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Safety
FALL PREVENTION AND PROTECTION PROCEDURES

FOR THE COMMANDER:

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Purpose. This Engineering Pamphlet outlines the processes and procedures for managing the Organization Fall Prevention and Protection Program as specified in Engineering Regulation 385-1-227. The program is developed to prevent injuries to U.S. Army Corps of Engineers personnel working at heights by standardizing the implementation of fall prevention and protection across all operations.

Applicability. This Engineering Pamphlet applies to Headquarters, U.S. Army Corps of Engineers elements, divisions, districts, centers, laboratories, and field operating activities.

Distribution Statement. Approved for public release; distribution is unlimited.

Proponent and Exception Authority. The proponent of this pamphlet is the Headquarters U.S. Army Corps of Engineers Safety Office. The proponent has the authority to approve exceptions or waivers to this pamphlet that are consistent with controlling law and regulations. Only the proponent of a publication or form may modify it by officially revising or rescinding it.

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Chapter 1
Introduction

1–1. Purpose

This Engineering Pamphlet outlines the processes and procedures for managing the Organization Fall Prevention and Protection Program as specified in Engineering Regulation 385-1-227. The program is development to prevent injuries to U.S. Army Corps of Engineers personnel working at heights by standardizing the implementation of fall prevention and protection across all operations.

1–2. Distribution statement

Approved for public release; distribution is unlimited.

1–3. References

See Appendix A.

1–4. Records management (recordkeeping) requirements

The records management requirement for all record numbers, associated forms, and reports required by this publication are addressed in the Army Records Retention Schedule. Detailed information for all related record numbers is located on the U.S. Army Corps of Engineers (USACE) Records Management Site https://usace.dps.mil/sites/INTRA-CIOG6/SitePages/Records-Management.aspx. If any record numbers, forms, and reports are not current, addressed, and/or published correctly, see Department Army Pamphlet (DA Pam) 25-403 for guidance.

1–5. Associated publications

Policies associated with this pamphlet are Engineering Regulation (ER) 385-1-227, Engineering Manual (EM) 385-1-1, 29 Code of Federal Regulation (CFR) Parts 1910, 1926, and 1960, and American National Standards Institute (ANSI)/ American Society of Safety Professionals (ASSP) Z490.1, A10.32, and Z359 standards.

1–6. Background

This pamphlet provides guidance for USACE division, districts, centers, laboratories, and field operating activities (FOAs), on developing and implementing an Organizations Fall Prevention and Protection Program (OF3P) at their respective locations. ER 385-1-227 mandates the establishment of an OF3P to prevent accidents and ensure compliance with Occupational Safety and Health Administration (OSHA), Department of Defense (DoD), Army, and other regulatory requirements. Any applicable labor or collective bargaining obligations must be met prior to implementation for bargaining unit employees. Officials responsible for executing this guidance must consult with their

activity’s legal advisor to determine if any management obligations exist under local collective bargaining agreements.

1–7. Suggested improvements

Users are invited to send comments and suggested improvements on ENG Form 6086 (Publication Change Request) directly to the Chief of Safety and Occupational Health, U.S. Army Corps of Engineers (USACE), 441 G Street NW, Washington, DC 20314.

Chapter 2
Fall Prevention and Protection Program Minimum Requirements

Each organization with personnel working at heights and/or exposed to potential fall hazards is required to establish an OF3P to ensure compliance with safety standards and mitigate risks.

2–1. OF3P (Requirements and Exceptions Defined)

a. *Safety standards.* An OF3P is required whenever personnel are exposed to fall hazards that meet or exceed the threshold limits established by the OSHA and 385-1-1. When discrepancies exist between standards, the more stringent requirement will apply to ensure maximum safety.

(1) General Industry. Personnel working in facilities must use fall protection at heights with an unprotected side or edge that is 4 feet or more above a lower level, in accordance with 29 CFR Part 1910, ANSI/ASSP Z359 standards, and EM 385-1-1.

(2) Construction Sites. Personnel working on construction sites must use fall protection at heights of 6 feet or more above a lower level. USACE personnel working at contractor-operated sites must comply with any additional more stringent fall protection requirements established by the contractor.

b. *Hazardous Conditions*. To prevent serious injuries or fatalities, fall protection is mandatory, regardless of height, when there is a risk of falling onto or into:

(1) Dangerous equipment (for example, rotating equipment, unguarded machinery, conveyor systems, etc.).

(2) A hazardous environment (for example, liquids, pits, tanks, etc.).

(3) An impalement hazard (for example, exposed rebar, steel stakes, etc.).

c. *Ladders*.

(1) Fixed ladders equal to or exceeds 24 feet.

(a) Fall protection must be provided for personnel climbing or working on a fixed ladder where the total length of climb equals or exceeds 24 feet.

(b) If the top of the fixed ladder equals or exceeds 24 feet above lower levels, regardless of the climb length, the organization must ensure one of the following is provided:

1. A ladder safety system (for example, climbing ladder fall arrest system);

2. A self-retracting lifeline that meets applicable OSHA and ANSI/ASSP Z359 standards; or

3. A cage or well (only permitted as a transitional solution through 18 November 2036).

(c) Prohibition of cages and wells for new installations. Fixed ladders installed on or after 19 November 2018, must be equipped with either:

1. A personal fall arrest system (PFAS); or

2. A ladder safety system.

Note. Cages and wells will not be used as fall protection for new fixed ladder installations after 19 November 2018.

