HENSEL PHELPS
Plan. Build. Manage.

CODE OF SAFE PRACTICES

HENSEL PHELPS

CODE OF SAFE PRACTICES

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I. INTRODUCTION

1. This guide will help you understand the basic safety and health requirements of Hensel Phelps. It is important to note that some projects have more stringent safety requirements that will be reviewed during the site-specific safety orientation and through the Activity Hazard Analysis (AHA) process.
2. If you do not know or clearly understand how to perform your work in a safe manner, immediately stop and talk to your supervisor. Hensel Phelps encourages open communication about your concerns. If you see something that you believe to be unsafe, please stop work immediately and notify your supervisor. Never put yourself or anyone else in an unsafe position.
3. For Hensel Phelps Services, the Account Manager will perform the responsibilities of the superintendent if there is no superintendent on site.

II. FOREMAN / SUPERVISOR RESPONSIBILITIES

1. Require employees to observe and obey all applicable rules and regulations.
2. Perform daily Safety Task Assignments (STAs) to identify hazards in the work area and to ensure workers understand the safety requirements associated with the task.
3. Conduct weekly toolbox safety meetings.
4. Plan your work and supervise the work for quality and safety.
5. Ensure tools and equipment are properly maintained, inspected, and used correctly.
6. Investigate accidents, incidents, and near misses in your area of responsibility.
7. Stop unsafe acts and talk with the person performing the operation about ways to perform the work safely.
8. Correct unsafe workplace conditions.
9. Enforce our safety and health standards.

III. GENERAL INFORMATION

A. Safety Accountability for Everyone (SAFE)

1. Hensel Phelps uses our SAFE program on a daily basis to:
2. Identify and correct unsafe behaviors and environmental conditions.
3. Recognize and encourage safe behavior.
4. Before each shift and throughout the day, inspect your work area for unsafe conditions.
5. If you see something that you feel is unsafe, correct the situation immediately or notify your supervisor. Never work or allow others to work in an unsafe condition or in an unsafe manner.

B. General Conduct and Disciplinary Policy

1. Hensel Phelps has various rules in place which serve as guidelines to acceptable behavior. Violation of these rules may be reason for disciplinary action or termination.
2. Examples of unacceptable conduct include: sexual harassment, racial harassment, inappropriate conduct, insubordination, violations of the substance abuse policy, disregard of the safety policy, fighting, theft, falsification of records, failure to follow instructions, failure to work efficiently and in accordance with our quality standards, endangering yourself, endangering others, and violation of jobsite rules.
3. All employees are required to report any known or suspected violation of the company's EEO & Anti-Harassment policy. Craft foreman must report any reported violation to their supervisor or Jobsite EEO representative.

C. Substance Abuse Policy

1. All employees are subject to our substance abuse policy. This policy will be provided to you upon hire.
2. Periodically, a project will be randomly selected for a random drug test.

D. Work Clothing

1. Appropriate clothing must be worn at work. Shirts must have at least a 4" sleeve length. Tank tops, muscle or fish net shirts are not allowed.

2. Some projects or positions may require a uniform. Uniforms must be kept neat and clean with no rips or fabric tears.
3. Long pants must be worn at all times. Pant legs must be long enough to cover the entire lower body (from the waist to the ankle). Baggy, ripped or torn jeans and sweat pants are prohibited.
4. Do not wear clothing or jewelry which could get caught in machinery, moving parts, or otherwise cause an accident. Loose or torn clothing, and dragging pant cuffs, are examples of unacceptable clothing. Long hair should be secured.
5. Work boots are required at all times. Some projects require additional safety toe protection. Tennis shoes, loafers, sandals, and other non-construction rated footwear is not allowed. Ask your supervisor for the specific requirements of each project.

E. Distractions

1. It is important that you stay focused on the task at hand. Avoid distractions during work that could take your attention away from your assigned work. Examples of distractions that are not allowed on the project include:
2. The use of personal cell phones while working.
3. Radios, mp3 players, portable TVs, headphones or ear buds.

F. Written Programs

1. This Code of Safe Practices is a summary of our safety guidelines.
2. An Accident Prevention Plan (APP) has been developed for this project. This document details the safety and health requirements for each project. You can access the APP by talking to your supervisor.
3. Projects in California under Cal/OSHA jurisdiction have an Injury and Illness Prevention Program (IIPP). This program will be reviewed in your New Employee Orientation and is available for review at any time.
4. You will be trained on the project's Emergency Action Plan during your site-specific safety orientation. It is important to remember the evacuation signal and where to assemble in the event of an emergency. Emergency phone

numbers will also be discussed and are posted on your jobsite bulletin board.

G. Activity Hazard Analysis (AHA)

1. Hensel Phelps will create an AHA for each operation that you will be performing. This process identifies hazards associated with the operation and actions that will be taken to perform the work safely.
2. Your supervisor will review the AHA with you prior to assigning you to that operation. This review may be a formal review of the AHA or as part of a STA.
3. If your supervisor has not explained the safe way to perform your assignment, stop and ask them for help.

H. Safety Task Assignment (STA)

1. Before assigning you a task, new or repetitive, your supervisor will conduct a STA with you. They will show and clearly explain the precautions that must be taken to perform the task safely.
2. If you have any physical limitations or are taking any medication that may prevent you from performing the assigned task, inform your supervisor immediately.

I. Accidents, Incidents, and Near Misses

1. Report all accidents, incidents, first aid cases, and near misses to your supervisor.
2. Only employees that have been trained and authorized to perform CPR, first aid, or use an AED should attempt to perform these services.

J. Orderliness and Housekeeping

1. Keep your work area, passageways, storerooms, and service areas neat and orderly. Keep your tools and your work area clean as the job progresses.
2. Put garbage, scraps, and other waste in the appropriate container. Do not allow items to protrude from the container that could injure someone walking by.
3. Smoking is only allowed in designated locations. Place cigarette butts in designated containers.
4. When possible, keep cords and hoses elevated and out of access areas. Never run extension cords across driveways or through doors unless they are physically protected from damage.

5. Work tables should only have the tools and materials required to perform the job. Keep the floor of the work area free and clear of debris to avoid trip hazards.
6. Keep floors of work area clean and dry. Where wet processes are used, drainage shall be maintained, and false floors, platforms, mats or other dry standing places shall be provided, where practicable.
7. Clean up grease and oil spills immediately using absorbent material. Place in appropriate container for disposal.
8. Material that could be blown over by the wind or accidentally shifted should be secured to prevent displacement.
9. Place material on dunnage to make material handling easier. 2x4's and similar dunnage should be wider than it is tall to prevent tipping.
10. Do not store tools or material on girders, ducts, lighting fixtures, beam flanges, ceilings or other elevated locations.
11. Do not block emergency egresses (stairs, ramps, and doors), fire extinguishers, or emergency disconnect switches.

K. Work in Operating Facilities

1. General
    a) Review existing traffic path, both vehicular and pedestrian, and plan work to minimize impact.
    b) Select tools and equipment that minimizes or eliminates dust, gases, and noise pollution outside work zone.
    c) Communicate plan daily to the client staff.
    d) Only store material and equipment in facility per approved plan.

2. Electrical
    a) Only trained personnel can work on electrical equipment.
    b) Be aware that existing facilities may have electrical panels with covers removed, loose, or with open panels.
    c) Ensure that all panel covers are secured, the system is de-energized and lock out tag out is applied prior to working in the area.

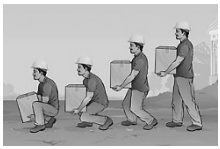
d) Do not trust circuit labelling. Test all circuits prior to work to ensure de-energized. Use lock out tag out as appropriate.

3. Rotating Equipment
   a) Prior to working in an operating facility, be aware that guards on rotating equipment may be removed or loose. Inspect all rotating equipment in area of work to ensure complete hazard analysis and operational planning.

4. Fire Protection
   a) To have facility fire protection equipment taken out of service temporarily, including for test or drill, contact the Account Manager. This is to minimize downtime of an active fire protection system. Active systems include:
      (1) Fire hydrants and fire lanes.
      (2) Fire hydrants are maintained for emergency use by local fire departments. Non-emergency use must be coordinated through the Account Manager and authorized by the Fire Marshall.
      (3) Parking is prohibited at all times in marked fire lanes, along painted red curbs and in front of sprinkler system inlet connections.

IV. BACK AND LIFTING SAFETY

1. Warm up and stretch before each shift and periodically throughout the day.
2. Use mechanical help to lift and move objects whenever possible.
3. Plan your path of travel and verify it is safe and free from any tripping hazards, ice or other slippery surfaces.
4. Never try to lift more than you can handle safely. Be sure to consider size, shape, and weight before each lift. Get help if needed.
5. Use safe lifting procedures when picking up tools or material. Lift with your legs, not your back, and avoid twisting.



