

**COUNTY OF RIVERSIDE
STANDARD SAFETY OPERATIONS MANUAL**

DOCUMENT NUMBER: 1001	DATE ISSUED:
SUBJECT: General Safety Rules	EFFECTIVE DATE:
General Safe Work Procedures	REVISED DATE: 02/04/04

- PURPOSE:** To establish General Safety Rules for employee instruction and practice for safe operations.
- POLICY:** It is the County's intention to provide general safe work rules common to all employees.
- OBJECTIVE:** To provide general safety guidelines to assist employees in working in a safe and healthy manner.
- SCOPE:** Employees of all Departments, Agencies and Special Districts governed by the County of Riverside Board of Supervisors.
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**GENERAL SAFETY RULES
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**GENERAL SAFETY RULES
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I. INTRODUCTION

The General Safety Rules Section is an extension of the County of Riverside Safety Policy, Board of Supervisors Resolution Number 74-339. It provides minimum safety standards of a general nature for reference by County Supervisors of all levels and all employees.

II. GENERAL REQUIREMENTS

The General Safety Rules contained in this section are not considered to be a replacement for specific safety training of employees or the development of job specific safety procedures and guidelines by departments and agencies.

- A. Supervisors at all levels are responsible for the enforcement of safety rules among employees under their supervision. As such, supervisory personnel should review and discuss with their employees all rules which apply to the department or agency's specific operations.
- B. As a condition of employment, employees must obey all established safety rules and regulations.

III. GENERAL SAFETY RULES

A. Chemicals

- 1. Extreme care shall be exercised by all personnel handling or working with acids, caustics, solvents, petroleum products, chlorine or other gases. Employees shall be instructed as to the contents and use of the MSDS Program.
- 2. When mixing acid and water, always pour the acid into the water slowly. Never pour the water into the acid.
- 3. Tools must be handled carefully while working around acid or other chemicals to avoid dropping them where they may cause a splash.
- 4. After tools have been used near corrosive chemicals, clean them thoroughly by neutralizing them with lime or baking soda.
- 5. Employees must wear protective goggles, respiratory equipment, and protective clothing when the inhalation of fumes or hazardous substances or injurious bodily contact with acids or other corrosive materials may occur.
- 6. Wash out your eyes immediately with large quantities of clean water if chemicals splash into them. You must seek immediate medical attention from a doctor or emergency room.
- 7. All spilled acids or caustics must be cleaned up immediately. Spilled acid shall not be mopped up with organic materials such as sawdust, waste, or cloth. Only approved spill absorbent materials are to be used.
- 8. Containers of injurious chemicals or hazardous substances must be plainly labeled, indicating hazards and precautionary measures for use.

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- A. Chemicals - continued
 - 9. Only authorized personnel shall use pesticides, herbicides, fungicides, or any agricultural chemicals having critical toxicity ratings.
 - 10. Rules stating the proper safety equipment required will be posted in the area where chemicals, hazardous substances, pesticides, and herbicides are stored.
 - 11. Hazardous, flammable or explosive chemicals shall be stored in locked, earthquake-braced cabinets or enclosures to prevent unauthorized use and potential spills or release of toxic substances.

- B. Electricity
 - 1. Only authorized and qualified electricians shall make repairs or work on electrical equipment except for minor work, or low voltage fixtures.
 - 2. Steam, water or oil leaks near electrical equipment shall be reported immediately to the supervisor in charge.
 - 3. Electrical equipment which is heating excessively or sparking shall be shut off and an electrician called to correct the situation.
 - 4. Working surfaces shall be kept dry when working with, or near, electrical apparatus.
 - 5. All portable and fixed electrical equipment must be securely grounded before using.
 - 6. No untrained employee shall operate equipment or machinery within ten (10) feet of any high-tension power line.
 - 7. All electrical wires must be considered live until proven otherwise.
 - 8. A switch shall not be closed without full knowledge as to why the circuit is open. The tag on a switch shall be removed only by the person who tagged the switch open or an authorized relief person.
 - 9. Do not use any electrical equipment with frayed or otherwise deteriorated insulation.
 - 10. The use of make-shift or over-capacity fuses and circuit breakers is prohibited.
 - 11. No employee, except authorized electricians, shall work on live circuits.
 - 12. Employees should stand on insulating mats when operating electrical switch gear.
 - 13. No metal ladders shall be used within six feet (6) of live circuits.
 - 14. A clear space of at least three (3) feet shall be maintained in front of all electrical panels and switch gear.