(d) Retrofitting of existing systems. Fixed ladders installed before 19 November 2018 must be equipped with one of the following:

1. A PFAS;

2. A ladder safety system;

3. A cage; or

4. A well.

Note. All such ladders must be retrofitted with a PFAS or ladder safety system no later than 18 November 2036 After this date, the use of cages or wells alone is prohibited as a means of fall protection. See 29 CFR 1910.28 for additional information.

(2) Portable ladders and Fixed ladders less than 24 feet.

(a) Fall protection is not explicitly required for personnel using portable ladders under most circumstances, as outlined in applicable OSHA standards because:

1. Portable ladders are intended for short-duration, low-risk tasks where workers are required to maintain three points of contact, such as two hands and one foot, or two feet and one hand, while ascending or descending. This fundamental practice significantly reduces the likelihood of a fall.

2. The mobility and temporary nature of portable ladders make the practical application of traditional fall protection systems (for example, harnesses, anchors) often infeasible or potentially more hazardous.

3. OSHA’s standards emphasize safe use practices such as proper ladder selection, stable setup, securing the ladder, and safe climbing techniques as the primary means of fall prevention for portable ladders.

(b) Additional safeguards will be implemented when conditions exist that increase the risk of a fall, even if fall protection is not explicitly required. Such conditions include, but are not limited to the following:

1. Exposure to additional fall hazards, such as working on a portable ladder near unprotected leading edges, open sides, or elevated platforms without guardrails.

2. Tasks that impair ladder stability, including extended duration work, overreaching, or carrying tools or materials that may affect balance or control.

3. Organization or project-specific requirements, such as those outlined in an organization's written program, Activity Hazard Analysis (AHA), or Safety and Occupational Health plan, that mandate fall protection.

(c) In such cases, the need for fall protection or alternative control measures must be evaluated by a Competent Person (CP).

(3) An OF3P is not required for routine activities performed on walking-working surfaces where there is no exposure to falls from height. However, due to the high incidence of slips, trips, and same-level falls, all organizations must implement controls to mitigate hazards associated with walking-working surfaces.

(a) Hazard identification and control. All walking-working surface hazards must be identified, evaluated, and controlled through a comprehensive housekeeping and inspection.

1. Organization safety offices will manage Standard Army Safety and Occupational Health Inspections (SASOHI) to verify compliance, ensure hazards are documented, and confirm mitigating procedures are adequate.

2. Additional inspections should be conducted when conditions warrant reassessment of potential hazards. These situations include but are not limited to:

a) Before beginning operations at a new location where a prior safety inspection has not been performed.

b) Prior to training events, particularly those involving field activities, physical exertion, or the use of equipment.

c) Following significant modifications to a worksite, such as changes in layout, equipment installation, or operational flow.

d) After an accident, near miss, or safety-related incident.

e) When new machinery, tools, or hazardous materials are introduced into the work environment.

f) During seasonal transitions, such as the onset of winter weather or high-heat conditions, which may introduce new hazards.

g) In response to employee reports of unsafe conditions or practices.

h) Before high-risk operations, including confined space entry, energized work, or crane operations.

i) As part of periodic reviews of hazardous areas, such as maintenance shops, mechanical rooms, docks, dredges, or vessel decks.

j) When required by regulatory updates, command directives, or contractual obligations, especially those affecting worksite safety protocols.

k) During large-scale mobilizations or demobilizations, such as deployment or redeployment of field teams, construction crews, or contractors.

3. Controls must be embedded into daily operations (such as standard operating procedures, position hazard analysis, and/or AHAs) and must comply with 29 CFR 1910 Subpart D – Walking-Working Surfaces.

(b) Minimum control measures. The following measures are mandatory and will be implemented at all applicable locations:

1. Walking working surface maintenance and housekeeping.

a) Walking-working surfaces will be maintained in a clean, dry, and serviceable condition.

b) Spills will be cleaned immediately, and appropriate temporary signage (for example, "Wet Floor") will be deployed until the area is safe.

c) Surface contamination from oil, grease, water, ice, mud, algae, or chemicals will be identified and abated promptly.

2. Physical Hazard Mitigation.

a) Uneven surfaces, loose floor tiles, damaged grating, or worn mats will be repaired or reported for corrective action.

b) Rugs, mats, and floor coverings must be secured to prevent edge curling or displacement.

c) Electrical cords, hoses, or similar items will be routed or covered to eliminate tripping hazards.

3. Lighting Requirements.

a) Adequate illumination must be provided in all work areas, stairways, corridors, and emergency egress paths.

b) Burned-out bulbs and lighting defects will be corrected without delay.

4. Environmental and Seasonal Controls.

a) Ice and snow swill be managed with de-icing products or mechanical removal.

b) Walk-off mats and floor fans will be used during inclement weather and cleaning activities to prevent moisture accumulation.

5. Footwear and Apparel Controls.

a) Personnel footwear must be appropriate to environmental conditions, including slip-resistant soles where required.

b) Supervisors may mandate changes in footwear or supplemental traction aids based on situational risk assessments.

