

OSHA Construction Safety Starter Pack

FORBES SAFETY SOLUTIONS

Complete bundle — 10 templates included

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DAILY CONSTRUCTION SITE SAFETY INSPECTION

Forbes Safety Solutions

Project Name:			
Date:		Weather:	
Inspector:		Site Address:	

#	Inspection Item	Status	Comments
HOUSEKEEPING			
1	Walkways and access routes clear of obstructions		
2	Materials stored properly and securely		
3	Waste disposal containers available and not overflowing		
4	Trip hazards identified and addressed		
5	Adequate lighting in all work areas		
PPE COMPLIANCE			
6	Hard hats worn in all required areas		
7	Safety glasses/goggles in use where required		
8	High-visibility vests worn as required		
9	Safety boots/steel-toed footwear worn		
10	Gloves appropriate for task being worn		
FALL PROTECTION			
11	Guardrails intact and properly installed		
12	Floor openings covered and secured		
13	Harnesses inspected and properly worn		
14	Anchorage points adequate and accessible		
15	Ladders secured and in good condition		
ELECTRICAL SAFETY			
16	GFCIs in use on all temporary circuits		
17	Extension cords undamaged and rated properly		
18	Temporary power panels secured		
19	Panel access clear of obstructions (36" min.)		
EXCAVATION			
20	Shoring/sloping/shielding in place per plan		
21	Access ladders within 25 ft. of workers		
22	Spoil pile set back minimum 2 ft. from edge		

23	Utility markings visible and intact		
FIRE PREVENTION			
24	Fire extinguishers accessible and charged		
25	Hot work permits posted and current		
26	Flammable materials stored properly		
EQUIPMENT			
27	Daily equipment inspections completed		
28	Operators have valid certifications		
29	Seatbelts in use on all applicable equipment		
30	Backup alarms functional on all equipment		

INSPECTION SUMMARY	
Total Items Inspected	0
Items Compliant (Yes)	0
Items Needing Correction (No)	0
Not Applicable (N/A)	0
Compliance Rate	0.0%
Overall Site Rating	

CORRECTIVE ACTIONS REQUIRED				
#	Description	Priority	Assigned To	Status
1				
2				
3				
4				
5				
6				
7				
8				

SIGNATURES

Inspector
Signature

Date:

Superintendent
Signature

Date:

INSTRUCTIONS — Daily Construction Site Safety Inspection

Forbes Safety Solutions

PURPOSE

This form provides a standardized daily inspection checklist for construction sites.
It helps ensure compliance with OSHA regulations and company safety policies.
Complete this form at the start of each work day before work begins.

HOW TO USE

1. Fill in all header information (Project Name, Date, Inspector, Weather, Site Address).
2. Walk the entire site and inspect each item in every category.
3. Select 'Yes' if the item is compliant, 'No' if it is not, or 'N/A' if not applicable.
4. Add comments for any item marked 'No' — describe the specific issue observed.
5. The Summary section will automatically calculate compliance metrics.
6. Document all corrective actions needed in the Corrective Actions section.
7. Both the Inspector and Site Superintendent must sign and date the form.

RATING CRITERIA

Satisfactory — 90%+ compliance rate with no high-priority corrective actions needed.
Needs Improvement — 75-89% compliance rate or minor corrective actions identified.
Unsatisfactory — Below 75% compliance rate or significant safety hazards found.
Stop Work — Imminent danger identified; all work must cease until hazard is corrected.

CORRECTIVE ACTION PRIORITIES

High — Imminent danger or serious OSHA violation. Must be corrected immediately.
Medium — Potential hazard that should be corrected within 24 hours.
Low — Minor issue or best-practice improvement. Correct within one week.

RECORD KEEPING

Completed forms must be retained for the duration of the project plus 3 years.
Store copies in the project safety file and provide copies to the site superintendent.

Forms with 'Unsatisfactory' or 'Stop Work' ratings must be escalated to the Safety Director.

JOB HAZARD ANALYSIS

Excavation & Trenching Operations

Applicable Standards: 29 CFR 1926 Subpart P (1926.650–1926.652); OSHA Excavation Standard; 29 CFR 1926.651(c) — Utility Locates

Project Name: _____	Date: _____
Location: _____	Supervisor: _____
Crew Members: _____	

Step #	Job Steps	Potential Hazards	Hazard Controls	Responsible Person
1	Conduct pre-excavation site survey and review utility locate markings (811 call confirmation)	Utility strikes (gas, electric, water, fiber); unmarked underground hazards	Verify 811 utility locate completed (min. 48 hrs prior). Review as-built drawings. Hand-dig within 18" of marked utilities. Use ground-penetrating radar for unknown areas.	
2	Establish excavation perimeter barricades and traffic control	Struck-by from vehicles or mobile equipment; unauthorized entry into excavation zone	Install high-visibility barricades and warning signs per MUTCD standards. Assign flaggers for active roadways. Maintain 6-ft setback for spoil piles from trench edge.	
3	Perform soil classification by competent person (visual and manual tests)	Incorrect soil classification leading to inadequate protective systems; cave-in risk	Competent person conducts thumb penetration, plasticity, and dry strength tests per 29 CFR 1926.652 Appendix A. Document soil type (A, B, or C) in writing. Reassess after rain events.	
4	Excavate trench using hydraulic excavator	Equipment tip-over; struck-by from bucket swing; overhead power line contact	Ensure operator is trained/certified. Maintain 10-ft clearance from power lines (20-ft for >350kV). No workers in swing radius. Ground guide with radio communication required. Spotters for blind spots.	
5	Install protective system — shoring, shielding, or sloping per soil classification	Cave-in / trench collapse; engulfment; crushing injuries	Install system before any worker enters trench >5 ft deep (OSHA 1926.652). Use tabulated data for shoring specs. Hydraulic shores installed from top down. Trench boxes rated for soil type and depth.	
6	Place access/egress ladders within 25 ft of lateral travel for all workers	Inability to escape during emergency; falls from ladder; ladder displacement	Position ladders per 1926.651(c)(2) — max 25 ft travel distance. Ladders extend 3 ft above trench edge. Secure at top to prevent displacement. Inspect daily before use.	
7	Monitor atmospheric conditions in trench (>4 ft deep)	Oxygen deficiency; toxic gases (H ₂ S, CO, methane); hazardous atmosphere from nearby operations	Continuous atmospheric monitoring with 4-gas meter (O ₂ , LEL, CO, H ₂ S). Calibrate instrument daily. Ventilate with mechanical blowers if readings are abnormal. Rescue plan and retrieval system in place.	
8	Perform work activities within the trench (pipe installation, utility repair, etc.)	Struck-by from falling materials/tools; manual handling injuries; water accumulation	Keep materials/tools 2 ft back from trench edge. Use buckets or tool lanyards to lower items. Pump standing water continuously. No workers under suspended loads. Competent person inspects trench daily and after weather events.	
9	Backfill operations and compaction	Workers caught between equipment and trench wall; uncontrolled soil movement; vibration exposure	Clear all personnel from trench before backfilling. Remove shoring bottom-up. Backfill in lifts and compact per engineer specs. Operator maintains visual contact with spotter. Anti-vibration gloves for compaction equipment.	
10	Demobilize equipment and restore site	Struck-by during equipment movement; unguarded open	Barricade any open excavations left overnight with steel plates or fencing. Restore traffic	

Step #	Job Steps	Potential Hazards	Hazard Controls	Responsible Person
		excavations; trip hazards	control. Final inspection by competent person. Document JHA completion and any incidents.	

 **This JHA must be reviewed and signed by all crew members before work begins.** Conditions on the jobsite may change — reassess hazards throughout the shift and update this JHA as necessary.

REVIEW & APPROVAL

Reviewed By (Print Name)

Signature

Date

JOB HAZARD ANALYSIS

Roofing Operations — Commercial & Residential

Applicable Standards: 29 CFR 1926 Subpart M (1926.500–1926.503) — Fall Protection; 29 CFR 1926.501(b)(10) — Roofing; OSHA 3150 — Fall Protection in Construction

Project Name: _____	Date: _____
Location: _____	Supervisor: _____
Crew Members: _____	

Step #	Job Steps	Potential Hazards	Hazard Controls	Responsible Person
1	Establish roof access via ladder, scaffold, or aerial lift	Falls from height during access/egress; ladder tip-over or displacement; overreaching	Extension ladder extends 3 ft above roof edge. Secure at top and base. 4:1 ratio setup. Use ladder stabilizer on soft ground. Three-point contact rule enforced. Workers wear 100% tie-off harness when transitioning to roof.	
2	Install perimeter fall protection (guardrails, warning line system, or personal fall arrest)	Unprotected roof edge — falls to lower level (leading cause of roofing fatalities)	Install guardrails meeting 1926.502(b) — 42" top rail, 21" mid rail, capable of 200 lb force. For low-slope roofs: warning line at 6 ft from edge + safety monitor OR personal fall arrest system. Anchor points rated 5,000 lbs per worker.	
3	Hoist materials to roof level using crane, conveyor, or manual methods	Struck-by from falling materials; overloaded hoist; musculoskeletal injuries from manual lifting	Establish exclusion zone below hoisting area. Tag loads — no riding loads. Inspect rigging hardware pre-use. Limit manual carries to <50 lbs per person. Two-person lift for bundles. Hard hats mandatory in hoist zone.	
4	Remove existing roofing materials (tear-off operations)	Falls through weakened decking or skylights; exposure to asbestos/lead in older buildings; nail puncture wounds	Survey for fragile decking and skylights — cover or guard per 1926.502(i). Pre-demolition hazmat survey for buildings pre-1980. Cut-resistant gloves and puncture-resistant boot insoles. Debris chute or controlled drop zone for waste.	
5	Inspect and repair roof deck substrate	Structural collapse of weakened deck; falls through openings; splinter/cut injuries	Competent person evaluates structural integrity before loading. Cover all deck openings — secure covers labeled "HOLE" per 1926.502(i). Replace rotted decking before proceeding. Maximum material staging load per structural engineer limits.	
6	Install underlayment, insulation, and vapor barrier	Heat illness (especially on dark roofs in summer); slips on smooth membrane; adhesive/solvent fume inhalation	Implement heat illness prevention plan — water, rest, shade per OSHA guidance. Cool-down breaks every 20 min when >90°F. Non-slip footwear required. Half-face respirator with OV cartridge for adhesive application. Ventilation for enclosed areas.	
7	Install primary roofing system (shingles, membrane, or metal panels)	Repetitive motion injuries; nail gun injuries; burns from hot-applied materials (BUR/modified bitumen); electrical contact with rooftop equipment	Sequential trigger on nail guns only (no bump firing). Hot kettle operators trained and certified — fire extinguisher within 25 ft. Maintain 10-ft clearance from electrical equipment. Rotate task assignments to reduce repetitive strain.	
8	Perform edge and flashing detail work (drip edge, valley, penetrations)	Falls from roof edge during low-position work; lacerations from sheet metal; dropped tools striking workers below	100% personal fall arrest at roof edge — 6-ft max free fall. Use retractable SRL when working near edge. Cut-resistant gloves for metal flashing. Tool lanyards on all hand tools. Drop zone barricaded below.	

Step #	Job Steps	Potential Hazards	Hazard Controls	Responsible Person
9	Conduct final inspection, cleanup, and debris removal	Puncture wounds from exposed fasteners; trip hazards from debris; struck-by during waste removal	Magnetic nail sweeper on deck and ground level. Bundle debris for controlled lowering — no throwing materials. Maintain fall protection until last worker descends. Final walkthrough by supervisor. Document punch list items.	

 **This JHA must be reviewed and signed by all crew members before work begins.** Conditions on the jobsite may change — reassess hazards throughout the shift and update this JHA as necessary.

REVIEW & APPROVAL

Reviewed By (Print Name)

Signature

Date

CONFINED SPACE ENTRY PROGRAM

Written Safety Program

[COMPANY NAME]

[Company Address]

[City, State ZIP]

[Phone Number]

Revision Date: [MM/DD/YYYY]

Revision Number: [1.0]

Prepared by Forbes Safety Solutions

Document Control

This document is the property of [COMPANY NAME]. It must be reviewed and updated at least annually or when conditions change.

Revision #	Date	Description of Change	Approved By
1.0	[Date]	Initial Release	[Name/Title]

Table of Contents

Note: Right-click and select "Update Field" to refresh the Table of Contents after editing.

1. Purpose and Scope

1.1 Purpose

The purpose of this Confined Space Entry Program is to establish the procedures and practices necessary to protect employees from the hazards of entry into permit-required confined spaces. This program complies with OSHA's Permit-Required Confined Spaces standard and provides a systematic approach to identifying confined spaces, evaluating their hazards, and implementing controls to ensure safe entry and work.

Confined spaces represent some of the most hazardous work environments. Atmospheric hazards, engulfment, entrapment, and other serious dangers claim an average of 92 worker lives each year. This program is designed to prevent such incidents at [COMPANY NAME].

1.2 Scope

This program applies to all [COMPANY NAME] employees, subcontractors, and temporary workers who may enter or work in or around confined spaces. This includes, but is not limited to:

- Storage tanks, process vessels, and silos
- Vaults, pits, and manholes
- Pipelines and ductwork large enough for employee entry
- Boilers, furnaces, and heat exchangers
- Sewers, storm drains, and underground utility vaults
- Hoppers, bins, and rail tank cars
- Excavations and trenches that meet confined space criteria
- Attic spaces, crawl spaces, and similar areas with limited access

1.3 Regulatory References

- 29 CFR 1910.146 – Permit-Required Confined Spaces (General Industry)
- 29 CFR 1926 Subpart AA – Confined Spaces in Construction
- 29 CFR 1910.147 – Control of Hazardous Energy (Lockout/Tagout)
- 29 CFR 1910.134 – Respiratory Protection
- 29 CFR 1910.1200 – Hazard Communication
- ANSI/ASSE Z117.1 – Safety Requirements for Confined Spaces
- NFPA 350 – Guide for Safe Confined Space Entry and Work

2. Definitions

Confined Space: A space that (1) is large enough and so configured that an employee can bodily enter and perform assigned work, (2) has limited or restricted means for entry or exit, and (3) is not designed for continuous employee occupancy.

Permit-Required Confined Space (PRCS): A confined space that has one or more of the following characteristics: (1) contains or has a potential to contain a hazardous atmosphere, (2) contains a material that has the potential for engulfing an entrant, (3) has an internal configuration such that an entrant could be trapped or asphyxiated, or (4) contains any other recognized serious safety or health hazard.

Non-Permit Confined Space: A confined space that does not contain or, with respect to atmospheric hazards, have the potential to contain any hazard capable of causing death or serious physical harm.

Acceptable Entry Conditions: Conditions that must exist in a permit space to allow safe entry and work. Includes atmospheric monitoring results within acceptable limits.

Atmospheric Testing: The process of monitoring the air within a confined space using calibrated direct-reading instruments to determine if the atmosphere is safe for entry.

Authorized Entrant: An employee who is authorized by the employer to enter a permit space.

Attendant: An individual stationed outside one or more permit spaces who monitors the authorized entrants and who performs all attendant's duties.

Entry Supervisor: The person responsible for determining if acceptable entry conditions are present at a permit space, for authorizing entry, overseeing entry operations, and terminating entry.

Engulfment: The surrounding and effective capture of a person by a liquid or finely divided (flowable) solid substance.

Hazardous Atmosphere: An atmosphere that may expose employees to the risk of death, incapacitation, impairment of ability to self-rescue, injury, or acute illness from one or more of the following: flammable gas/vapor/mist >10% of LEL; airborne combustible dust; oxygen <19.5% or >23.5%; atmospheric concentration of any substance exceeding its PEL; any other condition that is IDLH.

Hot Work: Operations capable of providing a source of ignition (e.g., riveting, welding, cutting, burning, heating).

Immediately Dangerous to Life or Health (IDLH): Any condition that poses an immediate or delayed threat to life, or that would cause irreversible adverse health effects, or that would interfere with an individual's ability to escape unaided from a permit space.

Isolation: The process by which a permit space is removed from service and completely protected against the release of energy and material into the space by such means as blanking or blinding, misaligning or removing sections of lines, pipes, or ducts; a double block and bleed system; lockout or tagout; or blocking or disconnecting all mechanical linkages.

Inerting: The displacement of the atmosphere in a permit space by a noncombustible gas to such an extent that the resulting atmosphere is noncombustible. **WARNING:** An inerted space is IDLH and requires supplied air for entry.

Retrieval System: The equipment used for non-entry rescue of persons from permit spaces, including a retrieval line, chest or full-body harness, wristlets, and a mechanical device or fixed point sufficient to aid in rescue.