6. Your hands must have a solid grasp of the object.
7. Do not lift above shoulder height.
8. Keep your back straight.

V. BARRICADES

1. Do not cross any barricade unless you are authorized to do so and fully understand the hazards associated with crossing into a barricaded area.
2. Maintain barricades so they effectively keep unauthorized personnel out of the area.
3. Barricades are required and will be used around trenches, unprotected roof edges, and under overhead work.
   a) In some circumstances, an area may be barricaded warning personnel of multiple hazards. An example of this is a barricade around numerous excavations.
4. Types of barricades include:
   a) Warning – These call your attention to a hazard and keep people away from the area but offer no physical protection.
      (1) Caution Tape (yellow) implies that personnel can enter the area using caution after they have determined what hazards are present.

      (2) Danger Tape (red) indicates a high degree of hazard and that only authorized people associated with the work being performed can enter the area.
         (a) Danger tape is not a substitute for protective barriers, guardrails, or hole protection.
         (b) Signage should be placed in danger areas indicating the hazard and responsible supervisor with contact information.
      (3) Snow Fence (orange) may also be used as a barricade in certain situations.

b) Protective – These barricades provide physical protection from falling and other hazards and must never be crossed without special consent and precautions. Examples include wood and cable guardrail systems or wood barricades.

VI. BOOM AND SCISSOR LIFTS

1. Do not operate boom or scissor lifts unless you are trained and authorized.
2. Inspect the equipment before each use. Make sure the controls are working properly.
3. Boom lifts require a permit that is reviewed with your supervisor or a competent person and kept on the lift during use.
4. Tie off is required using fall restraint in boom lifts. Follow manufacturer instructions for tie off procedures in scissor lifts.
5. Keep your feet on the work platform.
6. Be aware of overhead conditions, obstructions, and power lines.

VII. COMPRESSED AIR

1. Check hoses and couplings daily, before use. Do not modify hoses.
2. Use hoses designed to handle compressed air.
3. Pins and whip checks are required on all connections of air lines greater than a ½ inch in diameter. Check to make sure whip checks are installed correctly.

4. Compressed air for cleaning workbenches and machinery must not exceed 30 psi except for concrete form, millscale, and similar cleaning.
5. When using compressed air to blow out formwork or metal decking, the use of a positive pressure nozzle with whip checks on hose connections is required.
6. Do not use compressed air to blow off clothing. Do not allow forced air to come into contact with your skin.
7. Keep hoses out of access areas.
8. Hearing protection and a full face shield with mono- goggles are required for this work.

9. Hoses exceeding ½ inch in diameter must have an excess flow check valve (air fuse) at the source of supply or branch line to reduce pressure in case of hose failure.

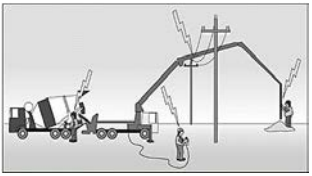
VIII. CONCRETE WORK

A. General

1. When working with wet concrete, protect your skin by wearing long pants that are free of holes and excessive wear. Wearing disposable Tyvek pants or rain gear over your pants may be required. Tuck your pants inside the boots and be sure to tape your pants at the top of the rubber boot with impermeable tape. Be sure the boots are high enough to keep concrete away from your skin.
2. Wear a long sleeved shirt with impervious gloves and tape them at the cuff. It is important to inspect your boots and gloves before use to ensure there are no holes or damage to the gear. Never use damaged personal protective equipment.
3. Hoseman, nozzleman, and vibrator operators must wear a face shield in addition to eye protection.
4. If concrete touches your skin, wash immediately and thoroughly to prevent a concrete burn.
5. Rebar, form stakes, and similar impalement hazards must be protected using rebar caps or other acceptable means.
6. Form lumber must have all nails removed immediately after it is stripped.
7. Handle material properly and get help lifting when needed to avoid back injuries.
8. Stay out of pinch points such as behind concrete trucks backing up.

9. Watch forms and deck for deflection to identify possible blowouts.
10. When shoveling concrete, push the concrete; do not lift.
11. Do not stand on or in front of the concrete pump hose. Only authorized personnel should back up and direct concrete trucks.
12. Be cautious of trip hazards.

13. Be cautious of overhead obstructions and power lines for booms, concrete trucks, and concrete tools.



14. Be sure you know where the eyewash station is located. It must be located within 10 seconds of travel during concrete pours.

B. Controlling Concrete and Masonry Dust

1. Use engineering controls such as local exhaust ventilation or water when dust containing silica is produced from a power tool. Check with your supervisor on the appropriate controls that need to be used. OSHA's table 1 is located in Appendix A as a reference.

2. All controls must be fully implemented and working properly.
3. Respiratory protection shall be used when engineering controls cannot control dust exposure or when required in table 1. Users shall be medically evaluated, fit tested, and trained prior to use.
4. Practice good housekeeping and personal hygiene. Do not eat, drink, or use tobacco products in dusty areas. Wash hands frequently with soap and water.

IX. CONFINED SPACE

1. Only trained and authorized personnel are allowed to enter a permit required confined space.
2. Do not enter a space that is labeled "confined space" without approval from your supervisor. Examples include pits, vaults, and manholes.

3. Obtain a confined space permit from your supervisor before entering a permit required confined space.

4. Make sure the air is safe using a sniffer prior to entry and throughout the operation.

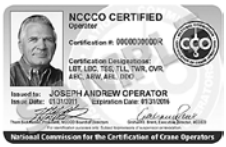
X. CONVEYORS

1. Any work on a conveyor system requires a hazard assessment and application of lock out tag out.
2. Do not work on, over, under, or next to conveyors without talking to your supervisor.
3. Conveyor systems may start and stop without notice. Lock out tag out procedures shall be accomplished in accordance with the most stringent program in place for the work location.

4. Remove or cover loose clothing, hair, and jewelry to avoid entanglement.
5. Guards and barriers must be in place and maintained while working on, over or in the immediate proximity of operating conveyors.
6. A 36-inch clearance zone shall be maintained around moving conveyor belts pulleys or rollers.
7. If guarding cannot be accomplished, a conveyor shall be shut down, locked and tagged out prior to any work within the 36-inch clearance zone.
8. Emergency stops are only for emergencies and are not to be utilized as an isolation device.

XI. CRANES AND SIMILAR LIFTING EQUIPMENT

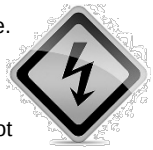
1. Only certified operators may operate a crane or lifting device.



2. Keep the crane and load at least 20 feet from overhead power lines. If you must get within 20 feet, contact your supervisor.
3. Only qualified and authorized personnel may provide signals to crane operators.
4. Review and follow manufacturer supplied load charts.
5. Before each lift, review the weight, physical dimension, and center of gravity for the load. Also review the rigging and crane capacities.
6. Only qualified riggers may rig loads.

XII. ELECTRICAL

A. Cords

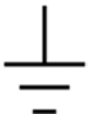


1. Inspect your cords before each use. If you find a damaged cord, remove the cord from service, red tag the cord, and report it to your supervisor immediately. Do not use the cord.
2. Electrical extension cords must be inspected before each use. Verify that they are construction grade, have the necessary prongs in place, and are free from cuts and damage.
3. Verify that extension cords are a minimum of 12 gauge and rated for hard duty or extra hard duty.
4. Examples of acceptable markings that are embossed on the cord include S, ST, SO, STO, SJ, SJO, SJTO, SJTW.
5. All extension cords must have a ground prong.
6. Do not repair cords with tape. Only qualified personnel may make field repairs. Follow manufacturer instructions.
7. Route cords along walls or suspend them with nonconductive material like zip ties. Keep cords out of access areas where they are a trip hazard or will be damaged by equipment.
8. If a cord must pass through a door or other pinch point, protect the cord so it does not become damaged.

B. GFCI Protection

1. Ground fault circuit interrupters (GFCI) must be used at the source for all activities requiring power on a jobsite, including plugging into permanent power.
2. Test the GFCI before each use by pressing the “test” button and then the “reset” button when plugged in and power is applied.

C. Generators



1. Follow manufacture recommendations for grounding. Some generators are internally grounded.

2. When refueling generators, make sure to shut off the power and use a funnel to avoid potential fuel spills and fire.

D. Overhead Power Lines

1. Keep equipment, cranes, and other material away from energized overhead power lines.
2. If you must work within 20 feet of overhead power lines, talk to your supervisor.