6. Behavioral Controls.

a) Running, distracted walking (for example, use of mobile devices), and unsafe load carrying practices are prohibited in operational zones.

b) Employees must maintain clear forward visibility and balanced posture while transporting items.

c) Transitional spaces, thresholds, steps, and elevation changes must be marked, and workers trained to navigate them cautiously.

(c) Training and Awareness. Supervisors and designated safety personnel will include walking-working surface evaluations in all routine safety inspections. All personnel must receive training covering the following:

1. Recognition of common slip, trip, and fall hazards.

2. Procedures for reporting unsafe conditions.

3. Safe walking and material handling techniques; and

4. Location-specific risk factors (for example, vessel decks, mechanical spaces, docks).

(d) Compliance Verification. Compliance with the above requirements will be documented and verified during SASOHI reviews, annual self-assessments, audits, and incident investigations. Deficiencies will be tracked and corrected in accordance with command-level hazard abatement procedures and Army Regulation (AR) 385-10.

2–2. Components of an OF3P

a. An effective and comprehensive OF3P must include the following key components to ensure the safety of personnel working at heights:

(1) Establish a clear policy that defines goals, safety criteria, and compliance requirements, reinforcing the organization's commitment to providing a safe work environment.

(2) Clearly define roles and responsibilities for personnel involved in program development, implementation, monitoring, maintenance, and evaluation.

(3) Provide personnel with all required fall protection training, ensuring compliance with this pamphlet and applicable OSHA, ANSI/ASSP, and USACE training standards. Conduct regular competency evaluations to verify proficiency, reinforce safe practices, and ensure continued compliance with fall protection requirements.

(4) Conduct thorough risk assessments before work at heights, including Fall protection and rescue plan (FPRP) and AHA, see non-mandatory ENG Form 6206 (Activity Hazard Analysis), prior to work at height.

(5) Develop a systematic process for identifying, evaluating, and mitigating existing or foreseeable fall hazards.

(6) Apply the hierarchy of controls, prioritizing hazard elimination and engineering controls before relying on personal protective equipment (PPE) or administrative measures.

(7) Ensure proper inspection, storage, care, and maintenance of fall protection PPE to maintain its effectiveness and reliability.

(8) Maintain comprehensive records of fall protection activities, including inspections, training, hazard assessments, and accident investigations.

(9) Conduct periodic program assessments and implement continuous improvement initiatives to enhance safety performance and compliance.

b. Utilize ENG Form 6327 (Organization Fall Prevention and Protection Program) to assist with program development and implementation.

2–3. Evaluating OF3P effectiveness

a. The Program Administrator, with assistance from the local Safety and Occupational Health Office, must evaluate the OF3P at least every two years or when deficiencies are identified, or incidents occur and make improvements accordingly. This evaluation must ensure a comprehensive review of:

(1) Program policies and personnel responsibilities.

(2) FPRP developed by CPs (see ENG Form 6328 (Fall Protection and Rescue Plan).

(3) Training and Hazard assessments.

(4) Control methods and anchorages.

(5) Equipment inspection and maintenance.

(6) Incident reports, inspections, and new equipment considerations.

b. Each evaluation must:

(1) Identify strengths and deficiencies in the program.

(2) Provide recommendations for improvement, including timelines for implementation.

(3) Ensure evaluation records are properly retained with the program.

c. This structured evaluation process supports continuous improvement, regulatory compliance, and a safer work environment. Refer to ANSI/ASSP Z359.2 for additional guidance.

Chapter 3
Personnel Roles, Responsibilities, Education and Training

All USACE personnel exposed to fall hazards, as well as those who utilize fall protection equipment, must receive comprehensive training under this program. Training must enable personnel to:

a. Understand their roles and responsibilities

b. Recognize workplace fall hazards

c. Understand effective measures to minimize risks and ensure a safe working environment.

3–1. Roles and responsibilities

The roles and responsibilities associated with this program are defined in ER 385-1-227.

3–2. Training development

Training will be designed and conducted prior to any exposure to fall hazards in accordance with ANSI/ASSP Z490.1, which establishes the criteria for accepted practices in safety, health, and environmental training and ANSI/ASSP Z359.2 which outlines the requirements for a comprehensive managed OF3P.

3–3. Needs assessment

a. The organization, in consultation with the Program Administrator, will conduct a documented needs assessment to determine required training based on:

(1) Assigned work activities.

(2) Fall hazard exposure.

(3) Required protective measures.

(4) Equipment usage and maintenance.

(5) Emergency response and rescue procedures.

b. Training must also include the development and implementation of AHA, FPRP, performance requirements, and manufacturer-specific equipment requirements to ensure compliance with regulations and worker safety. For detailed guidance, refer to ANSI/ASSP Z359.2.

3–4. Personnel education and training

Note. Refer to table 3-1 for a summary of the required OF3P training.

a. *Authorized Persons*.

(1) Before personnel are exposed to a fall hazard, the organization must ensure they receive comprehensive training from a competent instructor with expertise in fall hazards, regulations, standards, and equipment used in the work environment.

(2) Training should be a minimum of four hours or adjusted as determined by the Program Administrator through a documented needs assessment based on job tasks and fall hazard exposure.

(3) At a minimum, training must cover:

(a) Fall hazard identification.

(b) Risk management strategies, including hierarchy of controls, FPRP minimum requirements and procedures.

(c) Roles and responsibilities according to ER 385-1-227.

(d) Safe use of anchorages and equipment in accordance with all manufacturer requirements.