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B. Electricity - continued

15. The green or ground wire on all portable tools and extension cords shall be securely fastened at both ends of the cord. The grounding prong on the cord plug shall not be removed nor bent aside to allow insertion in a two-prong receptacle.
16. Do not attempt to use or start any electrical equipment if your hands are wet or if you are standing on a wet surface.
17. All electrical cords must be protected from oil, chemicals, and rough surfaces.
18. Overloading of electrical outlets is prohibited.

C. Fire Prevention

1. No open flames or smoking shall be permitted in areas where flammable gases or liquids are stored or used. "No Smoking" signs shall be posted.
2. Flammable liquids shall be stored and properly labeled in approved safety cans. Drums of flammable liquids shall be stored in an upright position, and dispensing shall only be done with an approved crank-type pump. All drums of flammable liquids shall be properly grounded.
3. The dispensing of flammable liquids shall be done in an approved mixing and dispensing room or in the open and well away from open flames and other sources of ignition, and all containers shall be grounded or bonded.
4. Approved fire extinguisher (CO₂, dry chemical, Halon) shall be provided in all areas where flammable and combustible liquids are stored, dispensed, mixed or handled.
5. Open-flame heaters, including water heaters, shall be properly guarded and located. No clothing or combustible material shall be stored in close proximity to any open-flame or electric heater in such a manner as to permit ignition.
6. Care should be exercised in the correct location and selection of a proper type of fire extinguisher. Employees must know the location and proper use of fire extinguisher and hose lines.
7. In the event that circumstances require the use of CO₂ or Halon fire extinguisher in enclosed spaces or manholes, extreme caution shall be exercised to insure that no one enters the enclosed space until the carbon dioxide or Halon has been expelled by ventilation.
8. Carbon-dioxide, Halon or dry-chemical type fire extinguishers should be used on electrical fires. Water-type fire extinguishers shall not be used to fight electrical fires as the steam may conduct electricity. Halon is best for use on sensitive electronic equipment, such as computers.
9. All departments shall ensure periodic inspection and proper care of fire extinguishers. When an extinguisher appears to be in doubtful condition, it must be reported to the supervisor immediately. All fire extinguishers shall be serviced at least once a year and immediately after being used.

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C. Fire Prevention - continued

10. Exit signs and directional exit signs, when required, shall be properly maintained. Exit doors must be unlocked when the building is occupied and free passage to and through these exits must be maintained at all times. Know the exits from the building in which you work.
11. Passageways and work areas around fire-fighting equipment must be kept unobstructed at all times.
12. Oil and paint-soaked rags shall be stored in approved safety containers. Disposal of such rags shall be in safe receptacles placed outside the building daily, or in approved safety containers.
13. All waste materials, other than minor amounts in waste baskets in areas of constant supervision, shall be stored in covered metal or metal-lined receptacles or bins.
14. Report fires promptly to the Fire Department. Do not risk your life in trying to extinguish a fire which may get out of control.
15. Your job in fire prevention is to keep ignition sources that start fires away from things that burn.
16. If you see a fire hazard and cannot do anything about it, report it at once to your supervisor.
17. Before welding or cutting operations begin, all flammable and combustible items will be removed from the vicinity. An ABC class fire extinguisher should be readily available for emergency use.
18. Do not use gasoline or other highly flammable liquids for cleaning. Use only approved solvents.
19. All gasoline powered equipment should be refueled outdoors whenever possible or in a well-ventilated area. Vehicles should be turned off when refueling.