3. Roles and Responsibilities

3.1 Employer / Management

- Establish, implement, and maintain this Confined Space Entry Program
- Identify and evaluate all confined spaces in the workplace
- Inform employees of the existence, location, and danger of permit-required confined spaces by posting danger signs or other effective means
- Provide all necessary confined space entry equipment at no cost to employees
- Ensure all employees involved in confined space operations are properly trained
- Coordinate entry operations when both host employer and contractor employees will be working in or near permit spaces
- Conduct annual program review and update as necessary
- Ensure rescue services are available and capable of responding in a timely manner
- Maintain all required documentation and records

3.2 Entry Supervisor

- Know the hazards that may be faced during entry, including the mode, signs/symptoms, and consequences of exposure
- Verify that all tests specified by the permit have been conducted and that all procedures and equipment are in place before endorsing the permit and allowing entry
- Terminate the entry and cancel the permit when entry operations are completed or when a prohibited condition arises
- Verify that rescue services are available and that means for summoning them are operable
- Remove unauthorized individuals from the permit space or its vicinity
- Determine that entry operations remain consistent with the terms of the permit and acceptable entry conditions are maintained
- Ensure the permit is completed, signed, and posted at the entry point

3.3 Authorized Entrant

- Know the hazards that may be faced during entry, including the mode, signs/symptoms, and consequences of exposure
- Properly use all equipment as required (PPE, monitoring equipment, communications, rescue equipment)
- Communicate with the attendant as necessary so the attendant can monitor entrant status and alert entrants to evacuate if necessary
- Alert the attendant when the entrant recognizes any warning sign or symptom of a dangerous condition or detects a prohibited condition

- Exit the permit space as quickly as possible when ordered to evacuate, when recognizing signs of exposure, when a prohibited condition exists, or when an evacuation alarm is activated

3.4 Attendant

- Know the hazards that may be faced during entry, including the mode, signs/symptoms, and consequences of exposure
- Remain outside the permit space during entry operations and maintain an accurate count of entrants
- Maintain effective and continuous communication with authorized entrants
- Monitor activities inside and outside the space to determine if it is safe for entrants to remain
- Order the entrants to evacuate immediately if a prohibited condition is detected, if behavioral effects of exposure are observed, if a situation outside the space could endanger entrants, or if the attendant cannot effectively perform all required duties
- Summon rescue and emergency services as soon as it is determined that entrants may need assistance
- Perform non-entry rescue procedures as specified in the rescue plan
- Do NOT enter the permit space for any reason unless relieved by another authorized attendant
- Keep unauthorized persons from entering the permit space
- Inform entrants and the entry supervisor if unauthorized persons enter the space

4. Confined Space Entry Procedures

4.1 Space Identification and Evaluation

[COMPANY NAME] shall identify all confined spaces in the workplace using the Space Inventory Form (Appendix C). Each space shall be evaluated to determine if it is a permit-required confined space. The evaluation shall consider:

- Configuration and physical characteristics of the space
- Potential for hazardous atmospheres (from the process, materials stored, adjacent operations, or the space itself)
- Potential for engulfment by stored materials
- Internal configuration hazards (inwardly converging walls, floors that slope to a smaller cross-section)
- Other recognized serious hazards (mechanical, electrical, hydraulic, thermal, chemical)
- Historical information about the space (previous incidents, materials processed)

Spaces shall be re-evaluated whenever conditions change, processes are modified, or new information about the space becomes available.

4.2 Permit System

A Confined Space Entry Permit (Appendix A) shall be completed and authorized before any employee enters a permit-required confined space. The permit shall include:

- Space identification and location
- Purpose of entry and authorized duration
- Date and time of entry authorization and expiration
- Names of authorized entrants, attendants, and the entry supervisor
- Hazards of the permit space
- Measures used to isolate the permit space and eliminate or control hazards (lockout/tagout, ventilation, etc.)
- Acceptable entry conditions (atmospheric limits, temperature, etc.)
- Results of initial and periodic atmospheric tests with tester's initials
- Rescue and emergency services and how to summon them
- Communication procedures between entrants and attendants
- Equipment required (PPE, testing, communications, lighting, barriers)
- Hot work permit number (if applicable)
- Any other permits issued in connection with the entry (e.g., hot work, lockout/tagout)

The permit shall be posted at the entry point and shall be valid for one work shift only. Permits shall be canceled when entry operations are completed or when a prohibited condition arises. Canceled permits shall be retained for at least one year for program review.

4.3 Atmospheric Testing

Atmospheric testing is mandatory before any entry into a permit-required confined space and shall continue throughout the duration of entry. Testing shall be performed in the following order:

4.3.1 Testing Sequence

Atmospheric testing shall always be performed in this specific order:

- 1. OXYGEN (O₂) — Test first because combustible gas meters require adequate oxygen to function accurately. Acceptable range: 19.5% to 23.5%.
- 2. COMBUSTIBLE GASES (LEL) — Test second. Acceptable level: Less than 10% of the Lower Explosive Limit (LEL).
- 3. TOXIC GASES — Test third. Common toxic gases and their Permissible Exposure Limits include: Hydrogen Sulfide (H₂S): Less than 10 ppm; Carbon Monoxide (CO): Less than 25 ppm. Additional toxic substances shall be tested based on the specific hazards of the space.

4.3.2 Atmospheric Monitoring Requirements

- Testing shall be conducted at multiple levels within the space (top, middle, bottom) because gases stratify by weight
- Initial testing shall be performed from outside the space using remote probes or sampling lines
- Continuous monitoring shall be maintained throughout the duration of the entry
- If continuous monitoring is not feasible, periodic monitoring shall be conducted at intervals not exceeding 15 minutes
- All atmospheric monitoring results shall be documented on the Atmospheric Testing Log (Appendix B) and on the entry permit
- If the atmosphere is found to be outside acceptable limits at any time, all entrants shall immediately evacuate the space

4.3.3 Acceptable Atmospheric Conditions

Atmospheric Hazard	Acceptable Level	Action Level	IDLH Level
Oxygen (O ₂)	19.5% – 23.5%	< 19.5% or > 23.5%	< 16%
Combustible Gas (LEL)	< 10% LEL	≥ 10% LEL	≥ 20% LEL
Hydrogen Sulfide (H ₂ S)	< 10 ppm	≥ 10 ppm	100 ppm
Carbon Monoxide (CO)	< 25 ppm	≥ 25 ppm	1,200 ppm

4.3.4 Instrument Calibration

All atmospheric monitoring instruments shall be:

- Calibrated according to the manufacturer's instructions before each day of use (bump test minimum)
- Full calibration performed at intervals specified by the manufacturer (typically monthly or per manufacturer's schedule)
- Calibrated using certified calibration gas that is traceable to NIST standards
- Maintained with current calibration records that include date, gas concentrations used, and person performing calibration
- Removed from service immediately if calibration fails or if the instrument is damaged
- Replaced or repaired by qualified personnel only

4.4 Ventilation

Mechanical ventilation shall be provided to maintain acceptable atmospheric conditions within the permit space:

- Forced-air ventilation shall be used to maintain oxygen levels within the acceptable range and to reduce concentrations of toxic and combustible gases below action levels
- Ventilation equipment shall be positioned to direct fresh air into the space and to avoid recirculating contaminated air
- The air supply for ventilation shall be from a clean source — never from areas where contaminants may be present
- Ventilation shall be started before entry and continued for a sufficient time to purge the space before the initial entry
- Ventilation shall continue throughout the duration of entry operations
- If ventilation is interrupted, all entrants shall evacuate and the space shall be re-tested before re-entry
- Natural ventilation alone is generally NOT sufficient for permit-required confined spaces

4.5 Isolation and Lockout/Tagout

Before entry, the permit space shall be isolated from all energy sources and material inputs:

- All pipes, lines, and ducts carrying materials into the space shall be blanked, blinded, disconnected, or double block-and-bleed
- All mechanical equipment within the space shall be locked out and tagged out per 29 CFR 1910.147
- Electrical energy sources shall be de-energized and locked out
- Hydraulic, pneumatic, and other stored energy sources shall be relieved, blocked, and secured
- Physical barriers shall be used where blanking/blinding is not feasible

- The entry supervisor shall verify all isolation and LOTO measures before authorizing entry

4.6 Rescue Procedures

[COMPANY NAME] shall ensure that rescue services are available for confined space emergencies. The following rescue hierarchy shall be used:

4.6.1 Non-Entry Rescue (Preferred)

Non-entry rescue is the preferred rescue method and shall be used whenever possible:

- Each authorized entrant shall wear a chest or full-body harness with a retrieval line attached to the center of the back near shoulder level, above the head, or at another point approved by the manufacturer
- The other end of the retrieval line shall be attached to a mechanical retrieval device or fixed point outside the space
- The retrieval system shall be configured so that rescue can begin as soon as the need is recognized
- A mechanical retrieval device (tripod with winch) shall be available at vertical entries exceeding 5 feet in depth
- Retrieval lines shall be managed to prevent entanglement and to maintain the ability to retrieve the entrant at all times

4.6.2 Entry Rescue

If non-entry rescue is not feasible or fails, entry rescue shall be performed only by trained rescue personnel:

- Entry rescuers shall be trained in CPR, first aid, and the use of rescue equipment including SCBA/SAR
- Rescuers shall practice rescue operations at least once every 12 months using simulated confined space conditions
- Rescue services shall be capable of responding within a timeframe appropriate to the identified hazards
- If using a third-party rescue service (fire department, etc.), [COMPANY NAME] shall evaluate the service's capabilities, response time, and ability to function in the specific permit spaces
- Rescue personnel shall be provided with all information about the space, its hazards, and the conditions of the entrants
- Rescuers entering the space shall be treated as authorized entrants and all entry procedures shall apply

4.7 Contractor Coordination

When [COMPANY NAME] hires contractors to perform confined space work on company premises, the following coordination shall occur:

- Inform the contractor that the workplace contains permit spaces and that permit space entry is allowed only through compliance with a permit space program
- Apprise the contractor of the hazards identified in the specific permit space(s)
- Apprise the contractor of any precautions or procedures that the host employer has implemented for the protection of employees in or near permit spaces
- Coordinate entry operations with the contractor when both host and contractor employees will be working in or near the same permit space
- Debrief the contractor after entry operations regarding any hazards confronted or created during entry
- Obtain the contractor's confined space program and entry procedures for review

5. Training Requirements

5.1 General Training

All employees who may be involved in confined space operations shall receive training appropriate to their assigned duties. Training shall be provided before the employee is first assigned duties involving confined spaces and before there is a change in assigned duties.

5.2 Training by Role

5.2.1 Authorized Entrant Training

- Recognition of confined space hazards (atmospheric, physical, engulfment, entrapment)
- Signs, symptoms, and consequences of exposure to atmospheric hazards
- Proper use of atmospheric monitoring equipment
- Proper use of personal protective equipment (PPE), including respiratory protection
- Communication procedures with the attendant
- Emergency and self-rescue procedures
- Prohibition against unauthorized self-rescue by other entrants

5.2.2 Attendant Training

- All topics covered in Authorized Entrant Training
- Duties and responsibilities of the attendant role
- Procedures for summoning rescue and emergency services
- Non-entry rescue procedures and equipment use
- Maintaining an accurate count and identity of entrants
- Recognizing behavioral effects of hazard exposure in entrants
- Procedures for preventing unauthorized entry

5.2.3 Entry Supervisor Training

- All topics covered in Authorized Entrant and Attendant Training
- Permit completion, authorization, and cancellation procedures
- Hazard assessment and acceptable entry condition verification
- Coordination of entry operations and multi-employer communication
- Authority to terminate entry and cancel permits
- Program administration and documentation requirements

5.2.4 Rescue Team Training

- All topics covered in Authorized Entrant Training
- CPR and first aid certification (current)

- Use of rescue equipment (retrieval systems, SCBA/SAR, patient packaging)
- Practice rescue operations at least once every 12 months using simulated conditions representative of actual permit spaces
- Recognition and treatment of medical emergencies common to confined space incidents

5.3 Retraining

Retraining shall be provided when:

- Job duties change or new confined spaces are introduced
- A change in permit space operations creates a hazard about which the employee has not been trained
- The employer has reason to believe there are deviations from the entry procedures or inadequacies in the employee's knowledge
- After any confined space incident or near miss
- At minimum, annual refresher training shall be provided to maintain competency

5.4 Training Documentation

Training records shall include: employee name and signature, date(s) of training, trainer name and qualifications, topics covered, and duration. Records shall be maintained for the duration of employment plus three years. Use the Training Sign-Off Sheet (Appendix E) to document each session.

6. Inspection and Audit Procedures

6.1 Permit Review

[COMPANY NAME] shall review canceled entry permits within one year of each entry to ensure that the program is protecting employees. The review shall evaluate:

- Whether the permit procedures were followed correctly
- Whether the atmospheric testing results were within acceptable limits
- Whether rescue provisions were adequate
- Whether any problems or deviations occurred during entry
- Whether any corrective actions are needed to improve the program

6.2 Annual Program Audit

A comprehensive audit of the entire Confined Space Entry Program shall be conducted annually. The audit shall be performed by a person knowledgeable about confined space entry and shall evaluate:

- Space inventory accuracy and completeness
- Permit adequacy and compliance
- Atmospheric monitoring procedures and instrument calibration records
- Training adequacy and currency of all involved employees
- Rescue plan effectiveness and rescue drill results
- Equipment condition and availability
- Contractor coordination effectiveness
- Incident and near-miss investigation results and corrective actions
- Compliance with applicable OSHA standards

6.3 Equipment Inspection

All confined space entry equipment shall be inspected before each use and maintained per manufacturer specifications:

- Atmospheric monitoring instruments — daily bump test, monthly full calibration
- Ventilation equipment — functional test, power source verification
- Retrieval systems (tripod, winch) — mechanical inspection, cable/harness check
- Communication equipment — functional test before each entry
- Respiratory protection — inspection per 29 CFR 1910.134
- Personal protective equipment — visual inspection for damage, proper fit verification
- Lighting — functional test, intrinsically safe verification where required

7. Documentation and Recordkeeping

[COMPANY NAME] shall maintain the following records:

Record Type	Retention Period	Responsible Party
Confined Space Inventory	Duration of space existence + 1 year	Safety Manager
Entry Permits (canceled)	Minimum 1 year	Entry Supervisor
Atmospheric Testing Logs	1 year minimum (retain with permit)	Entry Supervisor
Instrument Calibration Records	Duration of instrument service + 1 year	Safety Manager
Training Records	Duration of employment + 3 years	Safety Manager
Rescue Drill Records	5 years minimum	Safety Manager
Incident/Near Miss Reports	5 years minimum	Safety Manager
Annual Program Audit Reports	5 years minimum	Management
Contractor Coordination Records	Duration of contract + 1 year	Safety Manager

All records shall be readily accessible for review by OSHA compliance officers, employees, and their designated representatives.

Appendix A: Confined Space Entry Permit

Field	Information
Permit Number:	[]
Space Name/ID:	[]
Space Location:	[]
Purpose of Entry:	[]
Date of Entry:	[]
Time Authorized:	[] Time Expires: []

Personnel

Role	Name(s)
Entry Supervisor:	
Authorized Entrant(s):	
Attendant(s):	
Rescue Team/Service:	

Hazard Identification

- ☐ Hazardous Atmosphere ☐ Oxygen Deficiency ☐ Oxygen Enrichment
- ☐ Flammable Gas/Vapor ☐ Toxic Gas/Vapor ☐ Combustible Dust
- ☐ Engulfment Hazard ☐ Entrapment Hazard ☐ Mechanical Hazard
- ☐ Electrical Hazard ☐ Thermal Hazard ☐ Noise Hazard
- ☐ Falling Object Hazard ☐ Slip/Trip/Fall Hazard ☐ Other: _____

Hazard Control Measures

- ☐ Lockout/Tagout completed ☐ Lines blanked/blinded/disconnected
- ☐ Mechanical ventilation in place ☐ Continuous atmospheric monitoring
- ☐ Pedestrian/vehicle barricades ☐ Hot work permit issued (#____)
- ☐ Retrieval system in place ☐ Communication system verified
- ☐ Emergency services notified ☐ Other: _____

Atmospheric Test Results

Time	O ₂ (%)	LEL (%)	H ₂ S (ppm)	CO (ppm)	Other	Tester Initials

Required PPE / Equipment

- ☐ Hard Hat ☐ Safety Glasses ☐ Hearing Protection ☐ Gloves (Type: ____)
- ☐ Steel-Toe Boots ☐ FR Clothing ☐ Chemical-Resistant Suit
- ☐ Full-Body Harness with Retrieval Line ☐ SCBA ☐ SAR (Supplied Air)
- ☐ Explosion-Proof Lighting ☐ GFCI Protected Power ☐ Radio/Communication
- ☐ Multi-Gas Monitor ☐ Tripod/Winch ☐ Other: _____

Authorization

I verify that all precautions have been taken, acceptable entry conditions exist, and rescue services are available.

Entry Supervisor Signature: _____ Date/Time: _____

Permit Canceled By: _____ Date/Time: _____

Reason for Cancellation: ☐ Work Complete ☐ Prohibited Condition ☐ Shift Change ☐ Other:

Appendix B: Atmospheric Testing Log

Field	Information
Space Name/ID:	[]
Permit Number:	[]
Date:	[]
Monitor Make/Model:	[]
Monitor Serial #:	[]
Last Calibration Date:	[]
Bump Test Performed:	☐ Yes ☐ No Time: [] By: []

Monitoring Results

Test at top, middle, and bottom of space. Record all readings.

