

PASCO COUNTY, FLORIDA



ACCIDENT PREVENTION MANUAL

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FOREWORD

The Board of County Commissioners is concerned with the safety and welfare of its employees and the public it serves. The Board members acknowledge an obligation as an employer to provide the safest working conditions possible for employees and a safe environment for the public that use our services.

The primary purpose of this manual is to acquaint you with general safety rules and policies. It reflects the efforts of many people to establish reasonable, practical, and safe work practices to prevent accidents.

We can perform the tasks of government operations and public services without accidents. It is the responsibility of all County employees to contribute to that goal.

We will achieve a safety record in direct proportion to the amount of effort we are willing to offer. Wishful thinking or talking about safety will not produce the results needed to achieve a safe environment. Safe workers benefit themselves, their families, fellow workers, employers, and the rest of society.

MAKE SAFETY YOUR WAY OF LIFE

INTRODUCTION

This manual is issued to inform employees about management's policies that are the basis for our occupational safety program and to establish uniform safety procedures for tasks that are performed in more than one public service division. Safety procedures for specialized tasks performed solely by one particular unit shall be prepared under the supervision of the Assistant County Administrator/Department Head/Division Head concerned. After formulation and approval, the instructions are to be given to the employees required to perform these tasks. The manual emphasizes that all County employees are to practice safe habits whether stated within this manual or not.

The manual is divided into sections, each concerned with a particular type of task, equipment, operation, or hazard. The manual is easy to read, understand, and follow. As new sections or amendments are formulated, they shall be distributed for insertion into the manual.

All County employees are required to read and study this manual. Upon reception of this manual, employees shall acknowledge reception by signing their respective names to an acknowledgment list prepared by supervisory personnel. Within 30 days of receipt, the employee will then certify that the manual has been read/studied by detaching the certification page located on the last page of the manual, by signing and dating, then giving the certification page to their supervisor. The supervisor shall then forward the signed and dated certificate to the Personnel Director for insertion into the employee's personal file.

Supervisory personnel have been directed to make safety a matter of continuing concern, equal to and as important as all other operational considerations. They have been directed to develop and administer an active departmental safety program. All employees are charged with responsibility for cooperating with and supporting the safety program objectives. Every employee is expected, as a condition of employment, to be concerned with personal safety, the safeguard of County property, the safety of fellow workers, and the safety of the general public affected by County functions. This means willing acceptance and active support of approved safety rules and/or procedures. It is important that the employees be constantly on the alert for potential hazards which are not referred to in any written instructions but may result in injury or property damage. Where potential hazards are thought to exist, employees shall use precautionary measures. When employees are in doubt as to proper safety procedures, they should contact their supervisor before proceeding with a work task.

SAFETY is a way of life. Most people endorse safety, many talk frequently of safety. However, all of us fail in varying degrees to live up to the commitment that is expected. Failures in accident prevention occur when we overlook safety to concentrate on a mechanical skill or problem; or when we fail to recognize a hazard; or when we just get in too big a hurry to get the job done, thereby taking unnecessary risks.

Experienced professional in any occupation recognize that safety cannot be ignored. Accidents are too costly. Accidents cause physical pain in many instances, possible disability, and potential loss of income or future earning power. Workers' compensation, no matter how liberal, will never equal the overall cost of injuries to employees. It is small consolation to the family of an employee that suffers fatal, or severely crippling,

injuries. Accidents cost employers money and lost time for workers' compensation, medical treatment, repair of damaged equipment, and many hidden costs not easily measured. Accident prevention is plain common sense self insurance. Safe operating procedures are a demonstration of a job skill. Safe performance is efficient performance.

AN ACCIDENT IS ANY UNPLANNED EVENT THAT INTERRUPTS PRODUCTION.

When we use the term "production," we are talking about the successful completion of any work task. The remark, "We almost had an accident," is usually understating the situation because, though no one was injured or no property was damaged, there is always some cost involved. It may be a slowdown in production or work performed. The lesson that is important to heed is, the so called "near misses" are warning signals. Something is wrong. The problem is to be identified and corrected before someone is injured. A careful study of accidents over the years has proven a simple, basic law governing human behavior. If an unsafe act or condition is allowed to exist, it will, in time, result in an accident. How long it may take for an accident to occur cannot be determined. Be assured that an accident **WILL** occur.

