
Job Site Location:	
Site Superintendent:	Cell/Radio Channel:
Site Foreman:	Cell/Radio Channel:
Designated Qualified Person:	Cell/Radio Channel:
Designated Competent Person:	Cell/Radio Channel:
Employees Authorized To Use Fall Protection Equipment:	
	Cell/Radio Channel:
	Cell/Radio Channel:
	Cell/Radio Channel:
	Cell/Radio Channel:
	Cell/Radio Channel:



(b) Specific Fall Hazards Associated with the Bridge Work Area:

Include locations and dimensions for the hazards, such as but not limited to openings, leading edge work, deck perimeters, bridge structural members, etc. Work tasks that put workers at risk of falls include abutment construction, column or cap forming, stripping formwork, girder installation, deck placement, forming barrier rail, placement of concrete, paving, etc.

(c) Method of Personal Fall Arrest (PFAS) or Personal Fall Restraint (PFRS):

For all PFAS or PFRS equipment, include the type of equipment, manufacturer's name, and the model number.

Type of Equipment	Manufacturer	Model#	Type of Equipment	Manufacturer	Model#
Full Body Harness			Relief Straps		
Shock-Absorbing Lanyard			Anchorage		
Work Positioning Lanyard			Safety Nets		
Self-Retracting Lifeline (SRL)			Other:		
Restraint Line			Other:		
Horizontal Lifeline			Other:		
Vertical Lifeline			Other:		
Incline Line			Other:		
Rope Grab			Other:		
Deceleration Device			Other:		
Locking Snap Hooks			Other:		
Locking Carabiners			Other:		
Controlled Descent/ Self-Rescue			Other:		



(c) Method of Personal Fall Arrest or Personal Fall Restraint (cont.):

Anchorage points: according to ANSI/ASSE Z359.2 Section 5.4

	Static Load Requirements	
	Non-Certified	Certified
Fall Arrest System	5,000 lbs. (22.2 kN)	2 X maximum arresting force
Work Positioning Systems	3,000 lbs. (13.3 kN)	2 X foreseeable force
Restraint & Travel Systems	1,000 lbs. (4.5 kN)	2 X foreseeable force
Rescue Systems	3,000 lbs. (13.3 kN)	5 X applied load
Horizontal Lifeline Systems	Must sustain at least two times the maximum tension developed in the lifeline during fall arrest in the direction applied by lifeline forces.	

(d) Assembly, Maintenance, Inspection, Disassembly Procedure for Personal Fall Arrest or Personal Fall Restraint:

Assembly and disassembly of all personal fall arrest, personal fall restraint, work positioning systems, horizontal lifelines, and rescue systems will be done according to manufacturers' recommended procedures. The specific types of equipment to be used on this job are listed in paragraph (c) on page 2. A copy of the manufacturer's product manual for each type of fall protection equipment and fall protection system used will be onsite.

A **visual inspection** of all equipment will be done before each use. The manufacturer's recommendations for maintenance and inspection will be followed. Any defective equipment will be tagged and removed from service immediately. (A competent person must inspect the jobsite, materials, and equipment on a frequent/regular basis [OSHA Subpart C 1926.20].) Employees responsible for inspection are listed below:

Employee Name: _____ Cell/Radio Channel: _____

Employee Name: _____ Cell/Radio Channel: _____

Employee Name: _____ Cell/Radio Channel: _____

Employee Name: _____ Cell/Radio Channel: _____

Employee Name: _____ Cell/Radio Channel: _____

(e) Handling, Storage and Securing of Tools and Material:

All materials, equipment, and tools not in use while aloft shall be secured against accidental displacement.

Include locations and dimensions for the specific hazards.



(f) Overhead Protection:

OSHA *requires* hardhats on all job sites with overhead hazards. It is recommended that hardhats be worn on *all* construction sites whether or not overhead hazards exist. When working aloft, workers will wear chin straps to secure their hardhats from falling off.