XIII. EXCAVATIONS AND TRENCHES

1. Only trained and authorized employees may enter excavations and only after the competent person has conducted an inspection of the excavation and determined it is safe to enter.
2. Maintain barricades around excavations at least 6 feet from the edge of the excavation.
3. Spoil dirt may be used to barricade 1 side of a trench or similar excavation.

811 Know what's below. Call before you dig.

4. Spoil piles and any debris that could roll or fall into a trench must be kept at least 2 feet back from the edge of the excavation.
5. Excavations must be sloped, benched, or shored when deeper than 5 feet. A competent person may determine that protection is necessary at depths less than 5 feet.
6. Excavations greater than 20 feet deep require engineering for all protective systems.
7. Note that type C soil cannot be benched.
8. A ladder or other safe means of access is required within 25 feet of any worker in trench excavations deeper than 4 feet. Ladders must be secured and extend 36 inches above landing.
9. Do not perform any digging unless the location of underground utilities has been verified and potholed for utilities. A dig permit must be obtained prior to digging.
10. Do not step or jump over trenches.
11. If there is a potential for a hazardous atmosphere, the atmosphere of the excavation must be tested by the competent person.

12. Additional information on soil classification and protective measures is located in Appendix B.

XIV. FALL PROTECTION

A. General

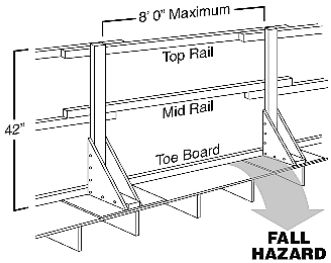
1. Fall protection is required when exposed to a 6 foot or greater fall. Please note that some facilities will require this at 4 feet (General Industry) so verify this with your supervisor. Examples where fall protection is required include:
   a) Roofs
   b) Suspended stages
   c) Scaffolds
   d) Ladders when used near shafts, over a guardrail, or adjacent to stairs
   e) Formwork
   f) Edge of slab
   g) Floor or wall openings
   h) Aerial lifts where tie-off is required by the manufacturer. See your supervisor for project requirements
   i) Adjacent to hazardous equipment
2. Fall protection systems may include a guardrail system, safety net, personal fall arrest system, hole covers, or fall restraint system.
3. You must receive training before using a harness, lanyard, or other type of fall protection system. If you have not received training or do not understand how to use your equipment, ask your supervisor.
4. Inspect your fall protection equipment before each use. Never use damaged equipment.
5. When storing your harness, lanyard, and other fall protection equipment, hang it in a secure location. Do not put it in the bottom of a gang box or anywhere else it can get damaged.
6. Anchorage points must be able to hold at least 5,000 pounds per person attached. Ask your supervisor if you're unsure about an anchorage point.
7. Minimize freefall distance by placing your anchorage above you. Make sure you cannot contact a lower level in the event of a fall. Maintain

at least 18 ½ feet of free fall distance when using a shock absorbing lanyard.

8. Side “D” rings are for positioning only (restricts fall to 2 feet or less).
9. The rear “D” ring in the back is to be connected directly to a lanyard or self-retracting lifeline for 100% fall protection. Generally, back “D” rings can only have one snap hook attached to them at a time and should be positioned between your shoulder blades.
10. Be familiar with the fall rescue plan for your assigned task. If you are not familiar with it, ask your supervisor.

B. Guardrails

1. Do not remove a guardrail without permission from your supervisor.
2. Do not cross a guardrail without permission from your supervisor. You must wear additional fall protection equipment such as a harness and lanyard.
3. Runways shall be guarded by a standard railing on all open sides four feet or more above ground level. Wherever tools, machine parts, or materials are likely to be used on a runway, a toe board shall be provided on the exposed sides.
4. Top rails must be capable of supporting 200 pounds of force and midrails must be able to support 150 pounds of force. This generally requires a minimum of two fasteners (nails or screws) at each connection that are flush with the lumber.



5. Wooden guardrails must be constructed with lumber free from knots, cracks, and splinters.

C. Holes and Openings

1. All holes or openings 2 inches or more in their least dimension, in a floor, roof, or other walking or working surface will be provided with a cover,

guardrail, or equivalent protection. Please note that some facilities (General Industry) may require protection at 1 inch or greater.

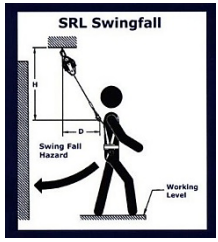
2. Avoid driving over any hole cover with equipment.
3. Placement of Covers
   a) Covers must be cleated, wired, or otherwise secured so they cannot be displaced horizontally beyond the hole.
   b) Openings large enough for a person to fall through must have covers secured using fasteners or other equivalent protection to keep people from inadvertently picking up the cover.

   c) Openings that present a fall-through hazard must be labeled with our standard sign or stencil indicating a floor, roof, or wall opening.
   d) Hole covers must extend adequately beyond the edge of the hole.
   e) Covers must be able to support 2 times the maximum intended load. This includes personnel walking or working in the area, equipment, tools, and material.

4. Do not remove a hole cover without permission from your supervisor.
   a) If you remove or alter a hole cover to perform work, you are responsible to protect the fall exposure prior to, during, and after work is completed. Never leave an open hole unattended.

5. Skylights must be guarded by a standard skylight screen, fixed standard railing on all sides, or other acceptable method that is capable of withstanding 200 pounds. Note: California regulations may be more stringent.

D. Self Retracting Lifelines (SRL)

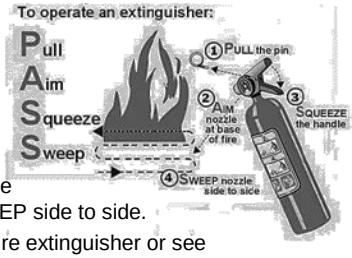


1. Connect the SRL directly to the “D” ring on your back.
2. Avoid swing fall exposures by positioning the SRL properly.
3. Read the SRL warning label to determine the proper use of the device in a vertical or horizontal position.
4. Minimize freefall distance by placing your anchorage above you. Make sure you cannot contact a lower level in the event of a fall.

XV. FIRE PROTECTION

A. Fire Extinguishers

1. When performing hot work, a fire extinguisher dedicated to that operation must be within 30 feet.
2. If you see a fire, report it to your supervisor immediately.
3. If comfortable, for small fires, use the PASS method. Stand back and PULL the pin, AIM low at the base of the fire, and SQUEEZE the handle. SWEEP side to side.



4. If you use a fire extinguisher or see one that has been discharged, report it to your supervisor so it can be replaced

B. Combustibles

1. Keep cardboard, paper, and other combustible materials away from heat sources.
2. Before performing any hot work, check to see if there is any combustible material in the area or below you. Keep combustible material away from hot work.

C. Flammable and Combustible Liquids

1. Gasoline can only be stored in an approved metal safety can.
    a) The self-closing lid must function properly, and the flash screen at the throat of the c must be installed and undamaged. Plastic gas cans are not allowed.

2. Do not refill gas cans in the back of truck beds. Place gas cans on the ground for refueling.
3. Store flammable liquids in cabinets rated for storage of combustibles.
4. Flammables must be stored at least 50 feet away from a building.
5. Keep open flame, hot work and other heat sources at least 50 feet away from flammable and combustible liquids.
6. “DANGER: NO SMOKING” signs must be placed at flammable storage areas.
7. Dispose of rags with flammable or combustible liquids in approved containers.

XVI. HAZARD COMMUNICATION

A. Safety Data Sheets (SDS)

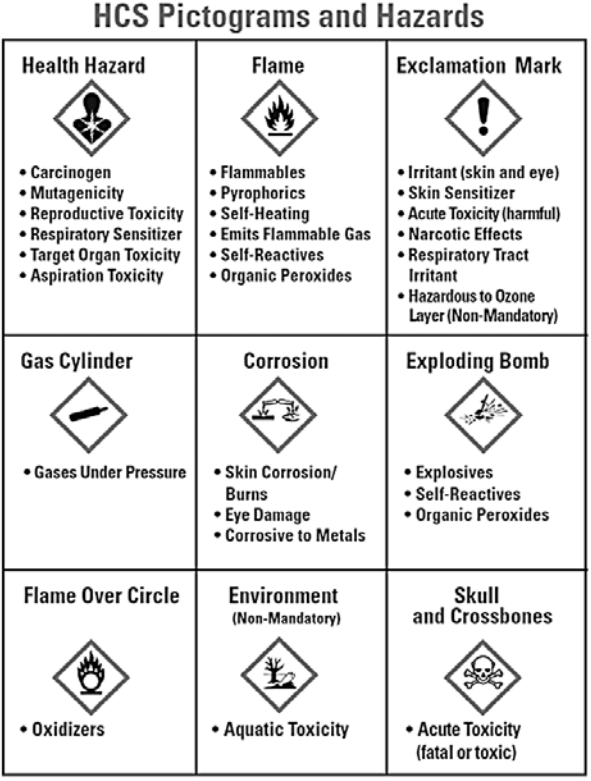
1. The SDSs for your project are kept in the Hensel Phelps office. You have the right to access these at any time.
2. Review the SDS for a product or chemical prior to use.
    a) If you have any questions or do not understand how to use the product safely, contact your supervisor.