D. Gas Cylinders

1. Gas cylinders must not be stored in direct sunlight or any hot place.
2. Employees must not use a cylinder of compressed gas without reducing the pressure through a regulator attached to the cylinder valve or manifold.
3. Oil or grease shall not be used as a lubricant on valves or attachments of oxygen cylinders. Keep oxygen cylinders and fittings away from oil and grease. Do not handle such cylinders or apparatus with oily hands, gloves or clothing. Oil and oxygen can react.
4. Oxygen shall not be used as a substitute for compressed air in pneumatic tools, in fuel burners, to start internal combustion engines, or to dust clothing.

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D. Gas Cylinders - continued

5. Cylinders of oxygen, when stored indoors, shall be kept in areas separate from flammable gases and highly combustible materials, especially oil and grease.
6. Cylinders must be kept in an upright position in racks or stands, and chained or cabled to prevent their rolling or being knocked over.
7. Leather washers must never be used on gas cylinder valves. The regular fiber washer or gasket must be used.
8. The valve protector cap must be kept in place whenever cylinders are not in use.
9. Cylinders must never be used for other than their designated kind of gas. Gauges and other attachments must be approved for the type of gas used.
10. Do not stand in front of gauges when opening the discharge valve. Open the valve slowly.
11. Pressure-adjusting screws on regulators shall be fully released before the regulator is attached to a cylinder and the cylinder valve opened.
12. Before a regulator is removed from a cylinder valve, the cylinder valve shall be closed and the gas released from the regulator.
13. Handling of cylinders by cranes must be done only when the proper racks or spreader bars and hooks are used. Rope or wire slings are forbidden.
14. Remove regulators and place caps over valves when transporting cylinders by other than regular cylinder trucks.
15. Cylinders must never be dropped or treated roughly.
16. Chlorine cylinders and piping must be kept free of water and moisture to prevent formation of hydrochloric acid.
17. Inspect hose lines frequently for leaks. Do not place torches in cans or leave them in unventilated places.
18. Welders must be certain approved fire-fighting equipment is nearby before starting welding operations when working in the vicinity of flammable and combustible materials.
19. When a gas cylinder in a confined area has developed a leak, all pilot lights must be extinguished by shutting off the main gas meter. The main electric meter should also be shut off to prevent ignition of gas by pilots and sparks. The leaky cylinder should then be removed to an open area as soon as it is safe to do so. If a chlorine cylinder is leaking, clear the area, call the Fire Department for aid, and clear the downwind area using respiratory equipment. Using protective clothing and breathing equipment, attempt repairs, turning the leak to an up position if possible. Do not use water. CAUTION: Chlorine IS A HIGHLY POISONOUS SUBSTANCE.

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E. Hand Tools

1. Always use the proper tools for the job and examine them for flaws, correct sizes and cutting edges before using. If tools are found to be defective, return them and obtain proper tools before starting the job.
2. Pliers or cutters shall not be used on nuts, pipe fittings, etc. The wrench designed for the particular job shall be used.
3. Keep hand tools clean at all times to avoid slipping, glancing, etc.
4. Use wrenches of proper size for the job, and place them so the pull forces the jaws onto the nut or stud head.
5. Tools and mushroomed heads or hammers and other tools with split or loose handles shall not be used until repaired.
6. Files shall be used only when equipped with handles.
7. Normally, a piece of pipe is not to be used to extend a wrench handle for leverage. If such action becomes necessary, extreme caution should be exercised to prevent an accident.
8. Only spark-proof tools shall be used near explosives or in explosive atmospheres.
9. Sharp-pointed tools shall be carried in sheaths instead of loose in the pocket.
10. Whenever possible, only soft metal, hard rubber, or rawhide hammers shall be used for striking hardened steel or other brittle metals. Extreme caution shall be exercised when it is necessary to deviate from this general rule, such as when hammer and chisel are being used.
11. Keep hands out of the path of sharp tools. When using a knife or chisel, cut away from your body instead of towards it.
12. Do not leave tools lying where others can slip or trip over them.
13. Do not leave a chuck wrench in the chuck of a drill. Unplug the drill before replacing bits.
14. When using pneumatic tools, always shut off the air at the manifold and bleed the air hose before disconnecting the machine, hand tools, or air hose.
15. All portable air drills, air hammers, air chippers, etc., shall be equipped with a hand-grip switch which will shut off the supply of air when the grip is released. Periodic RPM tests should be made on air grinders.
16. Only trained, competent personnel (wearing necessary protective devices) shall operate drills, air hammers, and other power tools. Persons undergoing training (wearing protective devices) may operate such power tools under the supervision of a trained and experienced person.