Time	Level (T/M/B)	O ₂ (%)	LEL (%)	H ₂ S (ppm)	CO (ppm)	Other (specify)	Tester Initials

Acceptable Limits: O₂: 19.5–23.5% | LEL: <10% | H₂S: <10 ppm | CO: <25 ppm

Tester Signature: _____ Date: _____

Appendix C: Confined Space Inventory Form

This inventory shall be reviewed and updated at least annually. All spaces shall be evaluated to determine permit-required status.

Space ID #	Space Name / Description	Location	Permit Required? (Y/N)	Primary Hazards	Last Evaluation Date	Evaluated By

Inventory Completed By: _____ Date: _____

Reviewed By: _____ Date: _____

Appendix D: Pre-Entry Checklist

Field	Information
Space Name/ID:	[]
Permit Number:	[]
Date:	[]
Entry Supervisor:	[]

Pre-Entry Verification

#	Item	Yes	No	N/A	Initials
1	Has the space been identified and evaluated?				
2	Has the entry permit been completed and authorized?				
3	Have all entrants, attendants, and supervisors been trained?				
4	Has the space been isolated (LOTO, blanking, blinding)?				
5	Has atmospheric testing been performed (O ₂ , LEL, toxics)?				
6	Are atmospheric readings within acceptable limits?				
7	Is mechanical ventilation in place and operating?				
8	Is continuous atmospheric monitoring available?				
9	Is the retrieval system set up and operational?				
10	Is rescue equipment on-site and ready for use?				
11	Has the rescue service been notified/confirmed?				
12	Is communication equipment tested and working?				
13	Is all required PPE available and properly fitted?				
14	Are barricades/barriers in place around the entry point?				
15	Is the entry permit posted at the entry point?				
16	Has a pre-entry safety briefing been conducted?				
17	Is hot work permit issued (if applicable)?				
18	Is adequate lighting available (intrinsically safe if required)?				

Entry Supervisor Signature: _____ Date: _____

Appendix E: Training Sign-Off Sheet

Field	Information
Training Topic:	Confined Space Entry Program
Training Date:	[]
Training Location:	[]
Trainer Name:	[]
Trainer Qualifications:	[]
Training Duration:	[]

Topics Covered

- ☐ Confined space identification and classification
- ☐ Permit system and entry procedures
- ☐ Atmospheric testing procedures and instrument operation
- ☐ Ventilation requirements and procedures
- ☐ Roles and responsibilities (entrant, attendant, supervisor)
- ☐ Isolation and lockout/tagout requirements
- ☐ Rescue procedures (non-entry and entry rescue)
- ☐ Personal protective equipment use
- ☐ Emergency procedures and evacuation
- ☐ Applicable OSHA standards (29 CFR 1910.146, 1926 Subpart AA)

Employee Acknowledgment

By signing below, I acknowledge that I have received training in the above topics, understand the material presented, had the opportunity to ask questions, and agree to comply with the confined space entry requirements of [COMPANY NAME].

#	Employee Name (Print)	Employee Signature	Date	Role Trained (E/A/S/R)

E = Entrant | A = Attendant | S = Supervisor | R = Rescue

Trainer Signature: _____ Date: _____

EXCAVATION & TRENCHING SAFETY PROGRAM

Written Safety Program

[COMPANY NAME]

[Company Address]

[City, State ZIP]

[Phone Number]

Revision Date: [MM/DD/YYYY]

Revision Number: [1.0]

Prepared by Forbes Safety Solutions

Document Control

This document is the property of [COMPANY NAME]. It must be reviewed and updated at least annually or when conditions change.

Revision #	Date	Description of Change	Approved By
1.0	[Date]	Initial Release	[Name/Title]

Table of Contents

Note: Right-click and select "Update Field" to refresh the Table of Contents after editing.

1. Purpose and Scope

1.1 Purpose

The purpose of this Excavation and Trenching Safety Program is to establish the procedures, practices, and responsibilities necessary to protect employees from the hazards associated with excavation and trenching operations. Excavation cave-ins are among the most deadly construction hazards — the weight of soil that collapses can easily exceed thousands of pounds and can bury a worker in seconds.

This written program establishes minimum requirements for excavation and trenching activities performed by or on behalf of [COMPANY NAME] and complies with the requirements of 29 CFR 1926, Subpart P — Excavations.

1.2 Scope

This program applies to all [COMPANY NAME] employees, subcontractors, and temporary workers involved in excavation and trenching operations, including but not limited to:

- Foundation excavations
- Utility trenching (water, sewer, gas, electric, communications)
- Pipe installation and repair
- Basement excavations
- Roadway and infrastructure construction
- Grading operations where workers enter the excavation
- Any man-made cut, cavity, trench, or depression in the earth's surface formed by earth removal

This program does NOT apply to excavations made entirely in stable rock or excavations less than 5 feet in depth where examination of the ground by the competent person provides no indication of a potential cave-in (per 29 CFR 1926.652(a)(1)).

1.3 Regulatory References

- 29 CFR 1926.650 – Scope, Application, and Definitions
- 29 CFR 1926.651 – Specific Excavation Requirements
- 29 CFR 1926.652 – Requirements for Protective Systems
- 29 CFR 1926 Subpart P, Appendix A – Soil Classification
- 29 CFR 1926 Subpart P, Appendix B – Sloping and Benching
- 29 CFR 1926 Subpart P, Appendix C – Timber Shoring for Trenches
- 29 CFR 1926 Subpart P, Appendix D – Aluminum Hydraulic Shoring for Trenches
- 29 CFR 1926 Subpart P, Appendix E – Alternatives to Timber Shoring
- 29 CFR 1926 Subpart P, Appendix F – Selection of Protective Systems
- OSHA Publication 2226 – Excavation: Hazard Recognition in Trenching and Shoring

2. Definitions

Benching (Benching System): A method of protecting employees from cave-ins by excavating the sides of an excavation to form one or a series of horizontal levels or steps, usually with vertical or near-vertical surfaces between levels.

Cave-in: The separation of a mass of soil or rock material from the side of an excavation, or the loss of soil from under a trench shield or support system, and its sudden movement into the excavation, either by falling or sliding, in sufficient quantity so that it could entrap, bury, or otherwise injure and immobilize a person.

Competent Person: One who is capable of identifying existing and predictable hazards in the surroundings, or working conditions that are unsanitary, hazardous, or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them. For excavation, the competent person must be trained in soil analysis and protective system selection.

Excavation: Any man-made cut, cavity, trench, or depression in an earth surface, formed by earth removal.

Hazardous Atmosphere: An atmosphere that by reason of being explosive, flammable, poisonous, corrosive, oxidizing, irritating, oxygen deficient, toxic, or otherwise harmful, may cause death, illness, or injury.

Protective System: A method of protecting employees from cave-ins, from material that could fall or roll from an excavation face or into an excavation, or from the collapse of adjacent structures. Protective systems include support systems, sloping and benching, shield systems, and other systems that provide the necessary protection.

Registered Professional Engineer: A person who is registered as a professional engineer in the state where the work is to be performed.

Shield (Shield System): A structure that is able to withstand the forces imposed on it by a cave-in and thereby protects employees within the structure. Also known as a trench box or trench shield.

Shoring (Shoring System): A structure such as a metal, hydraulic, mechanical, or timber shoring system that supports the sides of an excavation and which is designed to prevent cave-ins.

Sloping (Sloping System): A method of protecting employees from cave-ins by excavating to form sides of an excavation that are inclined away from the excavation so as to prevent cave-ins. The angle of incline required to prevent a cave-in varies with differences in such factors as soil type, environmental conditions of exposure, and application of surcharge loads.

Stable Rock: Natural solid mineral material that can be excavated with vertical sides and will remain intact while exposed.

Trench: A narrow excavation (in relation to its length) made below the surface of the ground, generally with a depth greater than its width, but with a width not exceeding 15 feet.

Type A Soil: Cohesive soils with an unconfined compressive strength of 1.5 tsf (tons per square foot) or greater. Examples: clay, silty clay, sandy clay, clay loam. Excludes fissured soil, soil subject to vibration, previously disturbed soil, and soil part of a layered system.

Type B Soil: Cohesive soil with an unconfined compressive strength greater than 0.5 tsf but less than 1.5 tsf. Examples: angular gravel, silt, silt loam, sandy loam, previously disturbed soils except those classified as Type C, fissured cohesive soils, dry rock that is not stable.

Type C Soil: Cohesive soil with an unconfined compressive strength of 0.5 tsf or less. Examples: granular soils (gravel, sand, loamy sand), submerged soil, soil from which water is freely seeping, submerged rock that is not stable.

3. Roles and Responsibilities

3.1 Employer / Management

- Establish, implement, and maintain this Excavation and Trenching Safety Program
- Designate a competent person for each excavation project who has training and experience in soil classification and protective system selection
- Provide all necessary excavation safety equipment (protective systems, monitoring instruments, access/egress equipment) at no cost to employees
- Ensure utility locating services (811) are contacted before any excavation begins
- Ensure all employees involved in excavation operations receive appropriate training
- Investigate all excavation-related incidents and near misses
- Maintain documentation of inspections, soil classifications, and training records
- Conduct annual program reviews and update as necessary

3.2 Competent Person

- Conduct daily inspections of excavations, adjacent areas, and protective systems before each shift, after every rainstorm, and after any event that could increase the hazard (e.g., vibration from nearby construction, heavy equipment movement)
- Classify soils at each excavation site using at least one visual test and one manual test
- Select and design protective systems appropriate for the soil type, depth, and site conditions
- Monitor excavation operations for changing conditions that could affect employee safety
- Determine the need for atmospheric testing in excavations deeper than 4 feet or where hazardous atmospheres may exist
- Authority to immediately remove employees from the excavation when a hazardous condition is detected
- Ensure that means of egress (ladders, ramps, stairs) are provided within 25 feet of lateral travel for all employees in trenches 4 feet or more in depth
- Evaluate adjacent structures, utility locations, and surface conditions before excavation begins
- Document all inspections, soil classifications, and corrective actions

3.3 Supervisors

- Ensure the competent person has inspected the excavation before allowing employees to enter
- Verify that protective systems are installed and functioning properly
- Enforce compliance with this program and all excavation safety requirements
- Ensure employees use proper access/egress routes
- Conduct daily pre-work briefings covering excavation hazards

- Report all incidents, near misses, and changed conditions to the competent person and management
- Ensure spoil piles are placed at least 2 feet from the edge of the excavation
- Keep heavy equipment and surcharge loads away from the excavation edge

3.4 Employees

- Comply with all excavation safety requirements in this program
- Never enter an excavation that has not been inspected by the competent person
- Use only designated access/egress routes (ladders, ramps, stairs)
- Report any signs of cave-in potential, water accumulation, or changing conditions to the competent person or supervisor immediately
- Wear required personal protective equipment at all times in and around excavations
- Keep materials, equipment, and spoil piles at least 2 feet from the edge of the excavation
- Never work under raised loads or operate heavy equipment near the excavation edge without authorization
- Attend and participate in all required excavation safety training
- Immediately evacuate the excavation when ordered to do so

4. Excavation and Trenching Procedures

4.1 Pre-Excavation Planning

Before any excavation begins, the following pre-excavation planning steps shall be completed:

4.1.1 Utility Location

- Contact 811 (the national "Call Before You Dig" service) at least 48 to 72 hours (per state requirements) before any excavation begins
- All known utilities shall be marked by the utility owners before excavation starts
- The exact location of underground installations shall be determined by safe and acceptable means (hand digging, vacuum excavation, or other non-destructive methods) when working within the tolerance zone of marked utilities
- Utility owners/operators shall be contacted for specific guidance when working near high-pressure gas lines, electrical cables, or other critical infrastructure
- If utilities cannot be located with certainty, hand dig or use vacuum excavation methods
- Maintain at least 18 inches clearance from any confirmed underground utility during mechanical excavation
- Document all utility locate requests, locate ticket numbers, and utility markings on the Daily Trench Inspection Form (Appendix A)

4.1.2 Adjacent Structure Assessment

The competent person shall evaluate the stability of adjacent structures (buildings, walls, sidewalks, roadways, and other structures) that may be affected by excavation operations:

- Determine if shoring, bracing, or underpinning is necessary to ensure the stability of adjacent structures
- Monitor adjacent structures for signs of movement, settlement, or cracking throughout excavation operations
- Maintain a safe distance from structures that could be undermined by excavation activities
- Install support systems as necessary to protect adjacent structures from damage or collapse
- Contact a registered professional engineer if there is any doubt about the structural integrity of adjacent features

4.1.3 Surface Water and Drainage

Adequate measures shall be taken to prevent surface water from entering the excavation:

- Divert surface water drainage away from the excavation using berms, ditches, or other effective means
- Install dewatering pumps if water accumulation occurs within the excavation

- Employees shall not work in excavations where water has accumulated or is accumulating unless adequate precautions have been taken
- If water removal equipment is used, it shall be monitored by the competent person to ensure proper operation
- Inspect for evidence of a situation that could result in a boiling condition, surface water runoff, or water buildup in the excavation

4.2 Soil Classification

The competent person shall classify the soil at each excavation site to determine the appropriate protective system. Soil classification shall be performed using at least one visual test and one manual test.

4.2.1 Soil Types

Soil Type	Unconfined Compressive Strength	Examples	Maximum Slope Angle
Type A	1.5 tsf or greater	Clay, silty clay, sandy clay, clay loam, and hardpan (cemented soils)	¾:1 (53°)
Type B	0.5 to 1.5 tsf	Angular gravel, silt, silt loam, sandy loam, previously disturbed Type A soils, fissured cohesive soils, dry unstable rock	1:1 (45°)
Type C	0.5 tsf or less	Gravel, sand, loamy sand, submerged soil, soil from which water is freely seeping, submerged unstable rock	1½:1 (34°)
Stable Rock	N/A	Natural solid mineral material that can be excavated with vertical sides and remain intact	Vertical (90°)

4.2.2 Visual Tests

The competent person shall perform the following visual tests:

- Observe the excavated soil for grain size, particle type (granular vs. cohesive), and signs of moisture
- Examine the excavation walls for cracks, spalling, raveling, or other signs of instability
- Look for layered soil systems where one soil type overlies another
- Check for previously disturbed soil (e.g., previous excavation backfill, utility trenches)
- Observe whether the soil clumps when dug or easily breaks apart
- Assess the presence of water seepage, a high water table, or standing water in the excavation
- Look for evidence of vibration from traffic, construction equipment, or other sources
- Observe the type of soil in the spoil pile (does it hold together or crumble?)

4.2.3 Manual Tests

At least one of the following manual tests shall be performed:

- Pocket Penetrometer Test — A direct-reading instrument that measures the unconfined compressive strength of the soil. Type A: ≥ 1.5 tsf; Type B: 0.5–1.5 tsf; Type C: < 0.5 tsf.
- Thumb Penetration Test — Press your thumb into the soil sample. If the thumb penetrates no further than the thumbnail, the soil may be Type A. If the thumb penetrates the full length with moderate effort, the soil may be Type B. If the thumb penetrates easily, the soil is Type C.
- Dry Strength Test — Dry a sample until completely dry. If it crumbles on its own or with moderate pressure, it is granular (Type C). If it breaks into clumps that can only be broken with difficulty, it may be clay combined with other soils (Type A or B).
- Plasticity (Ribbon) Test — Mold a moist sample into a ball and roll it into a thread. If a 2-inch thread can be held on one end without tearing, the soil is cohesive (Type A or B). If it fails, it is granular (Type C).
- Shear Vane Test — A direct-reading device that measures the shear strength of soil, which can be correlated to unconfined compressive strength.

Document all soil classification results on the Soil Classification Worksheet (Appendix B). When in doubt, classify the soil as the weaker type.

4.3 Protective Systems

Employees shall NOT enter excavations 5 feet or more in depth unless a protective system is in place (unless the excavation is made entirely in stable rock). For excavations less than 5 feet, a protective system is required if the competent person identifies a potential for cave-in.

4.3.1 Sloping

Sloping involves cutting the sides of the excavation at an angle away from the excavation to prevent cave-ins. Maximum allowable slopes:

- Type A Soil: $\frac{3}{4}$:1 (horizontal to vertical) — 53 degrees from horizontal
- Type B Soil: 1:1 — 45 degrees from horizontal
- Type C Soil: $1\frac{1}{2}$:1 — 34 degrees from horizontal
- Stable Rock: Vertical (90 degrees)
- For excavations 20 feet or deeper, sloping and benching designs must be approved by a registered professional engineer
- Short-term exposure (24 hours or less) in Type A soil: Maximum slope of $\frac{1}{2}$:1 (63 degrees) is permitted for excavations 12 feet or less in depth

4.3.2 Benching

Benching creates a series of horizontal steps in the excavation wall. Benching is NOT permitted in Type C soil.

- Type A Soil: Maximum bench height of 4 feet. Simple or multiple bench configuration permitted.
- Type B Soil: Maximum bench height of 4 feet. Steps must be below the maximum slope angle (1:1).
- Type C Soil: Benching is NOT allowed due to soil instability.
- The first bench must begin at the excavation floor level.
- Benching designs for excavations over 20 feet must be prepared by a registered professional engineer.