B. Labeling

1. All chemicals must have the manufacturer supplied label. A secondary container can be used if they are appropriate for the chemical, labeled, and limited to store one-day worth of product.

C. Pictograms

1. The following pictograms are on chemical labels and provide warnings that you need to follow when working with chemicals.



XVII. LADDERS

A. General Information

1. You must be trained and understand how to safely use a ladder before use.
2. Inspect the ladder before use. Never use a damaged ladder. Tag the ladder “DO NOT USE” and report it to your supervisor immediately.

3. Ladders must be set up on firm, level, and stable surface. Access at the top and bottom of the ladder must be kept clear and free of trip hazards.
4. If it is necessary to place a ladder in a doorway, barricade the door and post warning signs.
5. Review and follow manufacturer guidelines.
6. Check the capacity of the ladder and verify that you will not exceed it. Be sure to include the weight of any tools or material that you will be handling.

Heavy-duty use

Extra-heavy duty use

7. Ladders must be rated as Type I or greater.
8. When handling material, consider using a boom lift or scaffold instead of a ladder.
9. Do not paint or modify ladders.
10. Ladders can only be used for their designed purpose. As an example, do not use ladders for skids, braces, workbenches, or scaffold plank supports.
11. Do not carry anything in your hands when climbing up or down a ladder. Maintain at least 3 points of contact. If necessary, use a rope to raise tools or equipment to an elevated level.
12. Face the ladder at all times.
13. Portable metal ladders are not allowed.

14. Keep your body within the rails of the ladder. Do not reach out too far.
15. Fall protection is required when working in areas near a shaft, over a guardrail, or adjacent to stairs. Check with your supervisor.

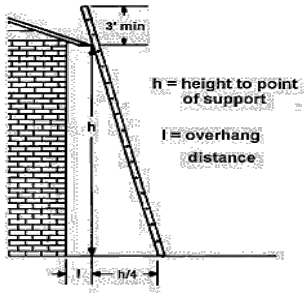
16. An alternative may be to work from a rolling scaffold or scissor lift.

B. Step Ladders

1. Step ladders must be fully opened with the spreaders locked in place. A step ladder should never be leaned against a wall.
2. Do not stand on or above the top rung. Follow the warning label for maximum working height.
3. Do not straddle a ladder.
4. Do not leave tools or material on the top cap of the ladder.
5. Do not sit or stand on the top cap of the ladder.
6. Only stand and climb on designated ladder rungs.

C. Straight and Extension Ladders

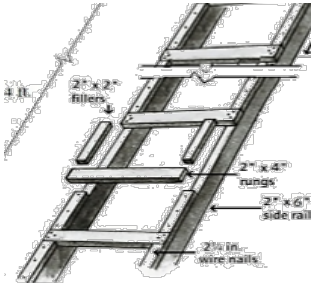
1. Do not set up ladders near live overhead power lines.
2. Set up ladders at a 4:1 ratio.
3. Ladders used to access an elevated level must extend at least 3 feet above the landing.



4. Secure ladder at the top and the bottom.
5. Do not separate extension ladders.
6. Maintain the rope and pulley system on extension ladders.
7. Once an extension ladder has been raised to the desired height, check to see that the safety latches are engaged.
8. Maintain adequate overlap of extension ladder sections. Manufacturer requirements may vary, but generally require 3 or 4 rungs of overlap.
9. Do not stand on the top 3 steps of an extension ladder.

D. Job-Made Ladders

1. Only trained and authorized personnel can construct job-made ladders.
2. Job-made ladders must be made in accordance with applicable OSHA requirements.
3. Use of job-made ladders is the same as straight ladders.



4. Side rails:
   a) Use construction-grade lumber for all components.
   b) Side rails of single-cleat ladders up to 24 feet long should be made with at least 2-inch x 6-inch nominal stock lumber.
   c) Side rails should be continuous, unless splices are the same strength as a continuous rail of equal length.
   d) The width of single-rung ladders should be at least 16 inches, but not more than 20 inches between rails measured inside to inside.
   e) Rails should extend above the top landing between 36 inches and 42 inches
   f) Cleats must be eliminated above the landing level.
5. Cleats:
   a) Cleats should be equally spaced 12 inches on center from the top of one cleat to the top of the next cleat
   b) Cleats should be fastened to each rail with three 12d common wire nails which are nailed directly onto the smaller surfaces of the side rails.
   c) Do not make cuts in the side rails to receive the cleats.
   d) Cleats should be at least 1-inch x 4 inches for ladders 16 feet to 24 feet in length.
6. Filler Blocks:
   a) Filler should be 2-inch x 2-inch wood strips.

b) Insert filler between cleats.
c) Nail filler at the bottom of each side rail first. Nail the ends of a cleat to each side rail with three 12d common nails. One nail is placed 1-1/2 inch in from each end of the filler block.
d) Nail the next two fillers and cleat, and then repeat. The ladder is complete when filler is nailed at the top of each rail.
e) Make all side rails, rungs and fillers before the ladder is assembled.

XVIII. LOCK OUT TAG OUT

1. Lock out tag out is used to control potentially hazardous energy before someone works on a system or piece of equipment.

Examples of systems that require lock out tag out include:

a) Live electrical systems
b) Hydraulic systems
c) Steam
d) Systems with an engulfment hazard
e) Maintenance work
f) Mechanical systems
g) Areas where equipment could potentially move (e.g., elevator pits, adjacent to personnel hoists).

2. Only trained and authorized personnel may apply a lock and tag.
3. Never turn on a system that has a lock or tag. Do not remove someone else's lock or tag.

XIX. PERSONAL PROTECTIVE EQUIPMENT

A. Eye and Face Protection

1. Industrial grade safety glasses with rigid side shields meeting the ANSI Z87 standard are required at all times. Prescription eyewear must meet the same standard and be equipped with rigid side shields in order to be worn. The Z87 rating must be clearly stamped on the eyewear in order to be worn on the project.

   a) Standard (street grade) prescription lenses do not provide sufficient protection. Therefore, over-the-glass style industrial grade safety glasses or mono-goggles must be worn at all times over street grade prescription lenses being worn by anyone on the project.

2. Burning goggles, glasses or shields:
   a) Required for all gas burning operations. Safety glasses or sun glasses are prohibited during these operations.
   b) Refer to the Welding Operation Shade Number Chart for minimum shade number located in the Welding and Burning section (XXVIII).

3. Coverall (mono-goggles) must be worn for activities where safety glasses may not provide adequate protection. Activities that require mono-goggles include, but are not limited to:

   a) Overhead drilling, power chipping, and grinding.
   b) Carpentry sawing operations when windy.

      (4) When using compressed air or when windy conditions could blow debris into your eyes.

      (5) Using certain chemical products like corrosive liquids. Remember to review the Safety Data Sheet (SDS) prior to working with any chemical and to follow manufacturer recommendations.

(6) Do not wear contact lenses while using hazardous chemicals.

(7) The use of a face shield is not a substitute for mono-goggles.

4. Face shields must be worn in conjunction with the required eye protection for added face protection when:

a) Working with acids or hazardous liquids.
b) Performing grinding operations.
c) Chipping concrete.
d) Hoseman, nozzleman, and vibrator operators are placing concrete.
e) Using a chainsaw.

B. Foot Protection

1. Work boots are required at all times. Some projects require additional safety toe protection. Tennis shoes, loafers, sandals, and other non-construction rated footwear is not allowed.
2. Additional metatarsal guards will be worn when operating jumping jacks, tampers, jack hammers, walk-behind rollers, and other operations where the top of the foot may be injured.
3. Chemical protective boots must be worn if working around chemically hazardous conditions.

4. When placing concrete, wear rubber boots with pants tucked in and the tops taped with impermeable tape to prevent concrete from entering the boot.

C. Head Protection

1. Inspect your hard hat before each use.

a) Replace the suspension system at least annually and the shell at least every 5 years.
b) Do not alter the hard hat in any way.