(e) Hands on exercises with applicable equipment.

(f) The correct procedures for erecting, using, dismantling, inspecting, maintaining, and storing fall protection equipment.

(g) The application limits, free-fall distance, total fall distance, and clearance requirements of fall protection systems and equipment. Including this content will better support practical training and ensure safe work practices are emphasized from the start.

b. *Competent Persons.*

(1) Must complete a minimum of 24 hours of structured fall protection training, which must include a combination of formal classroom instruction and a hands-on performance assessment.

Note. The training requirement for CP designation cannot be reduced unless a formal waiver or variance is submitted to, and approved by, the Headquarters USACE Safety and Occupational Health Office (HQUSACE-SOHO). Official requests for information must be submitted through the local USACE SOHO who will submit the request through their SOH chain of command using the HQUSACE-SO SharePoint located at https://team.usace.army.mil/sites/HQ/SO/Pages/Variances_and_Waivers.aspx.

(2) Must possess extensive knowledge, training, and experience in:

(a) Fall hazard identification, risk assessment, and mitigation strategies.

(b) Evaluating fall protection systems for effectiveness and regulatory compliance.

(c) Implementing corrective measures to eliminate or reduce fall hazards.

(3) Be able to identify existing and foreseeable fall hazards, ensuring compliance with OSHA, ANSI/ASSP, and USACE requirements.

(4) In addition to the Authorized Persons training (see para. 3-4(a)), CP training must include:

(a) Applicable OSHA and USACE regulations and ANSI/ASSP standards.

(b) Development, implementation, and evaluation of risk management strategies.

(c) Developing AHAs and FPRPs.

(d) Anchorage and equipment selection.

(e) Equipment assessment, selection, and inspection.

(f) Determining fall clearance requirements.

(g) Monitoring program effectiveness and ensuring personnel compliance.

c. *Qualified Persons (QPs).*

(1) Must possess a degree, certification, or professional standing in a relevant field (for example, engineering, safety, or fall protection system design), or demonstrate specialized knowledge and extensive experience in fall protection principles and system design.

(2) Must be capable of analyzing, designing, certifying, and resolving fall protection-related challenges in compliance with USACE, OSHA regulations, and ANSI/ASSP standards.

(3) QP training must include, but is not limited to:

(a) Calculating and verifying fall clearances.

(b) Designing, selecting, analyzing, and certifying fall protection system components and anchorages.

(c) Application of ANSI/ASSP Z359.6, Specifications and Design Requirements for Active Fall Protection Systems.

(4) It is recommended that QPs complete Authorized Person training (see paragraph 3-4(a)) as well as the recommended CP training (see paragraph 3-4(b)) to ensure proper knowledge and capability in fall protection responsibilities.

d. *Authorized Rescuer.* In addition to the Authorized Persons training (see para 3-4(a)), the authorized rescuer training must include:

(1) Rescue systems use, inspection, and maintenance requirements.

(2) Understanding free-fall distances, arresting forces, and rescue procedures.

e. *Competent Rescuer.* In addition to the Authorized Persons (see para 3-4(a)) and Authorized Rescuer training (see para 3-4(d)), competent rescuers must be trained in:

(1) Applicable regulations and standards.

(2) Development of site-specific rescue plans and procedures.

f. *Program Administrator.* In addition to completing Authorized Persons training (see para 3-4(a)) and the recommended CP training (see para 3-4(b)), the Program Administrator must receive specialized training in:

(1) Developing, maintaining, and evaluating an OF3P.

(2) Conducting training needs assessments.

(3) Managing fall protection equipment and documentation.

(4) Accident and near-miss investigation procedures.

g. *Architects, engineers, and designers.*

(1) When involved in the planning and design of buildings, facilities, and structures, it is essential to implement risk management processes to prevent losses during construction, including contract modifications, accidents, and project delays. Proactive risk management also enhances the usability, safety, and long-term functionality of the finished product.

(2) Architects, engineers, and designers should receive training in fall protection principles and prevention strategies to ensure they can identify potential fall hazards and incorporate effective fall prevention measures into their designs. This proactive approach minimizes risks during construction, routine operations, and maintenance activities while ensuring compliance with industry safety standards.

(3) Fall protection must be integrated into the design process to:

(a) Mitigate hazards during the construction phase.

(b) Ensure long-term protection for personnel performing routine work and maintenance operations.

(c) Ensure compliance with applicable safety regulations and industry standards.

3–5. Retraining

a. Retraining will be conducted in accordance with table 3-1 and as determined by both the organization and the Program Administrator.

b. Retraining is also required under the following conditions:

(1) Modifications to the OF3P introduces new requirements.

(2) Changes to equipment or the workplace introduce new hazards or procedures.

(3) Personnel demonstrate a lack of knowledge or proficiency in fall protection practices.

(4) Periodic refresher training is recommended annually but must occur at least every two years to maintain competency.

(5) Rescue personnel must also participate in annual hands-on rescue drills as part of retraining.

3–6. Training documentation

a. Fall protection trainers must ensure that all fall protection training is documented. Training records will include the following information according to ANSI/ASSP Z490.1:

(1) Training type.

(2) Date(s).

(3) Duration

(4) Location.

(5) Trainer(s) name.