4.3.3 Shoring

Shoring systems support the excavation walls and prevent cave-in. Common shoring systems include:

- Timber Shoring — Installed per OSHA Subpart P, Appendix C. Includes wales, cross braces, and uprights.
- Aluminum Hydraulic Shoring — Lightweight, adjustable systems installed per OSHA Subpart P, Appendix D. Must be installed per manufacturer's tabulated data.
- Screw Jack Shoring — Adjustable metal systems that can be used with timber or metal sheeting.
- All shoring must be installed from the top down and removed from the bottom up.
- Shoring must be designed for the specific soil conditions and depth of excavation.
- Employees shall not be permitted in the excavation while shoring is being installed or removed unless protected by another system.
- Manufacturer's tabulated data must be on-site for all manufactured shoring systems.

4.3.4 Shielding (Trench Boxes)

Trench shields (trench boxes) are portable structures placed inside the excavation to protect workers from cave-ins:

- Trench shields shall be certified by the manufacturer for the specific depth and soil type
- Manufacturer's tabulated data (maximum depth, soil type, dimensions) must be available on-site
- Shields shall extend at least 18 inches above the surrounding surface or the excavation shall be sloped back from the top of the shield at an angle not steeper than 1½:1
- Workers shall not remain in the shield during installation, removal, or vertical movement of the shield
- Backfill shall be placed evenly on both sides to prevent the shield from tipping
- Shields shall be inspected before each use for damage, deformation, and proper operation of spreader bars or hydraulic cylinders
- Multiple shields may be stacked for deeper excavations if designed for that purpose by the manufacturer
- Lateral movement of shields is permitted if the support provided is continuous

4.4 Access and Egress

Safe means of access and egress shall be provided for all excavations 4 feet or more in depth:

- Structural ramps used as access/egress must be designed by a competent person qualified in structural design, or by a registered professional engineer if used by vehicles
- Ladders, stairways, or ramps shall be located within 25 feet of lateral travel for all employees in the excavation
- Ladders shall extend at least 3 feet above the edge of the excavation and be secured to prevent displacement
- Ramps and runways shall be constructed of non-slip materials or treated surfaces
- Employees shall not use heavy equipment (bucket, boom, etc.) as a means of access or egress
- Access/egress points shall be kept clear of materials, equipment, and debris at all times
- The competent person shall evaluate and approve all access/egress routes before employees enter the excavation

4.5 Atmospheric Testing

Atmospheric testing shall be performed in excavations where hazardous atmospheres may exist or may reasonably be expected to develop:

- Excavations deeper than 4 feet where the possibility of an oxygen deficiency or a hazardous atmosphere exists shall be tested before employees enter
- Excavations in areas where hazardous substances have been stored, where landfill operations have occurred, or near petroleum facilities, gas lines, or chemical plants require atmospheric testing regardless of depth
- Testing shall include oxygen content (19.5%–23.5%), combustible gases (<10% LEL), and toxic gases (H_2S <10 ppm, CO <25 ppm) as appropriate
- If a hazardous atmosphere is detected, emergency rescue equipment (SCBA) shall be readily available
- Ventilation shall be provided as necessary to maintain safe atmospheric conditions
- Continuous monitoring is required when atmospheric conditions may change due to work activities or environmental factors
- Employees shall be removed from the excavation immediately if atmospheric testing reveals hazardous conditions

4.6 Hazard Prevention

4.6.1 Spoil Pile Management

- All excavated material (spoil) shall be placed at least 2 feet from the edge of the excavation, measured from the nearest edge of the spoil pile to the edge of the excavation

- Spoil piles shall be contained or retained as necessary to prevent materials from falling into the excavation
- Spoil shall not be stored on the downhill side of the excavation where it could wash into the trench
- Rock, soil, or other materials shall be effectively retained or restrained to prevent them from falling or rolling into the excavation

4.6.2 Mobile Equipment

- When mobile equipment is operated adjacent to an excavation, a warning system shall be utilized (barricades, hand/mechanical signals, stop logs, or grade-level berms)
- Equipment shall not be permitted to operate closer to the edge of an excavation than the depth of the excavation, unless the excavation is supported or shored
- Employees shall not work under loads being handled by lifting or digging equipment
- Employees shall stand away from vehicles being loaded or unloaded to avoid being struck by any spillage or falling materials

4.6.3 Water Accumulation Hazards

- Employees shall not work in excavations where water has accumulated or is accumulating unless adequate precautions have been taken to protect employees (water removal, safety harnesses and lifelines, or other means)
- The competent person shall monitor water removal equipment and the operations throughout the work shift
- If water is controlled or prevented from accumulating by the use of water removal equipment, the operation shall be monitored by the competent person
- Diversion ditches, dikes, or other suitable means shall be used to prevent surface water from entering the excavation and to provide adequate drainage of the area adjacent to the excavation

4.6.4 Falling Load Protection

- No employee shall be permitted underneath loads handled by lifting or digging equipment
- Employees shall be required to stand away from any vehicle being loaded or unloaded to avoid being struck by spillage or falling materials
- When overhead operations or falling hazards exist, employees working in the excavation shall wear hard hats
- Barricades, barriers, or physical separation shall be used to protect workers in excavations from vehicular traffic

5. Inspection Requirements

5.1 Daily Inspections

The competent person shall inspect the excavation, adjacent areas, and protective systems at the following intervals:

- Before the start of each work shift
- After every rainstorm or other hazard-increasing occurrence (flooding, vibration from nearby blasting or heavy equipment, etc.)
- As conditions change throughout the work shift
- When fissures, seepage, undermining, bulging at the bottom, or other signs of instability occur

If the competent person identifies evidence of a situation that could result in a cave-in, exposure to a hazardous atmosphere, or other hazardous condition, all exposed employees shall be removed from the hazardous area until the necessary precautions have been taken.

5.2 Inspection Checklist Items

The following items shall be evaluated during each inspection (use the Daily Trench Inspection Form — Appendix A):

- Condition of excavation walls (cracks, spalling, bulging, sloughing, raveling)
- Condition and adequacy of protective systems (shoring tight, shields level, slopes correct)
- Water accumulation or seepage
- Condition of spoil piles (placement, retention, distance from edge)
- Access/egress availability and condition (ladder within 25 feet, extending 3 feet above edge)
- Underground utility exposure or proximity
- Adjacent structure stability
- Surface conditions and drainage adequacy
- Equipment placement relative to the excavation edge
- Employee compliance with safety requirements
- Atmospheric conditions (if applicable)
- Barricades and warning systems for pedestrian and vehicular traffic

6. Training Requirements

6.1 Competent Person Training

Competent persons shall receive comprehensive training in:

- OSHA Subpart P — Excavations (29 CFR 1926.650–652) and all Appendices
- Soil classification methods (visual and manual testing)
- Protective system selection and design (sloping, benching, shoring, shielding)
- Excavation hazard recognition and abatement
- Atmospheric testing procedures and equipment operation
- Emergency response and rescue procedures
- Utility damage prevention and 811 procedures
- Inspection documentation requirements

6.2 Employee Training

All employees who work in or around excavations shall receive training in:

- Recognition and avoidance of excavation hazards (cave-in, falling materials, hazardous atmospheres, water accumulation, utilities)
- Understanding of protective systems and their limitations
- Proper use of access/egress equipment (ladders, ramps, stairs)
- Safe work practices in and around excavations
- Spoil pile placement and material handling near excavations
- Emergency procedures and evacuation routes
- Personal protective equipment requirements (hard hats, high-visibility vests, etc.)
- Authority and duty to refuse to enter an unsafe excavation
- Incident and near-miss reporting procedures

6.3 Retraining

Retraining shall be provided when:

- Changes in site conditions or excavation methods require new knowledge or skills
- An employee demonstrates inadequate knowledge of excavation safety procedures
- After any excavation-related incident or near miss
- When new equipment or protective systems are introduced
- At minimum, annual refresher training shall be provided

6.4 Training Documentation

Training records shall include: employee name and signature, date(s) of training, trainer name and qualifications, topics covered, and duration. Records shall be maintained for the duration of employment plus three years. Use the Training Sign-Off Sheet (Appendix D) to document each session.

7. Documentation and Recordkeeping

[COMPANY NAME] shall maintain the following records:

Record Type	Retention Period	Responsible Party
Daily Trench Inspection Forms	Duration of project + 3 years	Competent Person
Soil Classification Worksheets	Duration of project + 3 years	Competent Person
Utility Locate Tickets/Records	Duration of project + 1 year	Project Manager
Competent Person Designation Records	Duration of assignment + 1 year	Management
Training Records	Duration of employment + 3 years	Safety Manager
Incident/Near Miss Reports	5 years minimum	Safety Manager
Program Audit Reports	5 years minimum	Management
Manufacturer's Tabulated Data (Shoring/Shields)	Duration of equipment use	Competent Person
PE-Designed Protective Systems (if applicable)	Duration of project + 3 years	Project Manager

All records shall be readily accessible for review by OSHA compliance officers, employees, and their designated representatives.

Appendix A: Daily Trench Inspection Form

Field	Information
Project Name/Number:	[]
Location/Address:	[]
Date:	[] Weather Conditions: []
Competent Person:	[]
Excavation Depth:	[] ft Length: [] ft Width: [] ft
Soil Classification:	☐ Type A ☐ Type B ☐ Type C ☐ Stable Rock ☐ Layered
Protective System:	☐ Sloping ☐ Benching ☐ Shoring ☐ Shielding ☐ Other: _____

Inspection Checklist

#	Inspection Item	Yes	No	N/A	Comments
1	811 utility locates completed and documented?				
2	All utilities identified, marked, and protected?				
3	Excavation walls stable — no cracks, bulging, or sloughing?				
4	Protective system installed and in good condition?				
5	Spoil pile at least 2 feet from excavation edge?				
6	Ladder/ramp within 25 feet of lateral travel?				
7	Ladder extends 3 feet above the excavation edge?				
8	No water accumulation in excavation?				
9	Surface water diverted from excavation?				
10	Adjacent structures stable and not undermined?				
11	Equipment positioned at safe distance from edge?				
12	Barricades/warning systems in place for traffic?				
13	Atmospheric testing performed (if required)?				
14	Atmospheric readings within acceptable limits?				
15	Hard hats and PPE being worn by all workers?				
16	Workers using designated access/egress routes?				
17	No loads being raised/lowered over workers?				
18	Manufacturer's tabulated data on-site (if applicable)?				

Deficiencies Noted / Corrective Actions Taken

Description of Deficiency	Corrective Action Taken	Completed By	Time

Atmospheric Test Results (if applicable)

Time	O ₂ (%)	LEL (%)	H ₂ S (ppm)	CO (ppm)	Tester Initials

Competent Person Signature: _____ Date: _____

Reviewed By (Supervisor): _____ Date: _____

Appendix B: Soil Classification Worksheet

Field	Information
Project Name/Number:	[]
Location:	[]
Date:	[]
Competent Person:	[]
Excavation Depth:	[]
Sample Location/Depth:	[]

Visual Tests Performed

Visual Test	Observations	Result
Soil particle size and type (granular vs. cohesive)		
Presence of fissures or cracks in walls		
Layered soil systems		
Previously disturbed soil		
Water seepage or standing water		
Evidence of vibration effects		
Soil clumping behavior in spoil pile		
Spalling, raveling, or sloughing of walls		

Manual Tests Performed

Manual Test	Method/Reading	Result
Pocket Penetrometer	Reading: _____ tsf	Type: _____
Thumb Penetration Test	Depth of penetration: _____	Type: _____
Dry Strength Test	Crumbles / Breaks with difficulty	Type: _____
Plasticity (Ribbon) Test	Thread length before breaking: _____	Type: _____
Shear Vane Test	Reading: _____ tsf	Type: _____

Classification Determination

Field	Information
Final Soil Classification:	☐ Type A ☐ Type B ☐ Type C ☐ Stable Rock
Layered System:	☐ Yes ☐ No If yes, describe: []
Classification Basis:	[]
Factors Downgrading Classification:	☐ Fissured ☐ Vibration ☐ Previously Disturbed ☐ Submerged ☐ Seepage ☐ Layered

Protective System Selected

Field	Information
Selected System:	☐ Sloping (Angle: _____) ☐ Benching ☐ Shoring ☐ Shield/Trench Box
System Details:	[]
PE Design Required:	☐ Yes ☐ No PE Name: []

Competent Person Signature: _____ Date: _____

Appendix C: Competent Person Designation Form

[COMPANY NAME] hereby designates the following individual as a Competent Person for excavation and trenching operations in accordance with 29 CFR 1926.650–652:

Field	Information
Employee Name:	[]
Employee Title:	[]
Employee ID/SSN Last 4:	[]
Date of Designation:	[]
Designation Valid Through:	[]

Qualifications and Training

Training/Qualification	Provider	Date Completed	Certification #
OSHA Excavation Safety (Subpart P)			
Soil Classification Training			
OSHA 30-Hour Construction			
Competent Person Course — Excavation			
First Aid / CPR			

Experience

Description of Relevant Experience	Duration	Employer/Project

Authorization

As a designated Competent Person, the individual named above has the training, knowledge, and authority to:

- Classify soil types using visual and manual testing methods
- Select, design, and inspect protective systems for excavations
- Conduct daily inspections of excavations, protective systems, and adjacent areas
- Identify existing and predictable excavation hazards
- Authorize employees to enter excavations
- Order immediate evacuation of excavations when hazardous conditions exist
- Take prompt corrective measures to eliminate identified hazards

Designated By (Management): _____ Title: _____

Signature: _____ Date: _____

Employee Acknowledgment: _____ Date: _____

Appendix D: Training Sign-Off Sheet

Field	Information
Training Topic:	Excavation & Trenching Safety Program
Training Date:	[]
Training Location:	[]
Trainer Name:	[]
Trainer Qualifications:	[]
Training Duration:	[]

Topics Covered

- ☐ Excavation hazard recognition (cave-in, utilities, water, atmosphere)
- ☐ Soil classification methods and types (A, B, C, Stable Rock)
- ☐ Protective systems (sloping, benching, shoring, shielding)
- ☐ Access and egress requirements (ladders within 25 feet)
- ☐ Utility locating procedures and 811 requirements
- ☐ Spoil pile placement (minimum 2 feet from edge)
- ☐ Water accumulation hazards and controls
- ☐ Atmospheric testing requirements (excavations >4 feet depth)
- ☐ Daily inspection requirements and competent person duties
- ☐ Emergency procedures and evacuation
- ☐ Applicable OSHA standards (29 CFR 1926.650–652)

Employee Acknowledgment

By signing below, I acknowledge that I have received training in the above topics, understand the material presented, had the opportunity to ask questions, and agree to comply with the excavation and trenching safety requirements of [COMPANY NAME].

#	Employee Name (Print)	Employee Signature	Date	Company/Trade

Trainer Signature: _____ Date: _____

FALL PROTECTION PROGRAM

Written Safety Program

[COMPANY NAME]

[Company Address]

[City, State ZIP]

[Phone Number]

Revision Date: [MM/DD/YYYY]

Revision Number: [1.0]

Prepared by Forbes Safety Solutions

Document Control

This document is the property of [COMPANY NAME]. It must be reviewed and updated at least annually or when conditions change.

Revision #	Date	Description of Change	Approved By
1.0	[Date]	Initial Release	[Name/Title]

Table of Contents

Note: Right-click and select "Update Field" to refresh the Table of Contents after editing this document.

1. Purpose and Scope

1.1 Purpose

The purpose of this Fall Protection Program is to establish the policies, procedures, and practices that [COMPANY NAME] will implement to protect employees from fall hazards. This program provides a systematic approach to identifying fall hazards, selecting appropriate fall protection methods, and ensuring all employees are properly trained and equipped to work safely at heights.

This written program fulfills the requirements of OSHA standards for employers to develop and implement a fall protection plan when employees are exposed to fall hazards of 6 feet or more in construction (29 CFR 1926.502) or 4 feet or more in general industry (29 CFR 1910.28).

1.2 Scope

This program applies to all [COMPANY NAME] employees, subcontractors, and temporary workers who are exposed to fall hazards during the course of their work. This includes, but is not limited to, work performed on:

- Unprotected sides and edges 6 feet (construction) or 4 feet (general industry) or more above a lower level
- Leading edges
- Hoist areas
- Holes (including skylights)
- Formwork and reinforcing steel
- Ramps, runways, and other walkways
- Excavations
- Dangerous equipment
- Overhand bricklaying and related work
- Roofing work (both low-slope and steep-slope)
- Precast concrete erection
- Wall openings
- Residential construction activities

1.3 Regulatory References

- 29 CFR 1926.500 – Scope, Application, and Definitions (Construction)
- 29 CFR 1926.501 – Duty to Have Fall Protection (Construction)
- 29 CFR 1926.502 – Fall Protection Systems Criteria and Practices (Construction)
- 29 CFR 1926.503 – Training Requirements (Construction)
- 29 CFR 1910.28 – Duty to Have Fall Protection (General Industry)

- 29 CFR 1910.29 – Fall Protection Systems and Falling Object Protection Criteria (General Industry)
- 29 CFR 1910.30 – Training Requirements (General Industry)
- ANSI Z359.1 – Safety Requirements for Personal Fall Arrest Systems
- ANSI Z359.2 – Minimum Requirements for a Comprehensive Managed Fall Protection Program
- ANSI Z359.6 – Specifications and Design Requirements for Active Fall Protection Systems

2. Definitions

Anchorage: A secure point of attachment for lifelines, lanyards, or deceleration devices. Must be capable of supporting at least 5,000 pounds per employee attached, or designed, installed, and used as part of a complete PFAS maintaining a safety factor of at least two, under the supervision of a qualified person.