2. Wear your hard hat with the brim to the front to protect the eyes and face.
3. Only manufacturer approved items may be worn under the hard hat such as winter liners. Baseball caps, stocking caps, and sweatshirt hoods are not allowed.

D. Hand Protection

1. Wear gloves at all times while using tools, handling materials, or doing any activity that could injure your hands or fingers.
    a) Do not use gloves if prohibited by the tool manufacturer or if the gloves create a greater hazard.
2. Inspect your gloves before use and notify your supervisor immediately if your gloves are damaged.
3. Use tool holders when driving stakes or wedges, or when holding star drills, bull points, or similar driven tools.
4. Select the correct glove for each type of operation. Examples include:

Operation	Glove Type	Notes
Carpentry	Leather, synthetic leather, or Kevlar	Full finger or framer style with half finger
Concrete	Chemical resistant	Tape gloves around cuff opening to keep concrete away from skin
Grinding	Leather or synthetic leather	Gloves must protect the entire hand
Labor	Leather or synthetic leather	Full fingers
Rigging	Leather or synthetic leather	Full fingers
Sweeping and light clean-up	Rubber coated fabric	Full fingers
Welding	Insulated leather	Wear a gauntlet to protect forearms
It is suggested that gloves meet a minimum level of ANSI Cut Resistance A4 and Puncture 2. There may be a case where a specific glove is required for certain tasks (i.e. welding gloves, chemical gloves, concrete work, etc.). These will be reviewed on a case by case basis.		

E. Hearing Protection

1. As a general rule, wear hearing protection if you have to shout to be heard a few feet away.
2. Ear plugs or ear muffs are required in loud areas and when using loud tools or equipment.

3. Insert and wear your ear plugs properly (shown below).

F. High Visibility Vests

1. High visibility vests (or work garments) are required when working around earthmoving or heavy equipment.
2. Flaggers must wear a minimum ANSI Class II vest when exposed to traffic.

G. Leg Protection

1. If you are performing specialized work like working with a chain saw, welding, using brush hooks, or when there is a possibility of snake bites, wear leg protection (chaps).
2. Never carry sharp or pointed tools in your pockets.

H. Respiratory Protection

1. Respirators should only be used when engineering controls do not effectively control the hazard to an acceptable level.
2. Before you can wear any type of respirator, including an N-95 respirator, you must:

   a) Pass a medical evaluation.
   b) Be tested to ensure a proper fit.
   c) Receive training from your supervisor.
   d) Check with your supervisor if you wish to wear a respirator voluntarily.

3. Only use a respirator that has NIOSH approval.
4. You must be clean shaven and not have any facial hair that will interfere with the seal of the respirator.

I. Skin Protection

1. Protect your skin from thermal and radiant burns with the use of protective clothing and/or sunscreen.

XX. POWERED INDUSTRIAL EQUIPMENT

A. General

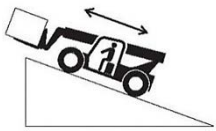
1. Only qualified and authorized employees may operate equipment.
2. Stay away from moving equipment and out of pinch points.
3. Inspect the machine at the beginning of each shift and notify your supervisor of any concerns. Never use an unsafe piece of equipment.
4. Tag and take defective equipment out of service immediately.
5. Backup alarms must be operational and able to be heard above surrounding noise.
6. Never allow riders on the machine.
7. Make sure the operator's manual and load chart is available on the machine.
8. Wear your personal protective equipment within the cab unless all doors and windows are closed and the cab is fully enclosed.
9. All lifting equipment, including spreaders, must have the capacity clearly marked on the equipment.
10. Equipment attachments must be allowed by the manufacturer.
11. Do not modify equipment.

B. Operating Practices

1. If supplied, wear the seatbelt at all times.
2. Prior to backing, look behind you. Do not rely on the backup alarm to warn people of your movement.

3. Before digging, know the location of all aboveground and underground utilities. Ensure they are properly marked. A dig permit is required before digging.
4. Use a spotter in tight or congested areas.
5. When driving, keep the boom, blade, or bucket low to the ground to improve stability and to avoid hitting overhead obstructions.
6. Keep the machine far enough away from trenches to keep them from collapsing.
7. Start and stop the machine from the operator's seat.

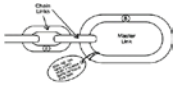
8. Before starting, ensure the brakes are set, transmission in park, blades / buckets lowered, controls are in neutral, and the area is cleared of people.
9. Park equipment on a surface and lower the blades / bucket or boom. Set the parking brakes and put the controls in park / neutral.



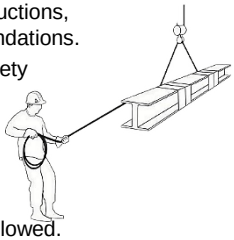
10. When traveling with a load on a hill or incline, keep the load facing uphill.

XXI. RIGGING

1. Only qualified and authorized personnel may perform rigging.
2. Use leather or synthetic leather gloves when performing rigging operations.



3. Inspect slings and lifting hardware before each use. Never use a sling or lifting device that is damaged or missing the manufacturer supplied tag or label. All tags and labels must be legible.
4. Do not work or pass under a suspended load.
5. Use a tag line to control the load. Keep yourself away from the suspended load. Do not wrap the tag line around body parts.
6. Use softeners around corners and sharp configurations that could reduce the sling's capacity.
7. Follow manufacturer instructions, limitations, and recommendations.
8. All hooks must have a safety latch. An exception to this is shakeout hooks used to unload material that is not being lifted overhead.



9. Job-made rigging is not allowed.

XXII. SCAFFOLDS

1. Do not access any scaffolds unless you have received scaffold training.
2. A competent person must inspect each scaffold before use. Make sure the competent person has performed this inspection before accessing the scaffold.

   a) A scaffold tag must be at each access point.

      (1) A green tag with a current inspection noted on the tag indicates the scaffold is safe for use.

      (2) A red tag indicates that the scaffold is not safe.

3. Never access an unsafe (red tag) scaffold. If you see any concerns while working on a scaffold, stop work and notify the competent person immediately.
4. Do not work on scaffolds during high winds, during storms, or when covered with ice or snow.
5. Watch for the following items:
   a) Guardrails are provided at heights above 6 feet and located at 42 inches with a midrail. Cross braces cannot be used as a complete guardrail system. They can be used as either a top rail or mid rail, but not both.
   b) Scaffold is fully planked with no holes or openings.
   c) Scaffold planks deflecting more than 1/60 of their span when loaded.
   d) Cracks and saw cuts on the scaffold plank.
   e) The base of the scaffold is on firm footing (baseplates with mudsills or casters).
   f) Adjusting screws must not be overextended. As a general rule, no more than 12 inches of thread should be showing.
   g) A stair tower or ladder is provided.
   h) Debris, tools and material are not accumulating on the scaffold.
   i) The scaffold is supported to keep from falling by means of ties to the structure or bracing. Note this is only required if the scaffold

exceeds a 4:1 height to width ratio (3:1 in California).

j) The scaffold is level, square, and plumb.

k) Toeboards or adequate falling object protection is provided when personnel pass next to or under the scaffold.

l) All wheels must be locked on mobile scaffolds.

6. Do not change or modify the scaffold unless you are trained and authorized by the competent person.
7. Planks must be scaffold grade. Manufactured aluminum planks can only be used on scaffolds designed for their use.
8. Scaffold parts and sections made by different manufacturers cannot be used together unless the components fit together without force and the structural integrity is maintained.
9. Use designated ladders or stairs to access scaffolds. Never climb on the frame, guardrails, or cross braces. Some scaffold frames are designed to be climbed—check with your supervisor.
10. Do not rig from any scaffold member unless it is designed for that purpose.
11. Work on suspended scaffolds requires specialized training. Personnel are required to have guardrails and tie off on suspended scaffolds.
12. Mobile scaffolds are required to have a diagonal brace or decking installed in accordance with manufacturer recommendations to prevent racking.

XXIII. SIGNAGE

1. Read and follow warnings on signage placed around the project.
2. Install required signage before work begins and remove them once the task is complete.

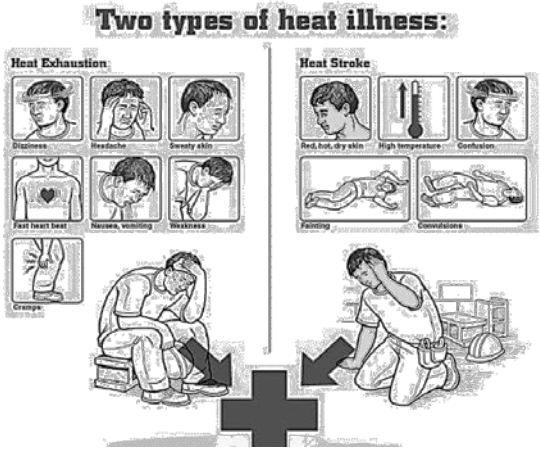
3. If a sign is illegible, notify your supervisor.