(6) Objectives, content, materials, descriptions of evaluations and assessments.

b. Proof of training will be maintained with the OF3P or in organization’s official system of record. If stored in the organization’s system, records must be readily accessible to the Program Administrator.

c. Documentation must be reviewed periodically to verify compliance and update training requirements as needed.

Table 3–1
Fall Protection Training Summary

Position	Training Type	Duration
Qualified Person	• Professional Certificate, degree, etc.	• By professional training, qualification, or certification
	• CP (Recommended)	• See CP
	• Authorized Person (Recommended)	• See Authorized Person
Competent Person	• Initial Training • Refresher Training	• Mandatory 24 hours • CP recommended 1 hour annually but must occur at least every two years
	• Authorized Person Training	• See Authorized Person
Authorized Person	• Initial Training • Refresher Training	• 4 hours • Authorized Person recommended 1 hour annually but must occur at least every two years
Safety Monitor	• Authorized Person Training	• Authorized Person Training
Competent Rescuer	• Authorized Person Training	• See Authorized Person
	• Authorized Rescuer	• See Authorized Rescuer
	• Initial Competent Rescuer Training • • Refresher Rescue Training (with drill)	• Duration to be determined (TBD) by Program Administrator • Duration TBD by Program Administrator, annually.
Authorized Rescuer	• Authorized Person Training	• See Authorized Person
	• Initial Authorized Rescuer Training • Refresher Authorized Rescuer Training (with drill)	• Duration TBD by Program Administrator. • Duration TBD by Program Administrator, annually.
Program Administrator	• Authorized Person Training • Refresher Training	• See Authorized Person • See Authorized Person
	• CP (Recommended)	• CP (Recommended)
Architects, Engineers, and Designers.	• Initial and Refresher Training	• TBD by Program Administrator, annually.

Note*:*
The Program Administrator, in coordination with the local Safety and Occupational Health Office, may adjust the duration of training based on the results of a documented Training Needs Assessment. However, the training requirement for CP designation cannot be reduced unless a formal waiver or variance is submitted to, and approved by, the HQUSACE-SOHO.

Chapter 4
Risk Management and Planning

4–1. Integration of risk management

a. Risk management is the responsibility of leadership and management at every level. It must be integrated into all phases of work, especially when working at height.

b. The organization and the Program Administrator will coordinate risk decisions to ensure they are made at the appropriate level of authority according to DA Pam 385-30 and EM 385-1-1.

c. Ensure the risk management process is deliberate, structured, and applied consistently.

4–2. Requirements for fall hazard risk management

a. Federal regulations and Army doctrine requires specific hazard assessments and planning requirements for working at height. These include:

(1) OSHA 29 CFR Part 1926 (Construction) and 29 CFR Part 1910 (General Industry) mandate hazard identification, fall prevention measures, and personnel training. Construction and General Industry sets the threshold heights, with each regulation outlining specific protective systems, equipment use, and rescue planning to ensure worker safety and compliance.

(2) AR 385-10 establishes fall prevention and protection requirements for Army personnel, aligning with OSHA, ANSI/ASSP, and USACE standards. It mandates a comprehensive Fall Protection Program, including hazard identification, risk assessments, training, and the implementation of fall protection systems when required. The regulation applies to all Army workplaces, requiring fall protection at specified height thresholds, proper equipment use, and rescue planning to ensure mission readiness and personnel safety.

(3) USACE EM 385-1-1 outlines fall protection requirements for all USACE activities, ensuring compliance with OSHA, ANSI/ASSP, and Army safety regulations. It mandates a comprehensive Fall Protection Program, including hazard identification, risk assessments, training, fall prevention and protection planning, and rescue procedures. The standard focuses on engineering controls, personal protective systems, inspection requirements, training, and enforcement measures to safeguard workers operating at height.

b. Industry standards also mandate specific hazard assessments and planning requirements for working at height. These include:

(1) ANSI/ASSP A10.32 requires a Task Hazard Analysis (THA) before performing work at height in construction environments. The THA is a required assessment conducted at each phase of a construction project to identify fall hazards and determine why hazard elimination may not be feasible. It is for construction employers at the start of a project and at critical work stages, ensuring that fall protection measures are properly evaluated and implemented. The THA results in a written analysis that justifies the need for active fall protection and outlines specific mitigation strategies to enhance worker safety.

(2) ANSI/ASSP Z359.2 requires a Fall Hazard Survey before conducting work at height in general industry settings. The Fall Hazard Survey is a proactive assessment conducted before work begins to identify and document all fall hazards in the workplace. It applies to both General Industry and Construction, ensuring long-term fall protection measures are integrated into work environments where personnel face fall hazards. The survey systematically prioritizes risks, generating a comprehensive list ranked from highest to lowest priority to guide the implementation of effective mitigation strategies and enhance workplace safety.

c. While these requirements share similar objectives, each is specifically designed to ensure that hazards are identified, appropriate mitigation measures are implemented, and personnel are fully informed of potential risks and controls prior to starting work. ENG Form 6328 guides the development of site-specific plans and ensures that all required elements in paragraphs 4-2(a) and (b) are adequately addressed.

4–3. Principles of effective risk management

a. Effective risk management requires:

(1) Comprehensive hazard identification to ensure no potential risks are recognized and addressed.

(2) Thorough risk assessments to evaluate the likelihood and severity of hazards.