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E. Hand Tools - continued

17. Guards shall be used on electric saws. Electric saws shall be unplugged before changing blades.
18. Safety glasses, protective clothing, gloves, steel toed boots, etc., appropriate to task must be used.
19. Employees shall not use power tools unless eye protection is worn.
20. No employee shall remove, displace or render inoperative, any guard, except cleaning and repair.
21. When cutting wire or strapping which is under tension and/or of a spring material, eye protection should be worn.
22. Power tools should not be used in areas where there are volatile flammables. Such tools should not be cleaned with highly flammable solvents.
23. The existence of explosive vapors in a room should be noted before beginning work. The selection and use of tools should be done to prevent the creation of sparks, unless the room or enclosure has been thoroughly ventilated.
24. Operate only those power tools you have been trained and authorized to use.
25. Electrically operated tools should be inspected to ensure that they have a ground, or are double insulated and that their cords are not defective.
26. Use only approved grounded extension cords with ground fault circuit interrupters (GFCI).

F. Housekeeping

1. Each employee is responsible for cleaning up his/her own work area.
2. Aisles and passageways shall not be used for the storage of stock.
3. Oil or grease, when spilled, shall be immediately wiped up or sprinkled with absorbent floor compound.
4. Gather all tools and return them to their proper places when you are done with them. Make sure that no tool or appliance has been left in any machine or other place where it might fall or cause damage when the power is turned on.
5. Walkways, stairs and fixed ladders shall be kept free of obstructions.
6. Return all surplus materials to stock or proper storage areas.
7. Your work and bench areas should be kept clean and neat. Keep tools and equipment arranged in a safe, orderly manner.
8. Remove handles from jacks when not in use.

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- F. Housekeeping - continued
 - 9. Welding cables, electric cords, air lines, etc., should be kept off floors by use of trees and hooks whenever possible.
 - 10. Scrap material and rubbish shall be placed only in containers provided for that purpose.
 - 11. Metal stock, lumber and cased or crated goods should be stored neatly. Round stock should be blocked to prevent rolling, gas cylinders secured by chain in an upright position, and tiered materials cross-tied.
 - 12. Do not hang clothing, towels, rags or other combustibles on radiators, hot lines or similar locations.
 - 13. Equipment or materials will be neatly stored when not in use.
 - 14. Fire inspections and hazard prevention measures shall be conducted.
- G. Ladders, Stairs, Scaffolds & Staging
 - 1. All ladders should be checked before using to make certain that rungs and side rails are in sound condition.
 - 2. Portable straight ladders should be firmly placed on secure footing. If there is danger of slipping, they should be held by a co-worker or tied in place. The desirable climbing angle for straight ladders is about 70 degrees.
 - 3. Both hands shall be kept free and used when ascending/descending a ladder. Tools or materials shall not be carried in the hands while climbing or descending a ladder.
 - 4. Stepladders must be fully extended and in sound condition before use.
 - 5. When on a ladder, exercise caution. Do not over reach or work from the top rung or step of the ladder.
 - 6. Avoid placing ladders in front of a blind doorway. If you must do so, lock the door or have a co-worker guard the door.
 - 7. Barrels, boxes, chairs or crates shall not be used as substitutes for stepladders, portable steps or work platforms.
 - 8. All portable ladders shall be equipped with safety feet.
 - 9. Employees should report any damaged ladder or scaffolding to their supervisor and place a warning tag/sign on it so it won't be used until it can be properly repaired.
 - 10. Never try to shift a ladder while you are on it.
 - 11. Be sure hands and feet are dry and free of grease before climbing.