Competent Person: One who is capable of identifying existing and predictable fall hazards in the surroundings or working conditions that are unsanitary, hazardous, or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them.

Controlled Access Zone (CAZ): An area in which certain work may take place without the use of guardrail systems, personal fall arrest systems, or safety net systems, and access to the zone is controlled.

Deceleration Device: Any mechanism, such as a rope grab, rip-stitch lanyard, specially-woven lanyard, tearing or deforming lanyards, automatic self-retracting lifeline/lanyard, that serves to dissipate energy during a fall arrest.

Guardrail System: A barrier erected to prevent employees from falling to lower levels. Consists of top rail (42 inches $\pm$ 3 inches), mid rail, and toeboards where required.

Hole: A gap or void 2 inches or more in its least dimension, in a floor, roof, or other walking/working surface.

Lanyard: A flexible line of rope, wire rope, or strap that generally has a connector at each end for connecting the body belt or body harness to a deceleration device, lifeline, or anchorage.

Leading Edge: The edge of a floor, roof, or formwork for a floor or other walking/working surface that changes location as additional floor, roof, decking, or formwork sections are placed, formed, or constructed.

Personal Fall Arrest System (PFAS): A system used to arrest an employee in a fall from a working level. Consists of an anchorage, connectors, body harness, and may include a lanyard, deceleration device, lifeline, or suitable combinations of these.

Qualified Person: A person with a recognized degree, certificate, or professional standing, or who by extensive knowledge, training, and experience has successfully demonstrated the ability to solve or resolve problems relating to the subject matter.

Safety Net System: A system of nets and hardware installed below a walking/working surface to catch employees who fall.

Self-Retracting Lifeline/Lanyard (SRL): A deceleration device that contains a drum-wound line that can be slowly extracted from, or retracted onto, the drum under slight tension during normal employee movement, and which, after onset of a fall, automatically locks the drum and arrests the fall.

Warning Line System: A barrier erected on a roof to warn employees that they are approaching an unprotected roof side or edge, and which designates an area in which roofing work may take place without the use of guardrail, body belt, or safety net systems.

3. Roles and Responsibilities

3.1 Employer / Management

- Establish, implement, and maintain this Fall Protection Program
- Provide all necessary fall protection equipment at no cost to employees
- Designate a competent person for each work site where fall hazards exist
- Ensure all employees receive initial and refresher training on fall protection
- Conduct periodic program audits to evaluate effectiveness
- Investigate all fall-related incidents and near misses
- Ensure subcontractors comply with this program when working on company-controlled sites
- Allocate adequate resources for fall protection equipment, training, and rescue capabilities
- Maintain documentation of training records, inspections, and incident reports

3.2 Competent Person

- Conduct fall hazard assessments and surveys before work begins at each job site
- Select appropriate fall protection methods for each task and location
- Identify and evaluate anchorage points to ensure they meet the 5,000 lb. requirement
- Inspect all fall protection equipment prior to each use and remove defective equipment from service
- Monitor work operations to ensure compliance with this program
- Authorize employees to enter controlled access zones
- Stop work immediately when imminent fall hazards are identified
- Ensure that a site-specific rescue plan is in place before any work at heights begins
- Document hazard surveys, inspections, and corrective actions

3.3 Supervisors

- Enforce compliance with this Fall Protection Program at all times
- Ensure employees under their supervision are trained before performing work at heights
- Verify that appropriate fall protection equipment is available and being used correctly
- Conduct daily pre-work safety briefings that include fall hazard awareness
- Report all fall-related incidents, near misses, and equipment deficiencies immediately
- Coordinate with the competent person on fall protection requirements for each task
- Ensure rescue equipment and trained rescuers are available before elevated work begins

3.4 Employees

- Comply with all fall protection requirements established by this program
- Properly use and care for all fall protection equipment as trained
- Inspect personal fall protection equipment before each use and report any defects
- Report fall hazards, unsafe conditions, and equipment damage to their supervisor immediately
- Attend and actively participate in all required fall protection training
- Never alter, misuse, or remove fall protection equipment or systems
- Understand and follow the site-specific rescue plan
- Refuse to perform work at heights if proper fall protection is not in place

4. Fall Protection Procedures

4.1 Fall Hazard Survey

Before work begins at any job site, the competent person shall conduct a comprehensive fall hazard survey to identify all areas where employees may be exposed to fall hazards. The survey shall:

- Identify all locations where employees will be working at heights of 6 feet or more above a lower level (construction) or 4 feet or more (general industry)
- Document the specific fall hazards present at each location (unprotected edges, holes, skylights, leading edges, etc.)
- Determine the appropriate fall protection method for each identified hazard
- Identify suitable anchorage points and evaluate their load-bearing capacity
- Assess environmental factors that may affect fall protection (wind, weather, temperature, lighting)
- Evaluate access and egress routes to elevated work areas
- Identify potential falling object hazards to workers below
- Document the survey results on the Fall Hazard Survey Form (Appendix A)

The fall hazard survey shall be updated whenever site conditions change, new work activities begin, or the competent person identifies previously unrecognized hazards.

4.2 Fall Protection Methods

4.2.1 Guardrail Systems

Guardrail systems are the preferred method of fall protection and shall be used wherever feasible. Guardrail systems shall meet the following requirements:

- Top rail height shall be 42 inches (± 3 inches) above the walking/working level
- Mid rails shall be installed midway between the top rail and the walking/working surface
- Guardrails shall be capable of withstanding a force of at least 200 pounds applied within 2 inches of the top edge in any outward or downward direction
- Mid rails shall withstand a force of at least 150 pounds in any outward or downward direction
- The surface of the top rail shall be smooth to prevent punctures, lacerations, or snagging of clothing
- Toeboards shall be installed when materials or tools could fall on workers below (minimum 3.5 inches tall)
- Openings in guardrail systems shall not allow passage of a sphere larger than 19 inches in diameter
- Wire rope used as a top rail shall be flagged with high-visibility material at intervals not exceeding 6 feet

4.2.2 Personal Fall Arrest Systems (PFAS)

When guardrail systems are not feasible, personal fall arrest systems shall be used. All PFAS components shall meet ANSI Z359 standards and shall include:

- Full-body harness (body belts are NOT permitted for fall arrest)
- Connecting device: shock-absorbing lanyard, self-retracting lifeline (SRL), or rope grab with lifeline
- Anchorage point capable of supporting at least 5,000 pounds per attached employee
- Total fall distance must be calculated and documented to ensure adequate clearance below the worker (free fall distance shall not exceed 6 feet)
- The system must bring the employee to a complete stop and limit the maximum deceleration distance to 3.5 feet
- The maximum arresting force on an employee shall not exceed 1,800 pounds when using a body harness
- Employees must be able to be rescued or rescue themselves within 6 minutes of a fall arrest to prevent suspension trauma

4.2.3 Safety Net Systems

Safety net systems may be used where other methods are not practical. Safety nets shall:

- Be installed as close as practical beneath the walking/working surface, but no more than 30 feet below
- Extend outward from the outermost projection of the work surface (8 feet for up to 5 feet of fall, 10 feet for 5-10 feet, 13 feet for more than 10 feet)
- Be drop-tested or certified by a qualified person after installation and before use
- Have mesh openings no larger than 6 inches by 6 inches
- Be inspected at least weekly for wear, damage, and other deterioration
- Have all objects that have fallen into the net removed as soon as possible

4.2.4 Hole Covers

All holes on walking/working surfaces shall be covered or protected by guardrails. Hole covers shall:

- Be capable of supporting at least twice the weight of employees, equipment, and materials that may be imposed on the cover at any one time
- Be secured to prevent accidental displacement by wind, equipment, or workers
- Be clearly marked with the word "HOLE" or "COVER" to provide warning of the hazard
- Be color coded or otherwise identified as hole covers where marking is not practical

4.2.5 Controlled Access Zones

Controlled access zones may be established for certain operations (leading edge work, overhand bricklaying, precast concrete erection) as an alternative fall protection method. Controlled access zones shall:

- Be defined by a control line erected not less than 6 feet and not more than 25 feet from the unprotected edge
- Be marked with control lines consisting of ropes, wires, or tapes, flagged at 6-foot intervals, supported at a height of 39 to 45 inches
- Restrict access to only those employees actively engaged in the specific work operation
- Be supervised by the competent person at all times when in use
- Never be used as a substitute for conventional fall protection where such protection is feasible

4.2.6 Warning Line Systems

Warning line systems may be used on low-slope roofs (4:12 or less) and shall meet the following criteria:

- Erected around all sides of the roof work area not less than 6 feet from the roof edge
- Made of rope, wire, or chain flagged with high-visibility material at intervals not exceeding 6 feet
- Rigged so that the lowest point (including sag) is at least 34 inches and the highest point is no more than 39 inches from the roof surface
- Stanchions capable of resisting a force of at least 16 pounds without tipping over
- Must be used in conjunction with a safety monitor or other fall protection for work within the warning line area

4.3 Anchorage Requirements

Anchorage points are critical to the effectiveness of personal fall arrest systems. The following requirements apply:

- Anchorages for PFAS shall be capable of supporting at least 5,000 pounds per employee attached, or be designed, installed, and used under the supervision of a qualified person as part of a complete system maintaining a safety factor of at least two
- Anchorages for positioning device systems shall be capable of supporting at least twice the potential impact load or 3,000 pounds, whichever is greater
- Anchorages shall be independent of any anchorage used to support or suspend platforms
- The competent person shall evaluate and approve all anchorage points before use
- Manufactured anchorage devices shall be installed according to the manufacturer's instructions
- Structural steel members, concrete inserts, and other structural elements may serve as anchorage points when evaluated by a qualified person

- Cross-arm straps, beam clamps, and other temporary anchorage connectors shall be inspected before each use
- Anchorage points shall be located above the D-ring attachment point on the harness whenever possible to minimize free fall distance

4.4 Equipment Inspection

All fall protection equipment shall be inspected in accordance with the following schedule:

4.4.1 Pre-Use Inspection (Before Each Use)

Every employee shall inspect their personal fall protection equipment before each use. At a minimum, the following checks shall be performed:

Equipment	Inspection Points
Full-Body Harness	Check webbing for cuts, burns, fraying, abrasion, chemical damage, or excessive wear. Inspect all buckles, D-rings, and grommets for cracks, distortion, or corrosion. Verify all labels and markings are legible. Ensure proper fit and adjustment.
Shock-Absorbing Lanyard	Inspect webbing/rope for cuts, burns, fraying, or damage. Check snap hooks for gate closure, locking mechanism, and distortion. Verify shock absorber has not been deployed (pack should be intact). Check stitching for pulled or cut threads.
Self-Retracting Lifeline (SRL)	Test retraction and locking mechanism. Inspect housing for cracks or damage. Check cable/webbing for cuts, kinks, or corrosion. Verify snap hook operates properly. Ensure inspection tag/label is current.
Rope Grab / Vertical Lifeline	Inspect rope for fraying, cuts, or abrasion. Check rope grab for proper operation and locking. Verify compatibility between rope grab and lifeline diameter. Inspect termination hardware.
Anchorage Connectors	Inspect cross-arm straps, beam clamps, or other connectors for deformation, cracks, or wear. Verify proper engagement and load rating.

4.4.2 Periodic Formal Inspection

The competent person shall conduct formal documented inspections of all fall protection equipment at least every six (6) months, or more frequently as specified by the manufacturer. Use the Harness Inspection Checklist (Appendix B) for documentation.

4.4.3 Equipment Removal from Service

Fall protection equipment shall be immediately removed from service and destroyed or tagged "Out of Service" when:

- The equipment has been subjected to impact forces during a fall arrest event
- The equipment shows signs of damage, excessive wear, or deterioration during inspection
- The equipment has been exposed to chemicals, extreme heat, or other conditions that may compromise its integrity
- The equipment has reached its manufacturer's recommended service life

- Any component fails to operate as designed during inspection or testing
- Labels or markings are missing or illegible, preventing identification of the manufacturer, model, or date of manufacture

4.5 Rescue Planning

A rescue plan shall be developed and in place before any work at heights begins. Prompt rescue is essential to prevent suspension trauma (harness hang syndrome), which can become life-threatening within minutes of a fall arrest event.

4.5.1 Rescue Requirements

- Rescue of a fallen worker must be accomplished within six (6) minutes of the fall arrest
- Self-rescue methods shall be provided where feasible (trauma relief straps, self-rescue devices)
- Non-entry rescue methods are preferred over entry rescue methods where possible
- The rescue plan shall identify the rescue method(s), equipment, and trained personnel for each work location
- Rescue equipment shall be readily available at the work site (rescue retrieval systems, ladders, aerial lifts, etc.)
- At least two employees at each work site shall be trained in fall rescue procedures
- Emergency services (911) shall be identified as a backup rescue resource, but shall not be the primary rescue plan
- Rescue drills shall be conducted at least annually to verify the effectiveness of the plan

4.5.2 Suspension Trauma Prevention

All employees who use personal fall arrest systems shall be trained to recognize the symptoms of suspension trauma and the following preventive measures:

- Trauma suspension straps shall be attached to all full-body harnesses
- Employees shall be trained to use leg straps to maintain blood circulation if suspended
- Employees shall try to maintain leg movement and push against any available surface
- Rescued employees who have been suspended shall be placed in a seated or reclined position — never lay flat immediately, as sudden blood redistribution can cause cardiac arrest
- Medical evaluation shall be obtained for any employee who has been suspended in a harness for any period of time

5. Training Requirements

5.1 Initial Training

[COMPANY NAME] shall provide training for each employee who might be exposed to fall hazards. Training shall be provided by a competent person qualified in the following areas and shall enable each employee to recognize the hazards of falling and the procedures to follow to minimize those hazards.

Training shall cover, at a minimum:

- The nature of fall hazards in the work area
- The correct procedures for erecting, maintaining, disassembling, and inspecting fall protection systems
- The use and operation of guardrail systems, personal fall arrest systems, safety net systems, warning line systems, safety monitoring systems, 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 the fall protection plan and this program
- OSHA standards applicable to fall protection (29 CFR 1926.500-503, 29 CFR 1910.28-30)
- The limitations of each fall protection system
- Proper fitting and use of full-body harnesses
- Equipment inspection procedures (pre-use and formal)
- Fall distance calculations and swing-fall hazards
- Anchorage point selection and evaluation
- Rescue procedures and suspension trauma awareness
- Incident and near-miss reporting procedures

5.2 Retraining

Retraining shall be provided when:

- Changes in the workplace render previous training obsolete
- Changes in the types of fall protection systems or equipment being used
- Inadequacies in an affected employee's knowledge or use of fall protection systems indicate that the employee has not retained the requisite understanding or skill
- An employee is observed failing to comply with fall protection requirements
- After any fall-related incident or near miss involving the employee
- At minimum, annual refresher training shall be provided to all employees exposed to fall hazards

5.3 Training Documentation

Training records shall be maintained and include:

- Name and signature of each employee trained
- Date(s) of training
- Name and qualifications of the trainer(s)
- Subject matter and duration of training
- Type of fall protection systems covered
- Verification that employees demonstrated competency in equipment use and inspection

Training records shall be maintained for the duration of employment and shall be made available upon request. Use the Training Sign-Off Sheet (Appendix D) to document training sessions.

6. Inspection and Audit Procedures

6.1 Ongoing Site Inspections

The competent person shall conduct daily inspections of all fall protection systems in use, including:

- Visual inspection of guardrail systems for damage, missing components, or displacement
- Verification that hole covers are in place, secured, and properly marked
- Inspection of PFAS anchorage points for integrity
- Review of controlled access zone and warning line system configurations
- Observation of employee compliance with fall protection requirements
- Assessment of changing site conditions that may introduce new fall hazards

6.2 Program Audit

[COMPANY NAME] shall conduct a formal audit of this Fall Protection Program at least annually. The audit shall evaluate:

- Effectiveness of fall protection measures in preventing falls and fall-related injuries
- Compliance with OSHA standards and this written program
- Adequacy of training programs and employee competency
- Condition and availability of fall protection equipment
- Completeness and accuracy of documentation and recordkeeping
- Effectiveness of rescue plans and rescue drill results
- Investigation and corrective action follow-up for fall-related incidents
- Employee feedback and suggestions for program improvement

Audit findings shall be documented and corrective actions shall be tracked to completion. Management shall review audit results and authorize necessary changes to this program.