(3) Implementation of control measures by utilizing the hierarchy of controls to eliminate or minimize risks.

(4) Continuous monitoring and reassessment to adapt to changing conditions and new hazards in the workplace.

b. Integrating proactive risk management into work planning enhances safety, ensure compliance, and protects personnel from unnecessary exposure to hazards.

4–4. Fall protection risk management process and hierarchy of controls

a. Before any work at height begins, a CP or QP must follow these steps in sequence to ensure proper fall protection:

(1) Identify all potential hazards associated with the task before work begins.

(2) Evaluate each identified hazard to determine probability of occurrence and potential severity. Utilize AHA to assist.

(3) Develop and implement effective control measures to mitigate hazards and reduce risk probability and severity. If fall hazards cannot be eliminated, appropriate fall protection systems and equipment must be used. Use ENG Form 6328 to assist in planning and documenting fall protection strategies. The preferred approach follows the hierarchy of controls for fall hazards, listed in order of effectiveness:

(a) Elimination. Remove the hazard from work area or modify the task/process, to eliminate the fall risks. Examples include:

1. Construct roof trusses at ground level before lifting into place.

2. Lower high location meters, valve, or controls to an accessible working height.

(b) Passive Controls (Passive Fall Protection System). Isolate and separate fall hazards from work areas by erecting same-level barriers such as:

1. Guardrails.

2. Walls.

3. Hole covers.

4. Parapets.

(c) Active Controls. Use fall protection systems in the following order of effectiveness:

1. Restraint system (prevent workers from reaching a fall hazard).

2. Positioning systems (support the workers while allowing hands-free operation).

3. PFAS (stop a fall in progress).

Note. All fall protection equipment must meet ANSI/ASSP Z359.1 (2007 or later). Equipment manufactured to pre-2007 standards is not permitted for use by USACE personnel.

(d) Administrative Controls. Implement work practices to reduce risk or warn personnel of fall hazards, such as:

1. Warning lines (Construction).

2. Designated areas (General Industry).

Note. Control measures are not mutually exclusive. There may be situations when more than one control measure should be used to reduce the risk of a fall.

(4) Implement controls to ensure workers are trained, and equipped to understand, implement, and adhere to required control measures to effectively reduce risk.

(5) Continuously monitor and evaluate the effectiveness of controls to confirm they are fully implemented and adequately mitigating risks. When needed, pause work to make corrections, modify existing controls, or introduce additional measures to ensure risk is properly managed

b. By implementing this risk management process with the hierarchy of controls, accidents related to work at height can be effectively prevented through the systematic elimination or reduction of fall hazards.

4–5. Fall protection and rescue plan (FPRP)

a. The FPRP, as required by EM 385-1-1, is a critical component of an OF3P. This site-specific plan (see ENG Form 6328) is designed to prevent fall-related incidents during work at height activities. It is a living document that must be regularly updated to reflect changes in work phases, procedures, and methods to ensure ongoing effectiveness and compliance.

b. FPRP is required whenever personnel are working at heights or exposed to fall hazards. The plan must be developed by a CP and updated as conditions change, but at a minimum, must be reviewed annually if still active. Utilize ENG Form 6328 or equivalent, to ensure the plan includes, at a minimum, the following elements:

(1) Activity description & hazard identification.

(a) Provide a detailed description of the work being performed.

(b) Identify anticipated fall hazards and any associated risks.

(c) Outline control measures to mitigate risks to an acceptable level.

(2) Fall protection systems & equipment.

(a) Describe fall protection methods and systems to be used at each phase of work.

(b) Include design specifications for anchorages, fall arrest systems, and horizontal lifeline systems.

(c) Document the type of fall protection equipment provided, including inspection, assembly, disassembly, maintenance, and storage requirements.

(3) Roles & responsibilities.

(a) Assign personnel and define their roles and responsibilities related to fall protection.

(b) If fall protection components or systems require specialized design, supervision, or calculations, the plan must include the name, qualifications, and responsibilities of the QP overseeing those elements.

(4) Training requirements.

(a) Ensure personnel exposed to fall hazards have the required training for their respective role and that it is current according to table 3-1.

(b) Specify any additional training requirements for personnel responsible for implementing and overseeing fall protection systems.

(5) Inspection & oversight. Describe how fall protection procedures will be enforced on-site.

(6) Rescue plan & procedures. A rescue plan must be included whenever PFAS are used. The Competent Rescuer will develop the rescue plan, which must address:

(a) Rescue methods.

1. Specify self-rescue and assisted rescue procedures, including required equipment.

2. Identify rescue personnel, including CPs, in-house professionals, contractors, or emergency responders.

3. If external rescue services (for example, local fire department, jurisdictional emergency responders) are to be used, include contact procedures and response coordination measures.

(b) Rescue equipment and anchorage requirements.

1. Identify and document anchorage type that will be utilized for rescue operations.

2. Ensure rescue anchorages meet the required 3,000-pound static load capacity (13.3 kN) or five times the applied load per QP design.

3. List rescue equipment, such as self-retracting lanyards with rescue capability, ensuring compliance with ANSI/ASSP Z359.4 and Z359.14 standards.

(c) Spotters & monitoring. Identify safety spotters (buddy system) who will be within visual and verbal range to monitor workers and initiate rescue procedures if needed.

(7) Documentation and plan updates.