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G. Ladders, Stairs, Scaffolds & Staging

12. Portable metal ladders should never be used while working on or near any electrical circuits. They should be legibly marked with signs reading, "CAUTION – DO NOT USE AROUND ELECTRICAL EQUIPMENT", or similar wording.
13. Portable leads or air hoses should not be run down ladders or across or in front of ladder landings.
14. Packages or other materials carried on stairs should be held so vision is not obscured.
15. Hand rails shall be utilized when ascending or descending stairs.
16. Scaffolds, work platforms and staging shall be erected by qualified personnel and inspected by the supervisor at appropriate periods to ensure that the structure is safe.
17. All stairs, catwalks, gangways, and open work areas above the ground or floor, shall be provided with substantial guardrails and mid-rails. All high stages or scaffolds shall be equipped with life lines which shall be worn by all personnel working on such structures.
18. Do not sit, lean or rest on/against any railing or lifeline.
19. Persons working on hanging stagings in high places without adequate guardrails shall use safety belts properly secured to lifelines.
20. Tools and materials should not be left unsecured in any elevated place. When practical, the area beneath overhead operations should be roped off and marked with warning signs.
21. Riding the hook, ship boxes or leads is prohibited. Only specially devised equipment for elevated work is authorized.
22. All air lines, electric cables, water hoses and sludge-pumping hoses used in connection with staging shall be run underneath staging planks to eliminate tripping hazards. Sludge-pumping hose which cannot be run underneath planking shall be laid in a safe manner.

H. Machinery

1. Employees shall never operate machinery or equipment without authority and only after receiving full instructions on its safe operation from their supervisors. Employees responsible for receiving new machinery or equipment shall see that the operating instructions are placed into the operating manual for the workplace.
2. All gears, belts, pulleys, or other power-transmission equipment shall be adequately guarded.
3. Guards and safety devices shall be kept in place at all times except when necessary to remove them for repairs or maintenance.

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H. Machinery - continued

4. Machinery should be stopped before adjusting, oiling or cleaning.
5. A brush shall be used for cleaning chips away from machinery, equipment or work. Hands shall never be used to brush chips, dust or other material.
6. Loose clothing, neckties, gloves, rings, and bracelets should not be worn when working with rotating machinery.
7. Never apply a wrench to moving machinery. Always stop the machinery, and then carefully remove all tools before starting again.
8. Tool rests, tongue guards, and eye shields shall be kept in adjustment on grinding wheels at all times. Also, remember to wear proper eye protection when using the grinding equipment.
9. Do not leave machines running unattended.
10. Machine operators should not be distracted while on the job.
11. A vise or clamp shall be used to hold work on a drill press.
12. If equipped with locks, machinery shall be "locked out" before repairing, adjusting, or cleaning. If lock out is not feasible, the switch shall be tagged before work is begun.
13. No machine guard/safety device is to be removed except when cleaning or being repaired.
14. Make sure everyone is clear before starting a machine.
15. Report any defective or malfunctioning machine to the supervisor immediately.

I. Material Handling

1. All employees engaged in handling materials of any type shall have been instructed by their supervisors in the proper method of lifting heavy objects. Employees shall only lift heavy objects in the approved manner.
2. Fingers and toes should be in the clear before setting down any materials or equipment.
3. When possible, a crane or hoist should be used to lift heavy or bulky objects. Stand clear of all suspended or overhanging loads.
4. Material must be loaded on hand and motor trucks in a safe manner so it will not fall off in transit. If necessary, secure the load to the truck.
5. Cranes shall not be moved if they will create unnecessary swinging loads.
6. Cranes or hoisting mechanisms (including lift trucks), shall be labeled with the load limit. No person shall lift a load exceeding the limit.