4. Activities that require signage include:
    a) Laser use
    b) Welding operations
    c) Work in controlled access zones
    d) Work with Powder-Actuated Tools
    e) Other hazardous locations and operations

XXIV. TEMPERATURE STRESS

A. Heat

1. All employees will be supplied potable water. Drink plenty of water throughout the day to stay hydrated. This is especially important on hotter days.
    a) Energy drinks, coffee, and alcohol will dehydrate you, even if consumed the day before coming to work. Avoid these types of drinks and drink water frequently throughout the day.
2. Know where the project's shade sources are located and take breaks to cool off. You may need to take more frequent breaks during heat waves.
3. If you or someone you work with is experiencing any signs of a heat related emergency, contact your supervisor immediately.



B. Cold

1. Low temperatures, high/cool wind, dampness and cold water can lead to serious cold related illness. To avoid cold related illness, wear at least 3 layers of clothing, as follows:
   a) An outer layer to break the wind.
   b) A middle layer of wool or synthetic fabric to absorb sweat and retain insulation in a damp environment.
   c) An inner layer of cotton or synthetic weave to allow ventilation.

XXV. TOOLS

A. General

1. If you have not received training on a tool or do not fully understand how to use the tool safely, talk to your supervisor.

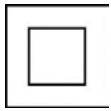
2. Inspect tools before each use. Never use a tool that is damaged, worn, split, mushroomed, or that is missing a safety device. If you find a tool that is damaged or missing a safety device, immediately take it out of service by tagging it and reporting it to your supervisor.
3. Follow manufacturer recommendations and limitations of the tool. The owner's manual must be available for review.
4. Use gloves to protect your hands. Make sure the gloves are right for the job and appropriately sized so they do not become snagged on a tool.
5. Do not modify tools.
6. Guards and handles that are supplied by the manufacturer must not be removed or modified.

B. Power Tools

1. Power tools that rotate, such as drills, impact wrenches and saws, may jam. Keep hands on handles and designated hand hold areas of the tool.

2. Keep hands out of pinch points to avoid pinch / crush type injuries.
3. Be ready to release the power switch or trigger. Do not use a tool that can be locked in the on position.

4. Watch for coasting and idling of tools and always pick a tool up by its handle.
5. Keep moving parts directed away from your body.
6. Do not perform repairs on a tool or piece of equipment. Only qualified personnel may make repairs.
7. Never touch a moving part of a tool, work on a tool, or adjust a tool unless the power source is disconnected and you follow proper lock out tag out procedures.
8. Do not wear loose clothing, jewelry, or dangling items.
9. Do not “swing around” with a running tool. There may be other people in the area.
10. Tools must be double insulated or grounded. Look on the tool for the symbol indicating it is double insulated (a box inside of a box).



11. Always use GFCI protection.
12. Use saw horses or a work table whenever possible.
13. Keep both hands on the tool. Secure the material or use clamps or vises to hold down material.
14. Never cut over your foot or any other body part.

C. Powder-Actuated Tools

1. Only trained and authorized personnel may use powder- actuated tools. Users must have the operator card with them during use.
2. Tools will not be loaded until ready for use.
3. Loaded tools will not be left unattended.
4. Do not point loaded tools at other personnel.
5. Bullet strips must be disposed of and stored in proper locations.
6. Strips must be disposed of in accordance with the SDS. Do not store them in water or place them in the trash.

D. Pneumatic Nail Guns

1. Only trained and authorized personnel may use pneumatic nail guns.
2. Inspect the tool before each use to ensure that the tool and all safety devices are operating properly. Never use a tool that is not working properly or is damaged.

3. All pneumatically driven nail guns and staplers are to be operated and maintained according to the manufacturer's instructions. The owner's manual must be available for review.
4. Operating controls are not to be removed, tampered with, altered, or otherwise disabled.
5. Nail guns and staplers must be disconnected from the air supply when performing maintenance or clearing a jam. Be sure to depress the trigger to ensure all air is exhausted from the tool.
6. Safety glasses with side shields must be worn.
7. Secure air hoses at roof / deck level and provide ample, but not excessive, amounts of hose.
8. Never carry the tool by the hose or carry the tool with your finger on the trigger.
9. Never fire the tool unless the nose is placed firmly against the work surface.
10. Never rest the tool against any part of your body.
11. Keep your hand and other body parts away from the nose of the tool.
12. Always assume the tool contains fasteners and never point it at yourself or anyone else.
13. Never secure the trigger in the on position.
14. Operate the tool within the manufacturer's specified air pressure range.

E. Table Saws

1. All users of table saws shall be trained prior to operating table saws, to include reading the manufacturer's instructions.
2. Inspect the table saw before each use. Any table saw deemed unsafe or unserviceable upon inspection shall be immediately removed from service and tagged "DO NOT USE".
3. Do not allow dust to accumulate in the saw. Frequently clean out sawdust and chips from moving parts and inside the saw after the saw has been unplugged and you verify power is disconnected.
4. Table saws must be secured on a stable saw stand, work bench, or work table.
5. All supplied and necessary saw blades, fences, riving knives/spreaders, and guards shall be installed based on manufacturer recommendations.

6. Work areas must be kept clean. Before starting saw, clear table of all tools and scraps. Only the workpiece and feed/support devices should be present on the table.
7. Guards shall be kept in place and in good working order while operating the table saw.
8. Do not wear loose fitting clothing or jewelry that could get caught in moving parts.
9. Secure work using clamps and other work helpers.
10. Before beginning work, ensure a minimum of one of each type of work helpers (e.g. push sticks, push blocks, featherboards) are present and available.
11. Do not make freehand cuts.
12. Do not leave running table saws unattended.
13. Keep hands and body out of the line of saw blades. Never reach around or over the saw.
14. Never touch or hold onto the free end (cut off end) of a workpiece while saw is "ON" or while the blade is rotating.
15. Turn table saw power switch to "OFF" position and unplug table saw prior to performing inspections or maintenance.
16. Always keep hands away from the guard while the saw is in operation.

XXVI. TRAFFIC CONTROL

1. Only trained and authorized personnel are allowed as flaggers.
2. Anyone exposed to vehicular traffic must wear, at a minimum, an ANSI Class II high visibility safety vest.
3. Wear additional protection when exposed to traffic in conditions that make visibility difficult or when exposed to high speeds. Examples include night operations and foggy conditions.

XXVII. VEHICLES

1. Only trained and authorized personnel may operate company vehicles and equipment.
2. Inspect the vehicle before each use. Do not operate any vehicle that is unsafe.
3. Wear your seatbelt at all times.
4. Follow speed limit and other regulatory signs.

5. Where practical, park so you do not have to back out. Use a spotter to direct the backing of a vehicle in a congested area.
6. When fueling, shut off the vehicle and do not get back inside the vehicle while refueling. Touching the nozzle could result in static electricity causing a fire and/or explosion.
7. Shut off the motor and set the brakes before leaving the vehicle.
8. Be aware of road hazards such as poor weather conditions, traffic, and wildlife. Use high beam headlights when necessary and reduce speed in these areas.
9. Unless trained and authorized by the District Manager, drivers of company vehicles must not tow, push, or pull another vehicle, piece of equipment, or trailer.
10. Secure all loads being transported to prevent movement and rolling.
11. Flag all loads that extend beyond the bed of the truck with a red flag. Extended loads (side or back) must be identified at night by means of red reflector lights.
12. The use of wireless communication devices, such as cell phones, except those equipped with “hands-free devices,” are prohibited while driving.
13. Texting, emailing, or other such actions are prohibited while employees are operating a company vehicle.

XXVIII. WELDING AND BURNING

A. General

1. Only trained and authorized personnel can perform welding operations.
2. Before doing any welding or burning, obtain a hot work permit and post it in the area.
3. Welding leads and hoses must be kept out of passageways and access areas.
4. Inspect all equipment before use for damage.
5. Check with your supervisor for ventilation and respiratory protection requirements.
6. Do not weld inside a confined space such as a vessel or tank without following our confined space procedures.

7. Welding sparks and slag must be contained. Keep flammable and combustible material away.
8. A fire watch is required for 30 minutes after the welding operation is complete. Some projects may require a fire watch for a longer period of time.
9. Wear flame resistant clothing.
10. Use welding screens to protect other workers in the area.
11. Wear the appropriate welding hood, goggles, or glasses with the correct shade number on the filter.