(a) The FPRP must be maintained on-site at all times and remain readily accessible to all personnel performing work at height.

(b) Updates to the plan are required when:

1. Work conditions change (for example, new hazards, equipment, or processes).

2. Regulatory requirements are updated.

3. New personnel are assigned to fall protection roles.

(c) The FPRP must include revision tracking to ensure the latest version is being followed.

(d) Conduct annual program assessments and implement continuous improvement initiatives to enhance safety performance and compliance.

4–6. Plan approval and accessibility

a. The FPRP must be prepared and approved by the CP for Fall Protection before work begins.

b. A current copy of the plan must be always kept at the work location, with all changes and updates clearly documented.

4–7. Requirements for USACE personnel working at height at another USACE organization

a. *Pre-work requirements*. Prior to beginning any work at height, personnel visiting from another organization or facility must obtain, review, and acknowledge the host organization's OF3P, FPRP, and AHA to ensure compliance with site-specific safety requirements and EM 385-1-1.

b. *Development of a Site-Specific FPRP*. If a FPRP is not in place at the worksite, the visiting personnel or team leader, in consultation with the host facility’s CP, must develop and implement a site-specific FPRP. This plan must ensure that fall protection measures and rescue procedures are properly established before work begins.

c. *Training verification*. The host organization must verify that visiting personnel have received the required fall protection training according to table 3-1 before authorizing work at height.

d. *Fall Protection Equipment.* The host and visiting organization will verify equipment has been inspected and documented according to the pamphlet before use.

4–8. Requirements for USACE personnel working at height on a contractor-controlled site of work

a. *Pre-work requirements*. Prior to beginning any work at height, USACE personnel visiting a contractor-controlled site of work must obtain, review, and acknowledge the contractors FPRP and AHA to ensure compliance with site-specific safety requirements and EM 385-1-1.

b. *Site-Specific FPRP.* If a FPRP is inadequate, or not in place, the USACE personnel must not perform work at height. If necessary, contact the Contracting Officer, their representative, or the local USACE Safety and Occupational Health Office for further guidance.

c. *Training verification*. The USACE personnel and their supervisor must verify that all required fall protection training has been completed and that fall protection equipment is adequate in accordance with this pamphlet before work at height is authorized.

d. *Fall Protection Equipment.* USACE personnel will not use contractor-provided harnesses or lanyards unless explicitly directed to do so by their supervisor. If required to use contractor-provided fall protection equipment, a verification process must be conducted to ensure that the equipment has been inspected and documented according to EM 385-1-1 before use.

Appendix A
References

Section I

Required Publications

Unless otherwise indicated, all U.S. Army Corps of Engineers publications are available on the USACE website at https://publications.usace.army.mil. Army publications are available on the Army Publishing Directorate website at https://armypubs.army.mil. DoD Publications are available on the ESD website at https://www.esd.whs.mil. ANSI/ASSP standards are available on the ANSI website at https://www.ansi.org/ or through the Whole Building Design Guide at https://www.wbdg.org/. All OSHA standards in 29 CFR Parts 1910, 1926, and 1960 are available at https://www.osha.gov/.

ANSI/ASSP A10.32
Personal Fall Protection Used in Construction and Demolition Operations

ANSI/ASSP Z359, series
Fall Protection Standards

ANSI/ASSP Z359.1
The Fall Protection Code

ANSI/ASSP Z359.2
Minimum Requirements for a Comprehensive Managed Fall Protection Program

ANSI/ASSP Z359.4
Safety Requirements for Assisted-Rescue and Self-Rescue Systems, Subsystems and Components

ANSI/ASSP Z359.6
Specifications and Design Requirements for Active Fall Protection Systems

ANSI/ASSP Z359.14
Safety Requirements for Self-Retracting Devices for Personal Fall Arrest and Rescue Systems

ANSI/ASSP Z490.1
Criteria for Accepted Practices in Safety, Health and Environmental Training

AR 385-10
The Army Safety Program

DA Pam 25-403
Army Guide to Recordkeeping

DA PAM 385-30
Risk Management

EM 385-1-1
U.S. Army Corps of Engineers, Safety and Health Requirements Manual

ER 385-1-227
Fall Prevention and Protection Requirements

29 CFR Part 1910
Occupational Safety and Health Standards

29 CFR 1910, Subpart D
Walking-Working Surfaces

29 CFR 1910.28
Duty to Have Fall Protection and Falling Object Protection

29 CFR Part 1926
Safety and Health Regulations for Construction

29 CFR Part 1960
Basic Program Elements for Federal Employee Occupational Safety and Health Programs and Related Matters

Section II

Prescribed Forms

The engineer forms are available from this link: https://www.publications.usace.army.mil/USACE-Publications/Engineer-Forms/.