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I. Material Handling - continued

7. Materials shall be stored or placed in authorized areas only.
8. Defective or broken strapping on cargo shall be removed, repaired or replaced before handling.
9. Material should not be thrown from elevated places to the floor or ground. Suitable lowering equipment should be used for this purpose.
10. Neckties, finger rings and loose clothing should not be worn by persons handling stores or material, or near any rotating machines.
11. Lifting or lowering operations being performed by several persons shall be done on signal from only one person and only after everyone's feet and hands are in the clear.
12. Wheelbarrows, hand trucks, and other similar devices shall not be overloaded or unbalanced, so they can be easily handled.
13. All stacked materials, cargo, etc., shall be arranged in an orderly manner for convenient and safe handling.
14. Before any material is handled, it shall be examined for sharp edges, protrusions, signs of weakness or other factors likely to cause injury to a person handling the object. Defects should be rendered harmless before proceeding.
15. When removing bulk material from piles, or when excavating, never undercut the pile or excavation so you will have to work under overhanging material.
16. Only authorized persons who have been properly trained are allowed to operate cranes, hoists and industrial trucks.
17. Use only approved chains, hooks, slings, and ropes for lifting operations and inspect those before using. Never load hoists, chains, slings, ropes or hooks above their load limits.

J. Office Safety

1. All defective equipment shall be reported to the immediate supervisor who will take steps to correct the unsafe condition.
2. Do not run, jump or horseplay at any time.
3. Make sure that fingers are clear of paper cutter blades before pushing down on blades.
4. Keep fingers away from ejecting slot when loading or testing stapling tools.
5. Do not go into dark places without adequate light.
6. Do not leave open scissors lying on top of desks or in desk drawers. Always close scissors when you are through using them.

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J. Office Safety - continued

7. Do not pull open more than one file cabinet drawer at a time.
8. Always close file drawer when you leave the cabinet.
9. Load file cabinets so the heaviest load is in the bottom drawer. Never leave the bottom drawer empty when files are in upper drawers.
10. Do not stand on chairs, boxes or crates.
11. Pick up or wipe up spilled things such as coffee, paper clips, etc., immediately.
12. Unless proper precautions have been taken to avoid catching hair, ties, jewelry or clothing in moving parts, do not operate any office machinery having moving or rotary parts.
13. Make sure that all office electrical equipment is properly grounded prior to use.
14. Electric cords of any kind shall be properly fastened and protected so they do not create tripping hazards.
15. Oily waste or cloths must not be disposed of in waste baskets or other combustible containers. They must be placed in covered non-combustible cans or containers.
16. Do not use rubber-base glue without adequate ventilation for longer than fifteen (15) minutes and put work aside until all traces of vapors have abated. These vapors are heavier than air and will build up at low points where a spark of static electricity can cause ignition. Do not smoke when using rubber-base glue.
17. Do not use rubber-base glue in the vicinity of an electrical heater when it is in operation.
18. A minimum of loose objects of any kind should be left outside of desks, cabinets, or shelving. Heavy objects must not be left where they may fall, or where they may be tripped over.
19. Heavy objects should not be placed on high shelves or cabinet tops because putting them away or taking them down might cause a strain or fall.
20. If storage of materials above an easily reached level is necessary, use a stepladder. **Never climb on cabinets, chairs, etc.**
21. Carbon tetrachloride cleaning fluid, or any cleaning fluid containing carbon tetrachloride shall not be used in any office.
22. Splintered, rough surfaces, sharp corners and defective office equipment of any kind should be reported to your supervisor.
23. Office decorations should only be County-approved fire resistant materials.

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J. Office Safety - continued

24. All electrical equipment and appliances should be turned off when not in use except for computers and other equipment which function best when left on.
25. Use proper lifting or material handling techniques when lifting office equipment, files, etc.
26. Only trained personnel should operate or work on electrical equipment such as photocopy machines, presses, cutters, computer equipment, etc.
27. Smoking shall not be permitted within 20-feet of main entrances, exits, and operable windows. Management may also designate smoking areas other than previously described.
28. Foot wear is required while walking around the office to prevent the spread of fungus and bacteria, and prevent foot punctures and lacerations from staples, tacks, etc.