Welding Operation Shade Number Chart

Welding Operation	Size	Shade #
Soldering		2
Torch brazing		3 or 4
Light cutting	Up to 1 in.	3 or 4
Medium cutting	1 to 6 in.	4 or 5
Heaving cutting	6 in. and over	4 or 5
Gas welding (light)	Up to 1/8 in.	4 or 5
Gas welding (medium)	1/8 to ½ in.	5 or 6
Gas welding (heavy)	½ in. and over	6 or 8
Shielded metal-arc welding	1/16, 3/32, 1/8, 5/32 in. electrodes	10

B. Gas Welding / Burning

1. Make sure a combination flash back arrestor and back flow preventer is installed between the gauges and hoses on the fuel and oxygen cylinders.
2. Before connecting regulators to cylinders, carefully crack open the cylinder valve to blow out any foreign particles.
3. Be certain the regulator is closed before opening the cylinder valve.
4. After regulator is connected, stand to one side of the gauge while the cylinder valve is opened. Open cylinder valve slowly.
5. Open valves on fuel gas cylinders one turn only.
6. Do not exceed 15 psi on the torch side of the gauge when using acetylene.
7. When lighting the torch, open the fuel gas valve on the torch before opening the oxygen valve. Use a spark/ friction lighter.
8. Burning rigs must be broken down at the end of the shift, with regulators removed, and protective

caps screwed down tight. Do not store them in a building under construction.

9. Store cylinders at least 20 feet apart when not in use.
10. Compressed gas cylinders must be stored upright in the designated area. They must be secured vertically to an adequate support and have the caps in place.
11. Keep oil and grease away from oxygen regulators, hose, and fittings. Do not store wrenches, dies, cutters, or other grease-covered tools in the same compartment with oxygen equipment.
12. Do not leave a torch in a vessel, tank, or other enclosed area because of a potential for leakage. Do not take cylinders into a confined space.
13. Place cylinders and hoses where they are not exposed to sparks and slag.
14. Do not use cylinders as rollers.
15. Lift cylinders with approved lifting devices only. Do not lift with slings or from the protective cap.
16. Do not transport, store, or carry cylinders with the regulators in place.

C. Electric Welding

1. All work must have an adequate ground.
2. Do not leave a rod in the electrode holder (stinger) when you lay it down.
3. Put stub ends in the proper container, not on the floor.
4. Use flash screens to protect other workers and the public from flash burns.
5. Where the leads connect to the machine, a rubber boot must be used to cover the connection.
6. There shall be no repairs on the welding lead within 10 feet of the end.

XXIX. WORKING ALONE

1. Have a good understanding of the jobsite hazards and risks you will be exposed to.
2. Know what to do in the event of an emergency or have emergency communication equipment (example: CELL PHONE with reception).
3. Make sure emergency communication equipment operates properly and that emergency numbers are accessible.

4. Make sure that someone else knows what you are doing, where you are working and when you will return. Communicate schedule changes with supervisor.
5. Communicate medical conditions that might increase the risk of working alone.
6. Know what to do and the steps to take when a problem is encountered.

XXX. Appendices

A. Table 1: Specific Exposure Control Methods - Silica

Equipment / Task	Engineering and Work Practice Control Methods	Required Respiratory Protection and Minimum Assigned Protection Factor (APF)	
		≤ 4 hours /shift	> 4 hours /shift
(i) Stationary masonry saws	Use saw equipped with integrated water delivery system that continuously feeds water to the blade. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions.	None	None
(ii) Handheld power saws (any blade diameter)	Use saw equipped with integrated water delivery system that continuously feeds water to the blade. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. − When used outdoors. − When used indoors or in an enclosed area.	None APF 10	APF 10 APF 10

Equipment / Task	Engineering and Work Practice Control Methods	Required Respiratory Protection and Minimum Assigned Protection Factor (APF)	
		≤ 4 hours /shift	> 4 hours /shift
(iii) Handheld power saws for cutting fiber-cement board (with blade diameter of 8 inches or less)	For tasks performed outdoors only: Use saw equipped with commercially available dust collection system. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. Dust collector must provide the air flow recommended by the tool manufacturer, or greater, and have a filter with 99% or greater efficiency.	None	None
(iv) Walk-behind saws	Use saw equipped with integrated water delivery system that continuously feeds water to the blade. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. − When used outdoors. − When used indoors or in an enclosed area.	None APF 10	None APF 10
(v) Drivable saws	For tasks performed outdoors only: Use saw equipped with integrated water delivery system that continuously feeds water to the blade. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions.	None	None

Equipment / Task	Engineering and Work Practice Control Methods	Required Respiratory Protection and Minimum Assigned Protection Factor (APF)	
		≤ 4 hours /shift	> 4 hours /shift
(vi) Rig-mounted core saws or drills	Use tool equipped with integrated water delivery system that supplies water to cutting surface. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions.	None	None
(vii) Handheld and stand-mounted drills (including impact and rotary hammer drills)	Use drill equipped with commercially available shroud or cowling with dust collection system. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. Dust collector must provide the air flow recommended by the tool manufacturer, or greater, and have a filter with 99% or greater efficiency and a filter-cleaning mechanism. Use a HEPA-filtered vacuum when cleaning holes.	None	None
(viii) Dowel drilling rigs for concrete	For tasks performed outdoors only: Use shroud around drill bit with a dust collection system. Dust collector must have a filter with 99% or greater efficiency and a filter-cleaning mechanism. Use a HEPA-filtered vacuum when cleaning holes.	APF 10	APF 10

Equipment / Task	Engineering and Work Practice Control Methods	Required Respiratory Protection and Minimum Assigned Protection Factor (APF)	
		≤ 4 hours /shift	> 4 hours /shift
(ix) Vehicle-mounted drilling rigs for rock and concrete	Use dust collection system with close capture hood or shroud around drill bit with a low-flow water spray to wet the dust at the discharge point from the dust collector. OR Operate from within an enclosed cab and use water for dust suppression on drill bit.	None None	None None
(x) Jackhammers and handheld powered chipping tools	Use tool with water delivery system that supplies a continuous stream or spray of water at the point of impact. − When used outdoors. − When used indoors or in an enclosed area. OR Use tool equipped with commercially available shroud and dust collection system. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. Dust collector must provide the air flow recommended by the tool manufacturer, or greater, and have a filter with 99% or greater efficiency and a filter-cleaning mechanism. − When used outdoors. − When used indoors or in an enclosed area.	None APF 10 None APF 10	APF 10 APF 10 APF 10 APF 10

Equipment / Task	Engineering and Work Practice Control Methods	Required Respiratory Protection and Minimum Assigned Protection Factor (APF)	
		≤ 4 hours /shift	> 4 hours /shift
(xi) Handheld grinders for mortar removal (i.e., tuckpointing)	Use grinder equipped with commercially available shroud and dust collection system. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. Dust collector must provide 25 cubic feet per minute (cfm) or greater of airflow per inch of wheel diameter and have a filter with 99% or greater efficiency and a cyclonic pre-separator or filter-cleaning mechanism.	APF 10	APF 25

Equipment / Task	Engineering and Work Practice Control Methods	Required Respiratory Protection and Minimum Assigned Protection Factor (APF)	
		≤ 4 hours /shift	> 4 hours /shift
(xii) Handheld grinders for uses other than mortar removal	For tasks performed outdoors only: Use grinder equipped with integrated water delivery system that continuously feeds water to the grinding surface. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. OR Use grinder equipped with commercially available shroud and dust collection system. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. Dust collector must provide 25 cubic feet per minute (cfm) or greater of airflow per inch of wheel diameter and have a filter with 99% or greater efficiency and a cyclonic pre-separator or filter-cleaning mechanism: − When used outdoors. − When used indoors or in an enclosed area.	None None None	None None APF 10

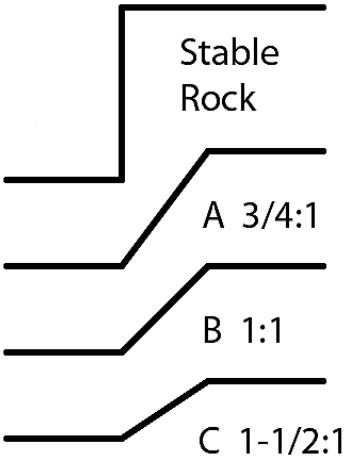
Equipment / Task	Engineering and Work Practice Control Methods	Required Respiratory Protection and Minimum Assigned Protection Factor (APF)	
		≤ 4 hours /shift	> 4 hours /shift
(xiii) Walk-behind milling machines and floor grinders	Use machine equipped with integrated water delivery system that continuously feeds water to the cutting surface. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions.	None	None
	OR Use machine equipped with dust collection system recommended by the manufacturer. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. Dust collector must provide the air flow recommended by the manufacturer, or greater, and have a filter with 99% or greater efficiency and a filter-cleaning mechanism. When used indoors or in an enclosed area, use a HEPA-filtered vacuum to remove loose dust in between passes.	None	None