ENG Form 6206
Activity Hazard Analysis

ENG Form 6327
Organization Fall Prevention and Protection Program

ENG Form 6328
Fall Protection and Rescue Plan

Glossary of Terms

Term	Definition
AHA	Activity Hazard Analysis
ANSI	American National Standards Institute
AR	Army Regulation
ASSP	American Society of Safety Professionals
CFR	Code of Federal Regulation
CP	Competent Person
DA Pam	Department of Army Pamphlet
DoD	Department of Defense
EM	Engineering Manual
ENG	Engineering
ER	Engineering Regulation
FOA	Field Operating Activities
FPRP	Fall Protection and Rescue Plan
HQUSACE-SOHO	Headquarters United States Army Corps of Engineers Safety and Occupational Health Office
OF3P	Organization Fall Prevention and Protection Program
OSHA	Occupational Safety and Health Administration
PFAS	Personal Fall Arrest Systems
PPE	Personal Protective Equipment
QP	Qualified Person
SASOHI	Standard Army Safety and Occupational Health Inspections
TBD	To Be Determined
THA	Task Hazard Analysis
USACE	United States Army Corps of Engineers

Active Fall Protection System
A personal fall protection system that requires Authorized Persons (that is, End-Users) to wear or use personal fall protection equipment and that requires fall protection training. Active fall protection systems can include any travel restraint or personal fall arrest systems (PFAS).

Anchorage
A secure connecting point or terminating component of a personal fall protection system that can safely withstand the forces exerted by the activation of fall protection and rescue equipment. The anchorage is a secure structure (for example, beam, girder, column, floor). Anchorage is either engineered or improvised.

Authorized Person
A person who has been trained in the use of assigned personal fall protection equipment, including hands-on training and practical demonstrations in a typical fall-hazard situation. They use personal fall arrest, restraint, or positioning equipment while performing work assignments at heights.

Authorized Rescuer
A person who is trained on rescue procedures and assigned by the employer to rescue Authorized Persons who may require rescue.

Clearance Requirement
The distance below the Authorized Person must remain clear of obstructions to ensure that the Authorized Person does not encounter any object or obstruction during a fall.

Competent Person for Fall Protection (CP for Fall Protection)
A person designated in writing by the employer to be responsible for the immediate supervision, implementation, and monitoring of the Fall Protection Program. The CP for Fall Protection, who through training, knowledge, and experience in fall protection and rescue systems and equipment, is capable of identifying, evaluating, and addressing existing and potential fall hazards. The CP for Fall Protection has the authority to take prompt corrective measures with regard to such hazards. The term “Competent Person (CP)”, as used in this EP, refers to “Competent Person for Fall Protection.”

Competent Rescuer
An individual, who by training, knowledge, and experience in the safe use of specialized rescue equipment (for example, harness, lanyards, horizontal lifelines), is capable of the implementation, supervision, and monitoring of the employer’s rescue plan. The individual in this role must be designated by the employer.

Fall Protection and Rescue Plan (FPRP)
A site-specific, task-focused plan that outlines the methods, procedures, and equipment to protect personnel working at height from fall hazards and to ensure prompt and effective rescue in the event of a fall. This plan is a critical component of the organization’s risk management process and must be developed and implemented for all activities involving work at height. The Fall Protection and Rescue Plan identify fall hazards, specifies the fall protection systems to be used, assigns roles and responsibilities, defines emergency rescue procedures, and ensures that all personnel are trained and prepared to safely execute both the work and potential rescue operations.

Free-Fall Distance
The vertical distance traveled during a fall, measured from the onset of a fall from a walking-working surface to the point at which the fall protection system begins to arrest the fall. It excludes deceleration distance and the elongation of a lifeline or lanyard. It includes any distance that a deceleration device slides before engaging or the distance that a self-retracting lifeline or lanyard extends before fall arrest forces are applied. The distance is measured using a common reference point, typically the fall arrest attachment point (that is, anchor point).

Fall Protection Trainer
An individual who, by training, knowledge, and experience is competent and can conduct fall protection training.

Horizontal Lifeline System
An active fall protection system made of flexible wire, rope, or synthetic cable that is spanned horizontally between two end anchorages or anchorage connectors. It may include in-line energy absorber, lifeline tensioner, or turnbuckles and may also include intermediate anchorages. The system is used for attaching a fall arrest or in restraint system applications.

Lower Levels
Areas below the level where the employee is located and to which an employee can fall. Such areas include but are not limited to ground levels, floors, roofs, ramps, runways, excavations, pits, tanks, materials, water, and equipment.

Organization Fall Prevention and Protection Program (OF3P)
A structured, organization-wide program that establishes policies, procedures, roles, responsibilities, and controls to prevent personnel from falling from the same level or from elevations to lower levels. The OF3P ensures compliance with applicable safety standards and regulations, incorporates hazard identification and risk assessment processes, defines training requirements, outlines inspection and maintenance protocols for fall protection equipment, and establishes fall rescue procedures. Each organization that conducts work at height is required to establish and maintain an OF3P appropriate to the scope and complexity of its operations. The program is designed to systematically reduce fall-related risks and protect the health and safety of all personnel engaged in mission-related activities.

Program Administrator (also known as Program Manager).
A person designated by the employer to be responsible for the development, implementation, monitoring, and evaluation of the employer's Fall Protection Program. The Program Administrator must have training and a working knowledge of current fall protection regulations, standards, equipment, and systems. The term "Program Administrator", as used in this EP, refers to "Program Administrator for Fall Protection."

Passive Fall Protection System
A system that does not require a worker to use or wear personal fall protection equipment. Examples include guardrails, safety nets, covers, and compliant parapet walls.

Qualified Person for Fall Protection (QP for Fall Protection).
A person with a recognized degree or professional certificate and with extensive knowledge, training and experience in the fall protection and rescue field who is capable of designing, analyzing, evaluating, and specifying fall protection and rescue systems to the extent required by these standards.