7. Documentation and Recordkeeping

[COMPANY NAME] shall maintain the following records related to this Fall Protection Program:

Record Type	Retention Period	Responsible Party
Fall Hazard Survey Forms	Duration of project + 3 years	Competent Person
Equipment Inspection Records	Duration of equipment service life + 1 year	Competent Person
Training Records	Duration of employment + 3 years	Safety Manager
Incident/Near Miss Reports	5 years minimum	Safety Manager
Rescue Plan Documentation	Duration of project	Competent Person
Program Audit Reports	5 years minimum	Management
Equipment Manufacturer Documentation	Duration of equipment service life	Safety Manager
Competent Person Designation Records	Duration of assignment	Management

All records shall be readily accessible for review by OSHA compliance officers, employees, and their designated representatives. Records shall be stored in a secure location and backed up periodically.

Appendix A: Fall Hazard Survey Form

Field	Information
Project Name:	[]
Project Location:	[]
Survey Date:	[]
Competent Person:	[]
Survey Revision #:	[]

Hazard Identification

Location / Area	Fall Hazard Description	Height (ft)	Protection Method Selected	Anchorage Point(s)	Action Required

Additional Notes / Observations

Notes

Competent Person Signature: _____ Date: _____

Reviewed By: _____ Date: _____

Appendix B: Harness Inspection Checklist

Field	Information
Inspector Name:	[]
Inspection Date:	[]
Harness Manufacturer:	[]
Harness Model/Serial #:	[]
Date of Manufacture:	[]
Assigned To:	[]

Inspection Checklist

Inspection Item	Pass	Fail	N/A	Comments
Webbing: No cuts, burns, fraying, or abrasion				
Webbing: No chemical damage or discoloration				
Webbing: No excessive stretching or distortion				
Stitching: No pulled, cut, or broken threads				
D-Rings: No cracks, distortion, or corrosion				
D-Rings: Properly positioned and move freely				
Buckles: Operate and engage properly				
Buckles: No cracks, distortion, or corrosion				
Grommets: No damage, distortion, or missing rivets				
Labels: Manufacturer, model, date, size legible				
Tongue/Pass-through buckles: Engage securely				
Quick-connect buckles: Lock and release properly				
Padding/Comfort features: Intact and functional				
Trauma straps: Present and functional				
Previous fall arrest event: NO (if YES, remove from service)				

Overall Condition: ☐ PASS — Return to Service ☐ FAIL — Remove from Service

If FAIL, describe deficiency: _____

Inspector Signature: _____ Date: _____

Next Scheduled Inspection Date: _____

Appendix C: Rescue Plan Template

Field	Information
Project Name:	[]
Project Location:	[]
Date Prepared:	[]
Prepared By:	[]
Emergency Phone #:	[]
Nearest Hospital:	[]
Hospital Address:	[]

Rescue Methods by Work Location

Work Location	Rescue Method (Self-Rescue / Assisted / Mechanical)	Equipment Required	Trained Rescue Personnel	Estimated Rescue Time

Rescue Equipment Inventory

Equipment Description	Quantity	Location Stored	Last Inspection Date	Condition

Rescue Procedures

1. Upon observation of a fall arrest event, immediately call for help and activate the rescue plan.
2. Call 911 as backup while initiating on-site rescue procedures.
3. Communicate with the fallen worker — assess consciousness and injuries.
4. Instruct the worker to use trauma relief straps and maintain leg movement if conscious.
5. Deploy rescue equipment and execute the designated rescue method.
6. Complete rescue within 6 minutes of the fall arrest.
7. Once rescued, position the worker in a seated/reclined position — do NOT lay flat.
8. Provide first aid and await EMS arrival.
9. Preserve the scene and all equipment for incident investigation.
10. Complete the incident report within 24 hours.

Rescue Drill Log

Drill Date	Location	Scenario	Rescue Time Achieved	Participants	Corrective Actions Needed

Plan Prepared By: _____ Date: _____

Approved By: _____ Date: _____

Appendix D: Training Sign-Off Sheet

Field	Information
Training Topic:	Fall Protection Program
Training Date:	[]
Training Location:	[]
Trainer Name:	[]
Trainer Qualifications:	[]
Training Duration:	[]

Topics Covered

- ☐ Fall hazard identification and avoidance
- ☐ Fall protection systems (guardrails, PFAS, nets, warning lines, CAZ)
- ☐ Personal fall arrest system use and limitations
- ☐ Harness fitting, adjustment, and donning
- ☐ Equipment inspection procedures (pre-use and formal)
- ☐ Anchorage point selection and evaluation
- ☐ Fall distance calculations
- ☐ Rescue procedures and suspension trauma prevention
- ☐ Incident and near-miss reporting
- ☐ Applicable OSHA standards

Employee Acknowledgment

By signing below, I acknowledge that I have received training in the above topics, understand the material presented, had the opportunity to ask questions, and agree to comply with the fall protection requirements of [COMPANY NAME].

#	Employee Name (Print)	Employee Signature	Date	Company/Trade

Trainer Signature: _____ Date: _____

HAZARD COMMUNICATION (HazCom) PROGRAM

Written Safety Program

Per 29 CFR 1910.1200 — Globally Harmonized System (GHS) Aligned

[COMPANY NAME]

[Company Address]

Effective Date: _____

Revision Date: _____

Prepared by Forbes Safety Solutions

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1.0 Purpose and Scope

This Hazard Communication (HazCom) Program has been established to comply with OSHA's Hazard Communication Standard, 29 CFR 1910.1200, as aligned with the Globally Harmonized System of Classification and Labelling of Chemicals (GHS). The purpose of this program is to ensure that the hazards of all chemicals used, stored, or handled at [Company Name] worksites are evaluated, and that information concerning these hazards is transmitted to all affected employees.

This program applies to all employees who may be exposed to hazardous chemicals under normal working conditions or during foreseeable emergencies. This includes all work areas, job classifications, and operations where hazardous chemicals are present.

This written program is available to all employees and their designated representatives upon request. A copy is maintained at [location / office].

2.0 Responsibilities

2.1 Program Administrator

The HazCom Program Administrator is: [Name / Title]. This person is responsible for:

- Implementing and maintaining this written program
- Maintaining the chemical inventory and SDS library
- Ensuring proper labeling of all containers
- Coordinating employee training
- Communicating hazard information to contractors
- Reviewing and updating the program annually

2.2 Supervisors / Foremen

- Ensure employees receive HazCom training before working with hazardous chemicals
- Ensure proper labeling of all workplace containers
- Ensure Safety Data Sheets are accessible to all employees on every shift
- Enforce proper use of PPE when handling hazardous chemicals

2.3 Employees

- Attend required HazCom training
- Read and follow SDS information and label warnings
- Use required PPE when working with hazardous chemicals
- Report unlabeled containers, missing SDSs, or chemical spills to their supervisor immediately

3.0 Hazard Classification

[Company Name] relies on the hazard classification provided by chemical manufacturers and importers on their Safety Data Sheets and product labels. The company will not perform independent hazard classification.

Under the GHS-aligned HazCom standard, hazards are classified into two major groups:

Physical Hazards: Flammable gases, flammable liquids, flammable solids, oxidizers, compressed gases, explosives, self-reactive chemicals, pyrophoric materials, organic peroxides, corrosive to metals, and others.

Health Hazards: Acute toxicity, skin corrosion/irritation, serious eye damage/irritation, respiratory or skin sensitization, germ cell mutagenicity, carcinogenicity, reproductive toxicity, specific target organ toxicity (single and repeated exposure), and aspiration hazard.

When a new chemical is introduced to the workplace, the SDS must be obtained and reviewed before the chemical is used. The Program Administrator will update the chemical inventory and ensure proper labeling.

4.0 Safety Data Sheets (SDS)

[Company Name] will maintain a complete and current SDS for every hazardous chemical used at the worksite. SDSs will be readily accessible to all employees during each work shift.

4.1 SDS Management

- SDSs are maintained at: [Location — e.g., safety office, SDS binder in each work area, electronic system]
- New SDSs are obtained before any new chemical is brought to the worksite
- SDSs are reviewed and updated when new or revised versions become available
- If an SDS is not available for a chemical, the Program Administrator will contact the manufacturer/supplier using the SDS Request Letter (Appendix B)
- Electronic SDSs are acceptable provided employees can access them without barriers during each shift

4.2 The 16-Section SDS Format

Under the GHS, all SDSs must follow a standardized 16-section format:

1. **Section 1:** Identification — Product name, manufacturer, emergency phone
2. **Section 2:** Hazard(s) Identification — GHS classification, signal word, pictograms, hazard statements
3. **Section 3:** Composition / Information on Ingredients
4. **Section 4:** First-Aid Measures
5. **Section 5:** Fire-Fighting Measures
6. **Section 6:** Accidental Release Measures
7. **Section 7:** Handling and Storage
8. **Section 8:** Exposure Controls / Personal Protection
9. **Section 9:** Physical and Chemical Properties
10. **Section 10:** Stability and Reactivity
11. **Section 11:** Toxicological Information
12. **Section 12:** Ecological Information
13. **Section 13:** Disposal Considerations
14. **Section 14:** Transport Information
15. **Section 15:** Regulatory Information
16. **Section 16:** Other Information

5.0 Labeling Requirements

5.1 Manufacturer Labels

All containers of hazardous chemicals received at the worksite must have a GHS-compliant label that includes:

- Product identifier (chemical name)
- Signal word ("Danger" or "Warning")
- Hazard statement(s) describing the nature of the hazard
- Precautionary statement(s) describing recommended measures
- GHS pictogram(s) — red-bordered diamond symbols
- Manufacturer/supplier name, address, and phone number

5.2 Workplace (Secondary) Container Labels

When chemicals are transferred to secondary containers, the container must be labeled with at minimum:

- Product identifier (matching the SDS)
- Words, pictures, symbols, or a combination providing general information about the hazards

Exception: Portable containers for immediate use by the employee who performs the transfer do not require labeling, provided the chemical is under that employee's control during the entire shift.

5.3 Label Maintenance

Labels must not be defaced or removed. If a label becomes unreadable, the supervisor must ensure the container is relabeled immediately. Unlabeled containers must be removed from service until properly labeled.

6.0 Chemical Inventory

A master chemical inventory is maintained by the Program Administrator and updated whenever a new chemical is introduced or an existing chemical is removed from use. The inventory includes:

- Chemical / product name (matching the SDS)
- Manufacturer / supplier name
- Work area where the chemical is used or stored
- Hazard classification (physical and health)
- SDS on file (Yes / No)
- Date added to inventory

The Chemical Inventory Template is included in Appendix A.

7.0 Employee Training

All employees who may be exposed to hazardous chemicals must receive HazCom training. Training is provided:

- At the time of initial assignment to a work area with hazardous chemicals
- When a new chemical hazard is introduced to the work area
- Annually as a refresher

7.1 Training Content

Training must cover the following topics:

- An overview of the requirements of 29 CFR 1910.1200 and this written program
- Location and availability of the written HazCom Program and chemical inventory
- How to read and interpret GHS labels, including pictograms, signal words, hazard statements, and precautionary statements
- How to access, read, and use Safety Data Sheets
- Physical and health hazards of the chemicals in the work area
- Protective measures (PPE, engineering controls, work practices) to reduce exposure
- Emergency procedures for chemical spills, leaks, or exposures
- Procedures for non-routine tasks involving hazardous chemicals

The Training Sign-Off Sheet (Appendix C) must be completed for all training sessions.

8.0 Non-Routine Tasks

Before employees perform non-routine tasks that involve potential exposure to hazardous chemicals (e.g., cleaning tanks, entering confined spaces, emergency repairs), the supervisor must:

- Identify the hazardous chemicals that may be involved
- Review the applicable SDS(s) with the affected employees
- Ensure appropriate PPE and safety measures are in place
- Brief employees on the specific hazards and emergency procedures for the task
- Conduct atmospheric monitoring if required by the task or hazard

9.0 Contractor Notification

When contractors work at [Company Name] facilities or jobsites, the following information must be provided:

- The identity of hazardous chemicals to which they may be exposed while on site
- The location and availability of SDSs for those chemicals

- Precautionary measures the contractor's employees should take to protect themselves
- The location of this written HazCom Program and the chemical inventory

Contractors must also provide [Company Name] with SDSs for any hazardous chemicals they bring onto the worksite. Contractors are responsible for training their own employees on the hazards of their chemicals.

10.0 Multi-Employer Worksites

On multi-employer worksites (including construction projects), the host employer or general contractor will:

- Inform all employers of the location and availability of SDSs at the worksite
- Implement a system to communicate chemical hazards introduced by any employer
- Ensure that chemical inventory information is shared and accessible to all employers
- Coordinate labeling systems so all workers can understand the hazard information

Each employer on the multi-employer worksite remains responsible for training their own employees and maintaining their own HazCom program.

11.0 Recordkeeping

The following records must be maintained and made available upon request:

- This written Hazard Communication Program
- Chemical Inventory (updated as chemicals change)
- Safety Data Sheets for all hazardous chemicals (current and historical)
- Employee training records (including dates, topics, attendees, and trainer)
- SDS request letters sent to manufacturers/suppliers

Training records must be maintained for the duration of employment plus 3 years.

Appendix A: Chemical Inventory Template

Use this template to track all hazardous chemicals present at the worksite. Update whenever chemicals are added or removed.

Product Name	Manufacturer	Work Area / Location	Hazard Class	SDS on File?	Date Added

Appendix B: SDS Request Letter Template

[Date]

[Manufacturer/Supplier Name]

[Address]

[City, State, ZIP]

Re: Request for Safety Data Sheet(s)

Dear Sir or Madam:

Under the OSHA Hazard Communication Standard (29 CFR 1910.1200), employers are required to maintain Safety Data Sheets (SDSs) for all hazardous chemicals present in the workplace. We have been unable to locate the SDS for the following product(s) in our files:

[Product Name / Product #]

Please forward the current SDS for the above product(s) to:

[Company Name]

[Attention: Program Administrator Name]

[Address]

[City, State, ZIP]

[Email Address]

If you have any questions, please contact us at [Phone Number]. We appreciate your prompt attention to this matter.

Sincerely,

[Name, Title]

[Company Name]

Appendix C: Training Sign-Off Sheet

Hazard Communication (HazCom) Training

Training Date:	
Trainer Name:	
Location / Project:	
Topics Covered:	☐ Written HazCom Program ☐ Chemical Inventory ☐ SDS Access & Use ☐ GHS Labels ☐ PPE Requirements ☐ Spill Response ☐ Non-Routine Tasks

By signing below, I acknowledge that I have received training on the company's Hazard Communication Program, including how to read labels, access Safety Data Sheets, and protect myself from chemical hazards.

#	Print Name	Company / Employer	Signature	Date
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				

Appendix D: GHS Pictogram Reference Chart

The Globally Harmonized System (GHS) uses standardized pictograms on labels and SDSs to communicate specific hazards. Each pictogram is a red-bordered diamond shape with a black symbol on a white background. Below is a description of each pictogram and its meaning.

Pictogram Symbol	Pictogram Name	Hazard Description
 Flame	Flammable	Flammable gases, liquids, solids, aerosols. Self-reactive substances. Pyrophoric materials. Self-heating substances. Substances that emit flammable gases when in contact with water. Organic peroxides.
 Flame Over Circle	Oxidizer	Oxidizing gases, liquids, and solids. May cause or intensify fire. May cause explosion.
 Skull and Crossbones	Acute Toxicity (Severe)	Chemicals that are fatal, toxic, or highly toxic if swallowed, inhaled, or absorbed through the skin. Categories 1-3 acute toxicity.
 Exclamation Mark	Irritant / Harmful	Skin and eye irritation. Skin sensitization. Acute toxicity (Category 4 — harmful). Narcotic effects. Respiratory tract irritation. Hazardous to ozone layer.
 Health Hazard (Silhouette)	Serious Health Hazard	Carcinogenicity. Respiratory sensitization. Reproductive toxicity. Specific target organ toxicity (single and repeated exposure). Germ cell mutagenicity. Aspiration hazard.
 Corrosion	Corrosive	Skin corrosion / burns. Serious eye damage. Corrosive to metals.
 Gas Cylinder	Compressed Gas	Compressed gases. Liquefied gases. Refrigerated liquefied gases. Dissolved gases. May explode if heated.
 Exploding Bomb	Explosive	Explosives. Self-reactive substances. Organic peroxides. Unstable explosives. Divisions 1.1 through 1.6.
 Environment	Environmental Hazard	Acute and chronic aquatic toxicity. Hazardous to the aquatic environment. Not mandated by OSHA but may appear on labels/SDSs.

Signal Words: "DANGER" indicates more severe hazards. "WARNING" indicates less severe hazards. A product will display only one signal word — the most severe applicable.

Hazard Statements: Standardized phrases describing the nature and degree of hazard (e.g., "Highly flammable liquid and vapor," "Causes serious eye damage"). These appear on both labels and SDSs.

Precautionary Statements: Recommended measures to minimize or prevent adverse effects from exposure, storage, or handling (e.g., "Keep away from heat/sparks/open flames," "Wear protective gloves/eye protection").