K. Street Work Area Protection

1. A major consideration for protection of work in or near streets is that there should be minimum interference with the traffic flow.
2. Accidents from street work obstruction include: collision with construction equipment, collision with other vehicles driving into work areas, loss of control causing collision with other objects or personnel, falling or driving into excavations.
3. One or more of the following devices are to be used in various arrangements according to the specific conditions on each project: horse or fence barricades, orange traffic cones or pylons with reflective coating, red warning flags and holders (low and high level), signs, flashing amber lights on vehicles.
4. Each situation should be carefully considered in relation to the following factors: the nature and extent of the work being done and proportion of roadway involved; the size, number of lanes, surface, curves, grades, intersections, parking areas, shoulders and curbs; traffic conditions, speed and volume; surrounding general illumination throughout the entire night; possible fire hazards if flares are used; and vandalism to any part of the warning system.
5. The first consideration in the protection of the public and employees when work areas are in or close to streets is advance warning. Adequate notice must be given of the existence of the obstruction or interference far enough ahead to allow drivers to reduce speed and change course, or stop if necessary. This must be done day and night as long as the condition remains. Consideration must be carefully given to the placement of all advance warnings and signs so they can be seen in heavy traffic either above or to the side of vehicles, or both if practical. They may be needed on both sides of the street or lane. Particular attention must be given to advance warnings when work is located over a hill, around a blind curve, or when approached at a high rate of speed.

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K. Street Work Area Protection - continued

6. Guidance is the second most important consideration in street work obstructions. In general, barricades and traffic delineators (guides for the direction of traffic) should be placed to allow some room inside them as clearance for vehicles which may not be able to stop in time. Personnel working within the protected areas should remain as far as possible from the perimeter of the area in case it is accidentally invaded by traffic. Equipment and material should be kept out of the street as much as possible. Where necessary for equipment to be in the street, reflectors, flashers, etc., should be operating. When possible, equipment or trucks should be located so as to block personnel work areas from intrusion by vehicles.
7. When traffic can only be permitted in a single lane, flaggers must be used and must wear orange safety vests. They should minimize their exposure to traffic as much as possible.
8. Where traffic flow is of minimum duration or interruption, or where only one or two employees are involved in work, a vehicle may be utilized to provide warning or protection from traffic flow. Vehicle warning lights must be operating and the vehicle should be positioned between the work area and the traffic.

L. Tree Work

1. When working in wet or damp trees, extra caution should be used since wet bark may be slippery and rope knots may slip if rope is wet.
2. As a general rule, only one person should work in a tree at a time, especially during pruning operations near electric wires.
3. Hard hats shall be worn at all times by all employees working on tree trimming crews. In winter, an inner liner can be worn under the hat for warmth.
4. Never touch a branch which is on the conductors and not attached to the tree.
5. Before using any spray materials, read the label carefully and follow the directions. Some spray materials are poisonous or toxic.
6. When applying sprays, the operator should keep out of the drifts as much as possible. Gauntlets or rubber gloves should be worn.
7. Ground persons should stay away from under the bucket and work area.
8. Traffic signs or cones should be placed to the front and rear of the work area to divert foot and vehicle traffic away from the immediate work area.
9. Lower outriggers before moving the bucket. To maintain truck stability on soft ground, a heavy plank may be used under the outrigger foot pad.
10. To prevent falling, the operator, upon entering the bucket, should fasten his safety belt to the ring provided and assure himself that the tools are securely stowed.

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L. Tree Work – continued

11. Before going aloft, the operator shall make a complete inspection of the equipment to ensure its safe operational condition.
12. Before going aloft, the operator should make a complete survey of overhead conditions to familiarize him/her with the location of lines, poles; buildings tree limbs, guys, or other obstructions which might present a hazard to the operation.
13. Goggles or safety glasses must be worn where there is danger of eye injury from flying or falling objects or materials.
14. No machinery or equipment shall be used within ten (10) feet of any live circuit unless operated from a completely insulated boom.
15. If contact is accidentally established between the boom and a power wire or charged telephone wire, stand, or cable, always bear in mind that the entire truck and its contents may become electrically charged. If this happens, break contact immediately. If this is not possible, alert everyone on the ground not to attempt to enter or leave the truck or touch any part of it while on the ground.
16. Operators of chippers must be properly trained in the operation and hazards involved.
17. Appropriate eye/face and hearing protection must be worn by chipper operators.