Equipment / Task	Engineering and Work Practice Control Methods	Required Respiratory Protection and Minimum Assigned Protection Factor (APF)	
		≤ 4 hours /shift	> 4 hours /shift
(xiv) Small drivable milling machines (less than half-lane)	Use a machine equipped with supplemental water sprays designed to suppress dust. Water must be combined with a surfactant. Operate and maintain machine to minimize dust emissions.	None	None
(xv) Large drivable milling machines (half-lane and larger)	For cuts of any depth on asphalt only: Use machine equipped with exhaust ventilation on drum enclosure and supplemental water sprays designed to suppress dust. Operate and maintain machine to minimize dust emissions. For cuts of four inches in depth or less on any substrate: Use machine equipped with exhaust ventilation on drum enclosure and supplemental water sprays designed to suppress dust. Operate and maintain machine to minimize dust emissions. OR Use a machine equipped with supplemental water spray designed to suppress dust. Water must be combined with a surfactant. Operate and maintain machine to minimize dust emissions.	None None None	None None None

Equipment / Task	Engineering and Work Practice Control Methods	Required Respiratory Protection and Minimum Assigned Protection Factor (APF)	
		≤ 4 hours /shift	> 4 hours /shift
(xvi) Crushing machines	Use equipment designed to deliver water spray or mist for dust suppression at crusher and other points where dust is generated (e.g., hoppers, conveyers, sieves/sizing or vibrating components, and discharge points). Operate and maintain machine in accordance with manufacturer's instructions to minimize dust emissions. Use a ventilated booth that provides fresh, climate-controlled air to the operator, or a remote control station.	None	None
(xvii) Heavy equipment and utility vehicles used to abrade or fracture silica containing materials (e.g., hoe-ramming, rock ripping) or used during demolition activities involving silica-containing materials	Operate equipment from within an enclosed cab. When employees outside of the cab are engaged in the task, apply water and/or dust suppressants as necessary to minimize dust emissions.	None None	None None

Equipment / Task	Engineering and Work Practice Control Methods	Required Respiratory Protection and Minimum Assigned Protection Factor (APF)	
		≤ 4 hours /shift	> 4 hours /shift
(xviii) Heavy equipment and utility vehicles for tasks such as grading and excavating but not including: demolishing, abrading, or fracturing silica containing materials	Apply water and/or dust suppressants as necessary to minimize dust emissions. OR When the equipment operator is the only employee engaged in the task, operate equipment from within an enclosed cab.	None None	None None

B. Soil Types / Sloping and Shoring



Soil Classification Chart	
Soil Type	Description
A	Cohesive soils with an unconfined, compressive strength of 1.5 ton per square foot (tsf) (144 kPa) or greater. Examples of cohesive soils are: clay, silty clay, sandy clay, clay loam and, in some cases, silty clay loam and sandy clay loam. Cemented soils such as caliche and hardpan are also considered Type A. However, no soil is Type A if: • The soil is fissured; or • The soil is subject to vibration from heavy traffic, pile driving, or similar effects; or • The soil has been previously disturbed; or • The soil is part of a sloped, layered system where the layers dip into the excavation on a slope of four horizontal to one vertical (4H:1V) or greater; or • The material is subject to other factors that would require it to be classified as a less stable material.
B	• Cohesive soil with an unconfined compressive strength greater than 0.5 tsf (48 kPa) but less than 1.5 tsf (144 kPa); or • Granular cohesionless soils including: angular gravel (similar to crushed rock), silt, silt loam, sandy loam and, in some cases, silty clay loam and sandy clay loam. • Previously disturbed soils except those which would otherwise be classed as Type C soil.

	• Soil that meets the unconfined compressive strength or cementation requirements for Type A, but is fissured or subject to vibration; or • Dry rock that is not stable; or • Material that is part of a sloped, layered system where the layers dip into the excavation on a slope less steep than four horizontal to one vertical (4H:1V), but only if the material would otherwise be classified as Type B.
C	• Cohesive soil with an unconfined compressive strength of 0.5 tsf (48 kPa) or less; or • Granular soils including gravel, sand, and loamy sand; or • Submerged soil or soil from which water is freely seeping; or • Submerged rock that is not stable, or • Material in a sloped, layered system where the layers dip into the excavation or a slope of four horizontal to one vertical (4H:1V) or steeper.
Soil classification can only be done by a competent person.	

NOTES

HENSEL PHELPS

This is to acknowledge that I have received this Hensel Phelps Code of Safe Practices and orientation of its contents and other safety and health rules and regulations. I also understand that it is a requirement of my employment to report any injury to my supervisor.

(Print) Last Name First Name Middle Name

Signed

Date Last 4 Digits of SSN

Position

Job Name & Number

This is to acknowledge that I delivered a Hensel Phelps Code of Safe Practices to the person who signed the above receipt, and that I gave this person an orientation on the contents of this handbook and other safety and health rules and regulations of the project.

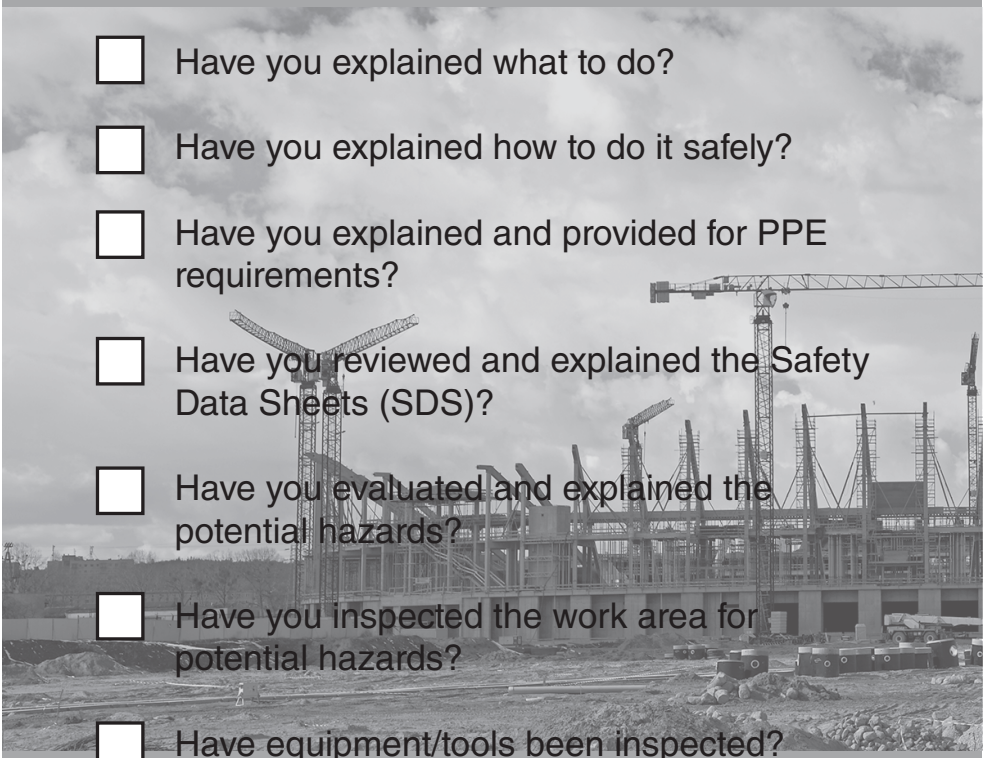
(Print) Witness

Signed Date

FILE ORIGINAL SIGNED COPY IN PERSONNEL FILE

STA CHECKLIST

- [ ] Have you verified there is an Activity Hazard Analysis (AHA) for this task?
- [ ] Have you evaluated the experience level of the employee?
- [ ] Have you explained what to do?
- [ ] Have you explained how to do it safely?
- [ ] Have you explained and provided for PPE requirements?
- [ ] Have you reviewed and explained the Safety Data Sheets (SDS)?
- [ ] Have you evaluated and explained the potential hazards?
- [ ] Have you inspected the work area for potential hazards?
- [ ] Have equipment/tools been inspected?
- [ ] Have you communicated expected results?
- [ ] Do they understand?
- [ ] Follow up and utilize SAFE.



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