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ARTBA American Road & Transportation Builders Association

Guide to Selecting Fall Protection Systems for Bridge Work

Bridge 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, and other activities.

Occupational Safety and Health Administration (OSHA) fall protection regulations apply to any work 6 feet or more above levels to which workers could fall. OSHA fall protection standards are in 29 CFR 1926 Subpart M. A State OSHA may have more protective standards.

Fall Hazard Analysis

OSHA requires bridge contractors to assess all the hazards of each job before work begins. One method for doing this is a ***Job Hazard Analysis***. A Job Hazard Analysis is a systematic method for determining what specific hazards exist or may arise during work and what appropriate actions need to be taken to protect workers. In bridge work, the number one hazard is falls. Therefore, an analysis of fall hazards is essential. The contractor may do this or the contractor may assign the competent person for fall protection to complete the analysis.

Following the hazard analysis, a site-specific fall protection plan should be developed. (A ***Sample Fall Protection Plan for Bridge Work*** is available from ARTBA.) The written plan tells how to control each fall hazard. It should list the conventional fall protection measures to be used, how they are to be used, and who is responsible for supervision and training. At this point, the selection of appropriate and effective fall protection systems is a critical activity.

During this process, the contractor and/or the competent person will refer to the hierarchy of hazard controls to assess how the fall hazards will be addressed. In descending order, the hierarchy is:

- substitution (rarely applicable in construction)
- engineering controls, such as guardrail systems
- administrative procedures, such as restricted entry to controlled access zones
- personal protective equipment (PPE), such as a personal fall arrest system (PFAS)

Some fall protection systems are engineering controls. Some are PPE. Some are a combination.

What Is Fall Protection?

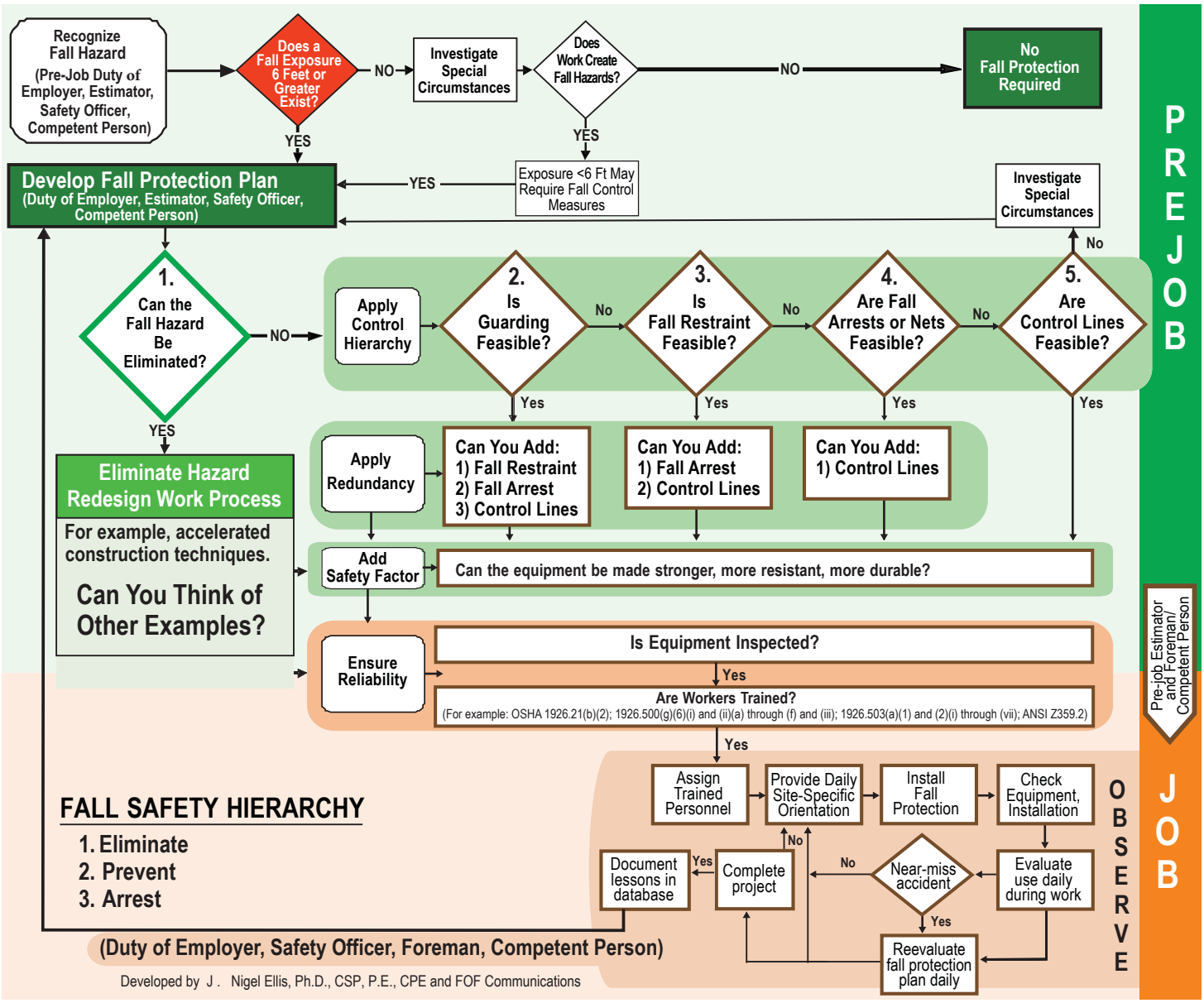
Fall protection is a broad concept. It is more than equipment systems alone. It includes training, procedures, and rules, as well as equipment systems, all working in combination to protect bridge workers from fall hazards. (See ARTBA's ***Fall Protection Systems for Bridge Work***.) Two basic categories of fall protection systems are available for bridge contractors:

- Fall ***prevention*** **systems** that keep a fall from happening. The two main types of fall prevention systems in bridge work are guardrails and personal fall restraint systems. In addition to these conventional fall protection equipment systems, other fall prevention benefits may result from the use of accelerated construction techniques such as precast modular concrete road panels and bridge elements. Such techniques reduce fall exposures for bridge workers.
- Fall ***arrest*** **systems** that stop a fall after it has happened. The three main types of fall arrest systems in bridge work are safety nets, personal fall arrest systems (PFAS), and work positioning devices.

Fall Protection Flow Chart for Bridge Work

The *Fall Protection Flow Chart For Bridge Work* on the reverse is a decision tool for analyzing fall hazards and fall protection needs for a bridge jobsite. Answering the questions in the chart can aid in the selection of fall protection systems.

Fall Protection Flow Chart for Bridge Work



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