M. Trenching, Excavations, Street Repairs, Sub-Surface Operations and Confined Spaces

All trenching, excavation work, and work in confined spaces where employees work for ANY amount of time, requires compliance with County policy and all applicable State Safety Orders or Federal Standards. For specific safe practice operations, refer to your Department's Individual Safety Program Procedures.

1. All trenches or excavations five feet or more in depth in any soil condition requires either: (a) sloping as required under section 1540(d) of the Construction Safety Orders of the State of California, or (b) shoring prior to any work being performed. Shoring or sloping may be required in excavations or trenches of less than five feet if soil conditions indicate.
2. If shoring is to be used, adequate inspection of timbers or members must be made prior to installation and workers installing the shoring must comply with state safety provisions to prevent injury while accomplishing the shoring protection.
3. In the case of trenches or excavations less than five feet in depth, spoils shall be placed no closer than one foot from the excavated area where shoring is needed. In the case of excavations or trenches five feet or deeper, spoils shall be placed no closer than two feet from the edge.

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- M. Trenching, Excavations, Street Repairs, Sub-Surface Operations and Confined Spaces
- continued
4. Prior to the start of any excavation or trenching in the public way (road or sidewalk), suitable signs, barricades and/or warning cones shall be used in compliance with the following:
 - a. Barricades or cones shall be at intervals of 25-feet or less directing traffic (pedestrian or vehicle) around the vicinity of the exposure.
 - b. Warning signs shall be readable and placed at a reasonable distance prior to the exposure.
 - c. Depending on the speed of traffic, signs and traffic control devices should be erected in accordance with accepted minimum standards as outlined in the Manual of Traffic Controls for Construction & Maintenance Work Zones, State of California, Department of Transportation. See also paragraph K, Street Work Area Protection.
 5. The foreman in charge of an excavation to a depth of four feet or more shall provide a sturdy ladder for access. The ladder shall be placed within twenty-five feet of the working area.
 6. The foreman in charge of an excavation shall see that there is no work done which could cause the undermining of foundations, retaining walls, or other structures until adequate safety measures have been taken.
 7. Excavating machinery shall be kept away from electrical, gas and water lines. Where excavation is necessary, the operator of the equipment shall first determine the location of electrical, gas and water lines that may be in the area of excavation. A qualified observer must be present to guide the operation.
 8. Only one person should direct the operation of excavating machinery.
 9. All persons working around excavating machinery shall be in a safe position so they are not in danger of falling into or otherwise contacting the machinery.
 10. The foreman or leadman shall make tests in all closed compartments, manholes, storm drains, tank, voids, and other confined spaces for oxygen deficiency, explosive gases, and other dangerous gases which may be present. Employees shall not enter such areas until the foreman or leadman has issued an "all clear". This must be done at each time of entry or re-entry.
 11. Smoking or open flames are prohibited in or about open manholes or in sewers. "No Smoking" and "No Open Flames" signs shall be posted.
 12. Hard hats shall be worn at all times by workers in or around excavations, trenches, tunnels, sewers, or other sub-surface operations.
 13. The Confined Space Safety Program procedures should be followed. A copy can be obtained from your supervisor.

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III. GENERAL SAFETY RULES

Refer to Document Number 2004 contained in this manual and safety orders as referenced below for additional information on sub-surface operations.

Reference: Title 8, General Industry Safety Orders of the California Code of Regulations.

Article 6 Excavations, Trenches, Earthwork

Section 1539 – Permits

Section 1540 – Excavating

Section 1541 – Shoring, Sloping, and Benching Systems

Section 1542 – Shafts

Section 1543 – Cofferdams

Section 1544 – Earth and Excavating

Section 1545 – Overburden

Section 1546 – Face Inspection and Control

Section 1547 – Protection of Workers at the Face

Article 108 Confined Spaces

Section 5156 – Scope and Definitions

Section 5157 – Operating Procedures and Employee Training

Section 5158 – Pre-Entry

Section 5159 – Confined Space Operations