Warning signs will be posted to caution of existing hazards whenever they are present. For example, when steel erection, leading edge work, and pre-cast concrete erection activities are being performed above, then warning signs, barricades and/or danger tape shall clearly mark the area to prohibit workers from accidentally entering the area. In some cases, debris nets may be used if a condition warrants additional protection.

Toeboards will be used on scaffolding, personnel platforms, and aerial work platforms. If tools and/or equipment could fall over the toeboard, then additional safety measures such as – but not limited to – the use of screens to keep the tool and/or equipment on the deck of the scaffolding, personnel platform, and/or aerial work platform will be taken.

In addition to materials being hoisted, employees shall be protected from other falling objects. The bridge contractor will prohibit other construction processes below steel erection, leading edge work, and pre-cast concrete erection activities unless overhead protection is provided in addition to hardhats. If the bridge contractor is not the controlling contractor, the bridge contractor will request that the controlling contractor also communicate and enforce prohibited activity below steel erection, leading edge work, and pre-cast concrete erection activities.

(g) Rescue of Suspended or Injured Worker:

Rescue activities will be performed in accordance with the site-specific rescue plan. (A **Sample Fall Rescue Plan for Bridge Work** and a fact sheet on **Preventing Suspension Trauma** are available from ARTBA.)

(h) Working Over Water:

OSHA states that fall protection equipment is required when employees are working 6 feet or more over water. When employees are protected by fall protection 100% of the time (guardrails or personal fall arrest), OSHA does not require the use of a personal floatation device (PFD).

When employees are working over or near water and 100% fall protection is not provided, the requirements of 29 CFR 1926.106 also apply. Where a fall hazard exists of 6 feet or greater to the water, employees must be provided a fall protection harness and a PFD. For comfort, the employee should be provided a combination harness/PFD instead of requiring both a harness and a PFD to be worn simultaneously.

When employees work from aerial lifts or platforms suspended by a crane over water, tie-off using PFAS/PFRS may not be required. OSHA states by letter of interpretation that employees are not required to be tied off when working over water in an aerial lift or from a suspended platform. The employer should evaluate on a case-by-case basis whether only a PFD will be utilized over water when working from an aerial lift or suspended by a crane.

When employees work on a high bridge over water, fall protection must be utilized. A fall from a high bridge to water can result in severe injury and may be fatal. OSHA also states a PFD alone is not adequate if there is a potential of striking a structural member during the fall or striking an object in the water. In these cases the employee must be tied off.

When working over or near water, bridge contractors must ensure:

- Employees are provided with a PFD.
- Prior to and after each use, the PFD must be inspected for defects which would alter strength or buoyancy. Defective PFDs will not be used.
- Ring buoys with at least 90 feet of line must be provided and readily available for emergency rescue operations. Distance between ring buoys will not exceed 200 feet.
- At least one lifesaving skiff shall be immediately available at locations where employees are working over or adjacent to water.



(i) Guardrail Systems:

In general, guardrails are the preferred fall protection system when feasible. Whenever feasible, the company will select and install guardrail systems before resorting to use of personal fall arrest (PFAS) or personal fall restraint.

Include locations where use of guardrail systems is feasible and guardrails will be installed.

(j) Safety Nets:

Where feasible, safety nets are an effective fall protection system. Like guardrails, nets require no special effort on the part of workers who are protected by them. Nets must be rigged high enough so that fallen workers do not hit the ground. Nets must be installed as close as practicable under the working surface, but in no case more than 30 feet below it. When nets are used on bridges, the potential fall area must be unobstructed.

Include locations where use of safety nets is feasible and safety nets will be installed.