FORBES SAFETY SOLUTIONS

LOCKOUT/TAGOUT

Control of Hazardous Energy Program

29 CFR 1910.147

[COMPANY NAME]

[ADDRESS]

[CITY, STATE ZIP]

Effective Date: [DATE]

Revision: [REV #]

Approved By: [NAME/TITLE]

1. PURPOSE & SCOPE

This Lockout/Tagout (LOTO) Program establishes the minimum requirements for the control of hazardous energy during servicing and maintenance of machines and equipment at [COMPANY NAME]. This program is designed to prevent the unexpected energization, startup, or release of stored energy that could cause injury to employees.

This program applies to all [COMPANY NAME] employees, contractors, and subcontractors who perform servicing, maintenance, or repair work on machines and equipment where the unexpected energization or release of stored energy could cause injury. This program covers all forms of hazardous energy including, but not limited to: electrical, mechanical, hydraulic, pneumatic, chemical, thermal, gravitational, and other energy sources.

This program does not apply to:

- Minor tool changes and adjustments that are routine, repetitive, and integral to the use of the equipment, provided work is performed using alternative protective measures
- Work on cord-and-plug-connected electrical equipment where the hazard is controlled by unplugging the equipment and the plug is under the exclusive control of the employee performing the work
- Hot tap operations involving transmission and distribution systems for gas, steam, water, or petroleum products when performed under established procedures and continuity of service is essential

2. REGULATORY REFERENCES

- 29 CFR 1910.147 — The Control of Hazardous Energy (Lockout/Tagout)
- 29 CFR 1910.333 — Selection and Use of Work Practices (Electrical)
- 29 CFR 1910.269 — Electric Power Generation, Transmission, and Distribution
- ANSI/ASSE Z244.1 — Control of Hazardous Energy
- NFPA 70E — Standard for Electrical Safety in the Workplace

3. DEFINITIONS

Authorized Employee: A person who locks out or tags out machines or equipment in order to perform servicing or maintenance. An authorized employee and an affected employee may be the same person when the affected employee's duties also include performing servicing or maintenance on a machine or equipment that must be locked or tagged out.

Affected Employee: An employee whose job requires operating or using a machine or equipment on which servicing or maintenance is being performed under lockout or tagout, or whose job requires working in an area in which such servicing or maintenance is being performed.

Other Employee: An employee who may be in the area where energy control procedures are being implemented but is neither an authorized nor affected employee.

Energy Isolating Device: A mechanical device that physically prevents the transmission or release of energy, including but not limited to: manually operated electrical circuit breakers, disconnect switches, manually operated switches, slide gates, slip blinds, line valves, blocks, and similar devices used to block or isolate energy. Push buttons, selector switches, and other control circuit type devices are NOT energy isolating devices.

Lockout: The placement of a lockout device on an energy isolating device, in accordance with an established procedure, ensuring that the energy isolating device and the equipment being controlled cannot be operated until the lockout device is removed.

Tagout: The placement of a tagout device on an energy isolating device, in accordance with an established procedure, to indicate that the energy isolating device and the equipment being controlled may not be operated until the tagout device is removed.

Lockout Device: A device that uses a positive means (such as a lock, either key or combination type) to hold an energy isolating device in the safe position and prevent the energizing of a machine or equipment.

Tagout Device: A prominent warning device, such as a tag and a means of attachment, which can be securely fastened to an energy isolating device to indicate that the energy isolating device and the equipment being controlled may not be operated until the tagout device is removed.

Zero Energy State: The condition achieved when all hazardous energy sources have been isolated, locked/tagged out, and verified as de-energized.

4. ROLES & RESPONSIBILITIES

4.1 Management/Program Administrator

- Establish, implement, and maintain this LOTO program
- Ensure adequate resources are available for program implementation (locks, tags, hasps, lockout devices)
- Ensure periodic inspections are conducted at least annually
- Ensure all affected employees receive appropriate training
- Review and update this program as necessary, but at least annually
- Maintain records of training, inspections, and equipment-specific procedures

4.2 Supervisors

- Ensure employees under their supervision comply with this program

- Ensure equipment-specific LOTO procedures are developed for all applicable machines and equipment
- Coordinate lockout/tagout activities with affected departments and contractors
- Ensure employees are trained and authorized before performing LOTO
- Participate in periodic inspections and enforce corrective actions

4.3 Authorized Employees

- Apply lockout/tagout devices in accordance with this program and equipment-specific procedures
- Perform servicing and maintenance activities only after verifying zero energy state
- Remove only their own locks and tags upon completion of work
- Notify affected employees before applying and removing LOTO devices
- Participate in required training and periodic inspections

4.4 Affected Employees

- Do not attempt to restart or re-energize machines or equipment that are locked/tagged out
- Understand the purpose and function of LOTO procedures
- Report any violations of this program to their supervisor
- Participate in required training

5. ENERGY SOURCE IDENTIFICATION

[COMPANY NAME] shall conduct a survey of all machines and equipment to identify all sources of hazardous energy. The following energy sources shall be identified and documented for each piece of equipment:

Energy Type	Examples	Isolation Methods
Electrical	Power supply, batteries, capacitors, static charge	Disconnect switch, circuit breaker, removal of fuses
Mechanical	Flywheels, springs, gears, belts, pulleys	Blocking, braking, disconnecting
Hydraulic	Hydraulic lines, accumulators, rams	Valve closure, bleeding, blanking
Pneumatic	Air lines, compressed gas cylinders, reservoirs	Valve closure, bleeding, disconnecting
Chemical	Process lines, tanks, piping systems	Double block & bleed, blanking, draining
Thermal	Steam lines, furnaces, heated materials	Valve closure, cooling, insulating
Gravitational	Elevated components, counterweights,	Blocking, pinning, cribbing, lowering

Energy Type	Examples	Isolation Methods
	suspended loads	
Stored/Residual	Capacitors, springs, elevated machine members	Grounding, repositioning, bleeding, blocking

Equipment-specific energy control procedures shall be developed for each machine or piece of equipment and shall include:

- A description of the machine/equipment and its intended use
- The specific location of all energy isolating devices
- The type and magnitude of energy the machine/equipment uses
- The specific steps required to shut down, isolate, block, and secure the machine/equipment
- The specific steps required to verify isolation and de-energization
- The specific steps for returning the machine/equipment to normal operation

6. LOCKOUT/TAGOUT PROCEDURES

6.1 Preparation for Shutdown

1. The authorized employee shall identify the type and magnitude of energy that the machine or equipment utilizes.
2. The authorized employee shall understand the hazards of the energy to be controlled and the method(s) to control the energy.
3. The authorized employee shall review the equipment-specific LOTO procedure.
4. The authorized employee shall notify all affected employees that servicing is required and that the machine/equipment will be shut down and locked out.
5. The authorized employee shall gather all necessary lockout/tagout devices and hardware.

6.2 Machine/Equipment Shutdown

6. Shut down the machine or equipment using the normal stopping procedure.
7. Operate all shut-down controls to bring the machine or equipment to a complete stop.
8. Move all control switches and selectors to the "OFF" or "NEUTRAL" position.

6.3 Machine/Equipment Isolation

9. Locate all energy isolating devices for the machine/equipment as identified in the equipment-specific procedure.
10. Operate all energy isolating devices to isolate the machine/equipment from its energy source(s).
11. Ensure all stored or residual energy is relieved, disconnected, restrained, or otherwise rendered safe.

6.4 Application of Lockout/Tagout Devices

12. Each authorized employee shall affix their individually assigned lock to each energy isolating device.
13. Each authorized employee shall attach a completed tagout tag to each lock identifying: the employee's name, date, department, reason for lockout, and expected duration.
14. Locks shall be applied so that the energy isolating device is held in the "safe" or "off" position.
15. Where a tagout device is used without a lock (only when lockout is not possible), the tag shall be attached at the same location the lock would have been placed.

6.5 Verification of Isolation (Zero Energy State)

16. After applying LOTO devices, verify that all energy sources have been isolated by attempting to restart the machine/equipment using normal operating controls.
17. Return operating controls to the "OFF" or "NEUTRAL" position after verification.
18. Test all electrical circuits using an appropriate voltage testing device to verify de-energization.
19. Verify that all stored/residual energy has been relieved (check pressure gauges, try moving mechanical parts, check for flow, temperature, etc.).
20. The machine/equipment is now in a zero energy state and servicing may begin.

6.6 Restoring Machine/Equipment to Service

21. Inspect the work area to ensure all tools, parts, and non-essential items have been removed.
22. Ensure all guards and safety devices have been reinstalled and are functional.
23. Verify all employees are clear of the machine/equipment and positioned safely.
24. Notify all affected employees that locks and tags are being removed and the machine/equipment will be re-energized.
25. Each authorized employee shall remove ONLY their own lock(s) and tag(s).
26. Re-energize the machine/equipment following the equipment-specific procedure.
27. Verify proper operation of the machine/equipment and all safety devices.

7. GROUP LOCKOUT/TAGOUT PROCEDURES

When servicing or maintenance is performed by a crew, crafts, departments, or other group, a group lockout/tagout procedure shall provide a level of protection equivalent to that provided by personal lockout/tagout devices.

28. A designated authorized employee shall be assigned overall responsibility for the group lockout/tagout.
29. The designated authorized employee shall ascertain the exposure status of all members of the group.
30. The designated authorized employee shall apply a group lockout device (multi-lock hasp) to each energy isolating device.
31. Each authorized employee in the group shall affix their personal lock to the group lockout device.
32. The designated authorized employee shall verify isolation and communicate the zero energy state to the group.
33. When work is completed, each authorized employee shall remove their personal lock.
34. The designated authorized employee shall remove the group lockout device only after all personal locks have been removed and all group members are accounted for.

7.1 Shift/Personnel Changes

When servicing extends across shifts, the following procedures shall be followed:

- The off-going shift's authorized employee(s) shall communicate the status of lockout to the on-coming shift's authorized employee(s).
- On-coming authorized employees shall apply their locks BEFORE off-going employees remove their locks.
- A documented transfer of lockout responsibility shall be completed at each shift change.

8. LOCK REMOVAL BY OTHER THAN THE APPLYING EMPLOYEE

In the rare situation where an authorized employee is not available to remove their lock, the following procedure shall be followed:

35. Verify that the authorized employee who applied the lock is not at the facility.
36. Make all reasonable efforts to contact the authorized employee to inform them that their lock is being removed.
37. The removal must be authorized by [COMPANY NAME] management (minimum Supervisor level).
38. Document the circumstances and authorization for the removal.
39. Ensure the authorized employee is informed that their lock was removed before they resume work at the facility.

NOTE: This procedure should be used only as a last resort. Management shall investigate why the lock was not removed through normal procedures and take corrective action.

9. ENERGY ISOLATION DEVICE REQUIREMENTS

9.1 Lockout Devices

- Shall be standardized within [COMPANY NAME] by color, shape, or size
- Shall be durable enough to withstand the environment for the maximum period of expected exposure
- Shall be substantial enough to prevent removal without the use of excessive force or unusual techniques (bolt cutters, etc.)
- Each authorized employee shall be assigned their own uniquely keyed lock(s)
- No two locks shall be keyed alike; master keys are prohibited
- Locks shall be identified with the authorized employee's name

9.2 Tagout Devices

- Shall be standardized in print and format
- Shall be durable enough to withstand the environment for the maximum period of expected exposure
- Shall be attached with a non-reusable, self-locking nylon cable tie (minimum 50 lb. tensile strength)
- Shall clearly state: "DANGER — DO NOT OPERATE" or equivalent warning
- Shall include: employee name, date, department, reason, expected duration

- Tags shall never be bypassed, ignored, or removed by anyone other than the person who applied it

9.3 Additional Lockout Hardware

- Multi-lock hasps for group lockout situations
- Valve lockout devices for ball valves, gate valves, and butterfly valves
- Circuit breaker lockouts for various breaker types
- Plug lockout devices for electrical plugs
- Pneumatic/hydraulic lockout devices
- Lockout stations/boards for organized storage of lockout equipment

10. PERIODIC INSPECTIONS

[COMPANY NAME] shall conduct a periodic inspection of the energy control procedure at least annually to ensure the procedure and the requirements of this program are being followed.

10.1 Inspection Requirements

- The inspection shall be performed by an authorized employee other than the one(s) using the energy control procedure being inspected.
- The inspection shall include a review between the inspector and each authorized employee of the employee's responsibilities under the energy control procedure.
- Where tagout is used, the inspection shall include a review between the inspector and each authorized and affected employee of that employee's responsibilities under the energy control procedure.

10.2 Inspection Documentation

Each periodic inspection shall be documented and shall include:

- The machine or equipment on which the procedure was being utilized
- The date of the inspection
- The employees included in the inspection
- The name and signature of the person performing the inspection
- Any deficiencies identified and corrective actions taken

Inspection records shall be maintained by [COMPANY NAME] for a minimum of three (3) years.

11. TRAINING REQUIREMENTS

11.1 Authorized Employee Training

Each authorized employee shall receive training in the following:

- Recognition of applicable hazardous energy sources
- Type and magnitude of energy available in the workplace
- Methods and means necessary for energy isolation and control
- Purpose and use of the energy control procedure
- Equipment-specific LOTO procedures for equipment they are authorized to service
- Proper use of lockout/tagout devices and hardware
- Verification of zero energy state
- Group lockout/tagout procedures
- Procedures for lock removal by other than the applying employee

11.2 Affected Employee Training

Each affected employee shall receive training in the following:

- The purpose and use of energy control procedures
- Recognition of when the energy control procedure is being implemented
- The prohibition against attempting to restart or re-energize equipment that is locked/tagged out

11.3 Other Employee Training

All other employees whose work operations are or may be in an area where energy control procedures may be used shall be instructed about the prohibition against removing lockout/tagout devices and attempting to restart equipment that is locked/tagged out.

11.4 Retraining

Retraining shall be provided:

- When there is a change in job assignments
- When there is a change in machines, equipment, or processes that present a new hazard
- When there is a change in the energy control procedures
- When a periodic inspection reveals inadequacies in the employee's knowledge or use of the procedure
- At minimum intervals as determined by [COMPANY NAME] (recommended: annually)

11.5 Training Documentation

Training records shall include the employee's name, date of training, topics covered, trainer's name, and shall be maintained for the duration of employment plus three (3) years. All training shall be documented and records retained by [COMPANY NAME].

12. RECORDKEEPING

[COMPANY NAME] shall maintain the following records:

- This written LOTO program (current and previous versions)
- Equipment-specific energy control procedures for all applicable machines/equipment
- Energy source survey/inventory documentation
- Employee training records (initial and retraining)
- Annual periodic inspection records
- Lock removal authorization records
- Incident/near-miss investigation reports related to LOTO

All records shall be maintained for a minimum of three (3) years and shall be made available to employees and their authorized representatives upon request.

13. CONTRACTOR COORDINATION

When outside contractors perform work that requires lockout/tagout:

- [COMPANY NAME] shall inform the contractor of the energy control procedures used at the facility.
- The contractor shall inform [COMPANY NAME] of their lockout/tagout procedures.
- [COMPANY NAME] and the contractor shall coordinate their energy control activities to ensure full protection of all employees.
- Contractor employees shall use their own locks (distinctly different from [COMPANY NAME] locks) and shall be trained in [COMPANY NAME]'s LOTO program requirements.

14. PROGRAM REVIEW & REVISION HISTORY

This program shall be reviewed at least annually or whenever changes in operations, equipment, or regulatory requirements necessitate a revision.

Revision #	Date	Description of Change	Approved By

APPENDIX A: LOTO PROCEDURE FORM

Complete this form for each piece of equipment requiring lockout/tagout procedures.

Field	Information
Equipment Name:	
Equipment ID/Number:	
Equipment Location:	
Date Prepared:	
Prepared By:	
Approved By:	

Energy Source Identification

Energy Type	Source/Location	Magnitude	Isolation Device	Isolation Method
Electrical				
Mechanical				
Hydraulic				
Pneumatic				
Chemical				
Thermal				
Gravitational				
Other:				

Lockout/Tagout Sequence

Step #	Procedure Description	Isolation Device Location
1		
2		
3		
4		

Step #	Procedure Description	Isolation Device Location
5		
6		
7		
8		

Verification of Zero Energy State

Verification Method	Result (Pass/Fail)	Verified By	Date

Restoring Equipment to Service

Step #	Procedure Description
1	
2	
3	
4	
5	

APPENDIX B: ANNUAL PERIODIC INSPECTION LOG

Use this form to document the required annual periodic inspection of energy control procedures per 29 CFR 1910.147(c)(6).

Field	Information
Inspection Date:	
Inspector Name:	
Inspector Signature:	
Equipment/Procedure Inspected:	
Location:	

Employees Reviewed During Inspection

Employee Name	Role (Auth/Affected)	Review Completed (Y/N)	Signature

Inspection Findings

Item #	Finding/Deficiency	Corrective Action Required	Date Corrected
1			
2			
3			
4			
5			

Inspector Certification

I certify that the periodic inspection was conducted in accordance with 29 CFR 1910.147(c)(6) and that the energy control procedure(s) identified above have been reviewed with the employees listed.