(k) Training Program:

An **Employee Fall Protection Training Record** is available from ARTBA. Company training program requirements for employees who might be exposed to fall hazards will include:

- Trained by a competent person concerning proper use and limitations of fall protection equipment before exposed to a fall hazard.
- Training must be conducted *before* employees are allowed to be exposed to fall hazards and directed to use fall protection equipment.
- Employees who have rescue duties will be trained from a competent person on how to properly rescue an employee who has had their fall arrested by fall protection equipment.
- Employees will be retrained when the nature of the work, the workplace, or the methods of control or type of fall protection equipment change to such an extent that prior training is no longer adequate.
- Training of employees in proper use of fall protection equipment will include physical demonstrations by trainees. Demonstrations by employees will verify their knowledge, skills, and proper application of fall protection equipment. Trainees will demonstrate how to inspect, anchor, assemble, and use the fall protection and rescue equipment in locations where they work.



(k) Training Program (cont.):

- Training shall include at least the following:
 - Nature of fall hazards in the work area and fall hazard recognition.
 - Fall hazard elimination and control methods.
 - Correct procedures for erecting, maintaining, disassembling, and inspecting the fall protection systems to be used.
 - Use/operation of guardrail systems, PFAS, PFRS, safety net systems, and/or work positioning systems to be used.
 - All standards contained in OSHA 1926 Subpart M and R and other applicable OSHA fall protection and rescue regulations and consensus standards, such as but not limited to ANSI/ASSE Z359 series of standards.
 - Requirements of this fall protection plan and rescue plan/procedures.
 - Pre-use equipment procedures.
- Training shall be conducted at least annually to stay current with fall protection and rescue educational requirements.
- The trainer will prepare a written certification record. The written certification record shall contain the name or other identity of the employee trained, the training date(s), the signature of the person trained, and the signature of the trainer. The latest training certification shall be maintained. (An **Employee Fall Protection Training Record** is available from ARTBA.)

NOTE: OSHA requires that the trainer must be a competent person who is qualified in the following areas:

 - The nature of fall hazards in the work area;
 - The correct procedures for erecting, maintaining, disassembling, and inspecting the fall protection systems to be used;
 - The use and operation of guardrail systems, personal fall arrest systems, personal fall restraint systems, safety net systems, work positioning, controlled access zones, and other protection to be used;
 - The correct procedures for the handling and storage of equipment and materials and the erection of overhead protection;
 - The role of employees in fall protection plans; and
 - The standards in 29 CFR 1926 Subpart M and R, and the requirements in ANSI/ASSE Z359 series as noted in paragraph (l) below.

(l) Fall Protection Enforcement and Disciplinary Policy:

Describe and insert the company policy for fall protection enforcement and disciplinary actions that will be taken for violators. Managers (superintendents, foremen, competent persons, and qualified persons) must understand that they will be terminated if they knowingly violate the company’s policy. Employees must understand if they violate the company’s fall protection policy they will be terminated as well. The company’s enforcement and disciplinary policy should also address actions that will be taken against subcontractors. The company should have only two choices for violations of fall protection policies: termination for knowingly violating company policy or retraining with a written counseling statement.

(m) References to ANSI/ASSE Z359 Family of Consensus Standards:

Five ANSI/ASSE Z359 consensus standards provide a “systems approach” to implementation of a fall protection program.

Z359.0	Definitions and Nomenclature Used for Fall Protection and Fall Arrest
Z359.1	Safety Requirements for Personal Fall Arrest Systems, Subsystems and Components
Z359.2	Minimum Requirements for a Comprehensive Managed Fall Protection Program
Z359.3	Safety Requirements for Positioning and Travel Restraint Systems
Z359.4	Safety Requirements for Assisted-Rescue and Self-Rescue Systems, Subsystems and Components

(n) Authorization:

Signature: _____ Date: _____

Name: _____ Title: _____

NOTE: Company’s fall protection policy should be signed by the highest level of management within the company.

ARTBA Work Zone Safety Consortium

- American Road and Transportation Builders Association ■ U.S. Department of Transportation Federal Highway Administration
- National Asphalt Pavement Association ■ Texas A&M Transportation Institute
- International Union of Operating Engineers ■ FOF Communications
- Community College Consortium For Health and Safety Training ■ American Association of State Highway and Transportation Officials

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