Inspector Signature: _____ Date: _____

Management Review: _____ Date: _____

FORBES SAFETY SOLUTIONS

Personal Protective Equipment (PPE) Program

Comprehensive PPE Hazard Assessment, Selection & Training

Prepared for:

[COMPANY NAME]

Reference Standards:

29 CFR 1910.132-138 | 29 CFR 1926.95-106

Date: [DATE] | Revision: [REV NUMBER]

Table of Contents

1. Purpose

This Personal Protective Equipment (PPE) Program establishes the requirements for the selection, use, maintenance, and training associated with personal protective equipment at [COMPANY NAME]. The purpose is to protect employees from workplace hazards that cannot be eliminated through engineering or administrative controls, in compliance with OSHA standards 29 CFR 1910.132-138 and 29 CFR 1926.95-106.

PPE is the last line of defense in the hierarchy of controls and shall be used when hazards cannot be adequately controlled by other means.

2. Scope

This program applies to all employees, contractors, temporary workers, and visitors at [COMPANY NAME] facilities and job sites where workplace hazards require the use of personal protective equipment.

This program covers the following categories of PPE:

- Head protection (hard hats, bump caps)
- Eye and face protection (safety glasses, goggles, face shields)
- Hand protection (gloves by hazard type)
- Foot protection (safety-toed footwear, metatarsal guards)
- Hearing protection (earplugs, earmuffs)
- Respiratory protection (see separate Respiratory Protection Program)
- Body/skin protection (high-visibility vests, protective clothing)
- Fall protection (see separate Fall Protection Program)

3. Responsibilities

3.1 Management

- Provide funding for all required PPE at no cost to employees
- Ensure hazard assessments are conducted and certified
- Support enforcement of PPE requirements
- Review and update this program at least annually

3.2 Safety Manager / Competent Person

- Conduct and certify workplace hazard assessments
- Select appropriate PPE based on identified hazards
- Coordinate PPE training for all affected employees
- Maintain records of hazard assessments, training, and PPE issuance
- Evaluate new PPE products and technologies
- Conduct periodic audits of PPE use and condition

3.3 Supervisors

- Enforce PPE requirements within their work areas
- Monitor employees for proper PPE use, fit, and condition
- Ensure new employees receive PPE training before beginning work
- Report PPE deficiencies and request replacement equipment

3.4 Employees

- Wear required PPE at all times when exposed to hazards
- Inspect PPE before each use and report defects
- Maintain and store PPE properly according to training
- Attend all required PPE training sessions
- Notify supervisor of any changes in hazard conditions

4. Hazard Assessment

4.1 Hazard Assessment Process

The Safety Manager shall conduct a hazard assessment of each work area and job task to identify sources of hazards that require PPE. The assessment shall follow the requirements of 29 CFR 1910.132(d) and include:

1. Walk-through survey of each work area
2. Identification of hazard sources (impact, penetration, compression, chemical, heat, harmful dust, light/radiation, biohazards, electrical, fall, noise)
3. Organization of findings by job classification and work area

4. Selection of appropriate PPE for each identified hazard
5. Written certification of the hazard assessment

4.2 Job-by-Job Hazard Assessment

Each job task shall be individually assessed. The following table provides a framework for documenting hazards by job task:

Job Task / Area	Hazard Type	Body Part at Risk	PPE Required
Welding Operations	Optical radiation, sparks, fumes	Eyes, face, hands, body	Welding helmet, safety glasses, leather gloves, FR clothing
Grinding / Cutting	Flying particles, noise	Eyes, face, ears, hands	Safety glasses w/ side shields, face shield, hearing protection, gloves
Chemical Handling	Splash, vapor, skin absorption	Eyes, face, hands, body	Chemical splash goggles, face shield, chemical-resistant gloves, apron
Overhead Work	Falling objects, impact	Head, feet	Hard hat (Type I or II), safety-toed footwear
Electrical Work	Shock, arc flash, burn	Head, eyes, hands, body	Dielectric hard hat, arc-rated face shield, insulated gloves, arc-rated clothing
Concrete / Masonry	Dust, abrasion, impact	Eyes, lungs, hands, knees	Safety glasses, dust mask/respirator, leather gloves, knee pads
Elevated Work (>6 ft)	Falls	Full body	Full body harness, lanyard, anchor (see Fall Protection Program)
[Add Job Tasks]	[Identify Hazards]	[Body Parts]	[Select PPE]

4.3 Certification of Hazard Assessment

Per 29 CFR 1910.132(d)(2), the hazard assessment must be certified in writing. The certification shall include:

- Identification of the workplace evaluated
- Name of the person performing the assessment
- Date(s) of the assessment

- Document identification as a certification of hazard assessment

See Appendix A for the PPE Hazard Assessment Certification Form.

5. PPE Selection

5.1 PPE Selection Table by Hazard Type

The following table provides guidance for selecting appropriate PPE based on the type of hazard identified during the assessment:

Hazard Category	Hazard Examples	PPE Type	Applicable Standard
Impact	Flying objects, falling tools	Hard hat, safety glasses w/ side shields, safety-toed shoes	ANSI Z89.1, ANSI Z87.1, ASTM F2413
Penetration	Sharp objects, nails	Puncture-resistant soles, cut-resistant gloves, safety glasses	ASTM F2413, ANSI/ISEA 105
Compression (rollover)	Heavy equipment, rolling objects	Safety-toed footwear (metatarsal guard)	ASTM F2413
Chemical exposure	Splashes, vapors, mists	Chemical splash goggles, face shield, chemical-resistant gloves, apron	ANSI Z87.1, manufacturer specs
Heat / Burns	Hot surfaces, sparks, flames	Leather gloves, FR clothing, welding helmet, face shield	NFPA 2112, ASTM F2302
Harmful dust	Silica, wood dust, metals	Dust mask or respirator, safety goggles	NIOSH 42 CFR Part 84
Optical radiation	Welding arc, lasers, UV	Welding helmet (proper shade), laser safety glasses	ANSI Z87.1, ANSI Z136
Noise (>85 dBA)	Machinery, power tools	Earplugs (NRR 25+), earmuffs (NRR 25+)	ANSI S3.19 / S12.6
Electrical	Shock, arc flash	Insulated gloves (class rated), dielectric footwear, arc-rated PPE	ASTM D120, NFPA 70E
Fall hazards	Elevated work >6 ft	Full body harness, SRL, lanyard, anchor	ANSI Z359.1

6. PPE Requirements by Body Part

6.1 Head Protection

Hard hats are required in all areas where there is a danger of head injury from falling objects, impact, or electrical contact. Per 29 CFR 1910.135 and 1926.100:

- Type I hard hats protect the top of the head from impact
- Type II hard hats protect the top and sides from impact
- Class E (Electrical) rated to 20,000 volts
- Class G (General) rated to 2,200 volts
- Class C (Conductive) provides no electrical protection

Hard hats shall be replaced when cracked, dented, or after any significant impact. Suspension systems shall be replaced per manufacturer guidelines. Hard hats shall not be painted, drilled, or modified.

6.2 Eye and Face Protection

Eye and face protection is required per 29 CFR 1910.133 and 1926.102 wherever there is a reasonable probability of injury from flying particles, molten metal, liquid chemicals, acids, caustic liquids, chemical gases/vapors, or light radiation.

- Safety glasses with side shields: minimum requirement for general hazard areas
- Safety goggles: chemical splash, dust, fine particles
- Face shields: used OVER safety glasses/goggles for additional protection
- Welding helmets: minimum shade per OSHA/ANSI welding shade guide

All eye/face protection shall meet ANSI Z87.1 and be marked with the manufacturer's mark and Z87+ for high-impact rating.

6.3 Hand Protection

Per 29 CFR 1910.138, appropriate hand protection shall be selected based on the specific hazards identified:

Hazard	Glove Type	Key Considerations
Cuts / Abrasion	Cut-resistant (ANSI/ISEA A2–A9 rating)	Match cut level to hazard severity
Chemical exposure	Chemical-resistant (nitrile, neoprene, butyl, PVA)	Check permeation data for specific chemicals

Heat / Flame	Leather, Kevlar, aluminized	Temperature rating must exceed exposure
Electrical	Insulated gloves (Class 00–4)	Must be tested per ASTM D120 every 6 months
Cold weather	Insulated, waterproof	Maintain dexterity for task performance
Welding	Leather welding gloves	Minimum gauntlet-style for arc welding

6.4 Foot Protection

Safety-toed footwear meeting ASTM F2413 is required in all areas where there is a danger of foot injuries from falling objects, compression, puncture, or electrical hazards. Requirements include:

- Impact-resistant toe cap (I/75 or I/50 rating)
- Compression-resistant toe (C/75 or C/50 rating)
- Puncture-resistant sole plate when required
- Metatarsal guards for heavy material handling
- Electrical hazard (EH) rated footwear in electrical work areas

6.5 Hearing Protection

Hearing protection is required for all employees exposed to noise levels at or above 85 dBA as an 8-hour TWA per 29 CFR 1910.95 and the company Hearing Conservation Program. Options include:

- Foam earplugs (NRR 25–33): disposable or reusable
- Pre-molded earplugs (NRR 22–27): reusable, custom-fit available
- Earmuffs (NRR 22–31): over-the-head or cap-mounted
- Dual protection (plugs + muffs): required when exposure exceeds 100 dBA

6.6 Respiratory Protection

Respiratory protection is addressed in the separate [COMPANY NAME] Respiratory Protection Program per 29 CFR 1910.134. When respiratory hazards are identified during the PPE hazard assessment, refer to the Respiratory Protection Program for proper selection, fit testing, medical evaluation, and training requirements.

7. Proper Fit and Use

All PPE must properly fit each affected employee. Where manufacturer sizing is available, employees shall be fitted according to manufacturer guidelines. Key requirements:

- PPE shall not create additional hazards (e.g., loose clothing near machinery)
- PPE must be compatible when multiple types are worn simultaneously (e.g., hard hat + earmuffs + safety glasses)
- Prescription eyewear wearers shall use safety glasses with prescription inserts, over-the-glasses (OTG) safety glasses, or prescription safety glasses meeting ANSI Z87.1
- Employees with medical conditions affecting PPE use shall be evaluated by occupational health

8. Inspection and Maintenance

Employees shall inspect PPE before each use. PPE that is damaged, defective, or has exceeded its service life shall be removed from service immediately.

8.1 Inspection Criteria

- Hard hats: Check shell for cracks, dents, penetration, UV degradation (chalky appearance); check suspension for fraying, cracking, or loss of elasticity
- Safety glasses/goggles: Check for scratched lenses, broken frames, missing side shields, damaged seals
- Gloves: Check for tears, punctures, chemical degradation, loss of flexibility
- Safety footwear: Check for exposed toe caps, sole separation, worn tread, damaged eyelets
- Fall protection harnesses: Follow manufacturer inspection criteria (webbing, buckles, D-rings, labels)
- Hearing protection: Check for hardening, deformation, cracking, broken headbands

8.2 Maintenance and Storage

- Clean PPE according to manufacturer instructions
- Store PPE in a clean, dry location away from sunlight and contaminants
- Do not modify or alter PPE in any way
- Replace PPE at manufacturer-recommended intervals or when defects are found
- Maintain an adequate inventory of replacement PPE

9. Employee-Owned PPE

Per 29 CFR 1910.132(h), where employees provide their own PPE, the employer is responsible to ensure that it is adequate, properly maintained, and sanitary.

- Employee-owned PPE must meet the same standards as employer-provided PPE
- The employer shall verify the adequacy of employee-owned PPE
- The employer is not required to reimburse employees for non-specialty safety-toed footwear, prescription safety glasses, or logging boots required by 29 CFR 1910.266(d)(1)(v)
- All other required PPE shall be provided by [COMPANY NAME] at no cost to employees

10. Training

Per 29 CFR 1910.132(f), each employee required to use PPE shall be trained to know at a minimum:

6. When PPE is necessary
7. What PPE is required for their specific job tasks
8. How to properly put on, take off, adjust, and wear PPE
9. The limitations of the PPE
10. The proper care, maintenance, useful life, and disposal of the PPE

10.1 Training Frequency

- Initial training: before job assignment requiring PPE
- Retraining required when:
 - Changes in the workplace render previous training inadequate
 - Changes in the types of PPE render previous training inadequate
 - Employee demonstrates lack of understanding or skill in proper PPE use

10.2 Training Verification

Each employee who has been trained shall demonstrate understanding of the training elements. Training shall be documented and include the employee's name, date, trainer's name, and topics covered.

11. Program Evaluation

[COMPANY NAME] shall evaluate the effectiveness of this program at least annually, or whenever conditions change that may affect PPE needs. Evaluation shall include:

- Review of workplace hazard assessments for accuracy
- Assessment of PPE selection adequacy

- Review of injury/illness records related to PPE
- Employee feedback on PPE comfort, fit, and effectiveness
- Audit of PPE use, condition, and compliance
- Review of new PPE technologies and products

12. Recordkeeping

The following records shall be maintained:

- Written hazard assessment certifications
- PPE issue records (type, date, employee)
- Training records (date, attendees, topics, trainer)
- Inspection and maintenance logs (as applicable)
- Program evaluation records

Records shall be retained for the duration of employment plus three (3) years.

Appendix A: PPE Hazard Assessment Certification Form

CERTIFICATION OF HAZARD ASSESSMENT FOR PPE

Per 29 CFR 1910.132(d)(2)

Company: _____

Work Area / Job Site: _____

Assessment Date: _____

Assessed By: _____

Title: _____

Hazards Identified:

Job Task / Area	Hazard Source	Hazard Type	Body Part(s)	PPE Required

Certification Statement:

I certify that a hazard assessment has been performed for the workplace identified above, that the assessment identified the hazards requiring personal protective equipment, and that the PPE specified above has been selected to protect affected employees from those hazards.

Assessor Name (Print): _____

Assessor Signature: _____

Date: _____

Reviewed By (Management): _____

Date: _____

Appendix B: PPE Issue Record

PERSONAL PROTECTIVE EQUIPMENT ISSUE RECORD

Employee Name: _____

Employee ID / Number: _____

Department / Crew: _____

Job Title: _____

Date	PPE Item Issued	Size	Qty	Condition	Reason (New/Replace)	Issued By	Employee Initials

Employee Acknowledgment:

I have received the PPE listed above and have been trained on its proper use, care, and maintenance. I understand that I am responsible for wearing the PPE as required and for reporting any defects or damage.

Employee Signature: _____

Date: _____

FALL PROTECTION

29 CFR 1926.501-503

Presenter: _____

Date: _____

FORBES SAFETY SOLUTIONS

TOOLBOX TALK

WHY THIS MATTERS

- Falls are the #1 killer in construction. In 2024, falls to a lower level caused 370 fatalities among construction and extraction workers — over a third of all construction deaths (BLS CFOI 2024).
- Fall Protection has been OSHA's most cited violation for 15 consecutive years, with over 7,000 citations issued in FY 2024 alone.
- The average fall fatality happens from just 6 to 10 feet. You don't need to be on a high-rise to die.
- Most fall deaths are 100% preventable. The equipment exists. The standards are clear. The gap is compliance.
- A single fall fatality can result in OSHA penalties exceeding \$150,000, criminal referrals, and project shutdowns.

Source: [OSHA Fall Prevention Campaign](#)

FORBES SAFETY SOLUTIONS

100% TIE-OFF & ANCHORAGE POINTS

- 100% tie-off means you are connected at ALL times when at 6 feet or above — no exceptions for "just a second" or "I'm almost done."
- Anchorage points must support 5,000 lbs per worker or be designed by a qualified person as part of a complete PFAS with a safety factor of 2.
- Never tie off to conduit, vents, antenna mounts, or anything you haven't verified. If you wouldn't hang your truck from it, don't hang yourself from it.
- When moving between anchorage points, use a dual-lanyard system so one hook is always connected before the other releases.
- Guardrails are the first line of defense — they protect without any action from the worker. Use them wherever feasible before defaulting to personal fall arrest.

HARNESS INSPECTION & RESCUE PLANNING

- Inspect harnesses before every use with the ABC method: A = Anchors/D-rings (centered between shoulder blades), B = Buckles/Belts (no fraying, all buckles lock), C = Connections/Straps (no cuts, burns, chemical damage).
- Any harness involved in a fall arrest event must be immediately removed from service and destroyed — no exceptions, even if it "looks fine."
- Rescue planning is not optional. OSHA requires a rescue plan BEFORE anyone goes to height. "Call 911" is not a rescue plan — suspension trauma can kill in under 30 minutes.
- Every crew working at height must have a rescue method available: self-rescue training, rescue team on standby, or mechanical retrieval equipment.
- Never modify, paint, or attach unauthorized items to fall protection equipment. If the manufacturer didn't put it there, it doesn't belong.

DISCUSSION QUESTIONS

Take 5 minutes to discuss with your crew:

1. Where on this jobsite are we most exposed to fall hazards today? Are all those areas controlled?
2. When was the last time you actually inspected your harness — and what would you look for?
3. If someone on your crew went into suspension right now, what's our plan to get them down in under 6 minutes?
4. Have you ever seen someone skip their tie-off "just for a second"? What would you say to them?

ATTENDANCE SIGN-OFF

Date: _____ Topic: Fall Protection Presenter: _____

#	PRINT NAME	COMPANY	SIGNATURE
1			
2			
3			
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