Accidents don't happen without cause. They are caused because someone either failed to do something or did something they shouldn't have; or because a hazard was not recognized. These are human failures. Human failures can be controlled. By exercising self-control, every employee has an opportunity to demonstrate job skill. By passing on this knowledge to others, an employee demonstrates team work. By demonstrating, enforcing, and demanding safe performance and enforcing safe work procedures, supervisors demonstrate concern for employees' welfare. Accident prevention can be the most important employment benefit any of us have.

To review a positive side of safety: 1) safety is a matter of **COMMON SENSE** acceptance of procedures developed through experience for your self-protection; 2) the **SAFE** way to do a job is the most efficient way to do a job; 3) safe performance . . . a good safety record . . . is a mark of job skill; and 4) shortcuts that ignore safety usually take more time than save time.

TRAINING AND JOB INSTRUCTION

All supervisors shall be expected to study the application of safety engineering principles to supervisory techniques. Supervisors are expected to conduct on-the-job training to help you learn how to adapt the skills you now have to some of the unique requirements of County employment. Supervisors are expected to conduct "tailgate sessions" to plan and lay out daily work assignments, or make frequent individual contact emphasizing potential hazards and safety procedures. Supervisors will observe employee performances and correct when necessary to ensure that safe job procedures are followed.

When accidents occur, supervisors are required to investigate. While employees may have to accept responsibility for their acts, the main purpose for the investigation is to determine the facts involved in the accident and not to pin blame upon an employee. The objective, of course, is to determine how to prevent the same type accident from again occurring. There should be a constant program of job safety analysis to identify hazards and eliminate them before accidents happen. You may be called upon to assist in formulating this analysis.

Responsibility for Safety:

1. Assistant County Administrators delegate authority and assign responsibilities for most areas in their control. This person cannot delegate or assign away their responsibility for accident prevention. The results from this program are expected to be in direct proportion to the interest and guidance provided by the Assistant County Administrator.
2. Supervisors will assume the responsibility of thoroughly instructing their personnel in the safe practices to be observed in their work situations. They will consistently enforce safety standards and requirements to the best of their ability and authority. Supervisors will act positively to eliminate any potential hazards within the activities under their supervision, setting the example of good safety practices in all spheres of their jurisdiction. Safety records shall be measured along with other phases of supervisor performance. Therefore, it is absolutely essential that such records be complete and accurate and that all accidents be fully reported.
3. All employees are responsible for compliance with safety procedures, standards, and rules outlined in this manual or applicable directives that are established to prevent injury to themselves, other persons or damage to equipment and property. They are also responsible for promptly reporting to their supervisors any conditions or procedures that affects them, their fellow workers, or the general public.
4. The following Federal standards were adopted by the State of Florida's Workers' Compensation Division on April 30, 1979: 29 C.F.R. 1910-OSHA General Industry Standards; 29 C.F.R. 1926-OSHA Construction Standards; 29 C.F.R. 1828-OSHA Agriculture Standards; *Department of Transportation Manual on Traffic Control and Safe Practices*. These standards apply to all

County employees with regard to work safety. Supervisors should refer to these standards for safety procedures and requirements.

5. The **SAFETY OFFICER** is responsible for the coordination and implementation of programs, safety education, and hazard inspections/elimination. The Safety Officer shall advise management of problems relating to accident prevention and will recommend appropriate action to correct the problem areas. However, the Safety Officer is not expected to perform line functions that are properly a responsibility of management and supervisors. The Safety Officer does not relieve Assistant County Administrators and intermediate supervisors of a basic responsibility; that of expanding their management and supervisory practices to incorporate safety principles in all supervisory efforts.

SECTION I - GENERAL RULES

Safety means efficient performance. Safety must, therefore, be a part of the planning of every job, equal in importance to all other operational consideration. Observing the safety procedures contained in this manual will make operations safer. Every employee must be alert to the possibility of improvement. People are constantly finding new ways to do things. The new ways are not always safer, or even an improvement in any sense; but it is possible to find safer ways to do things that are improvements upon established methods. Suggestions for improvements in work procedures are invited. However, no changes are to be made without the suggestion being discussed with the employee's immediate supervisor, the suggestion then passed by the supervisor to the proper authority for evaluation/approval or rejection. Revision of current work procedures will not take place without express written notice to those concerned.

Unsafe conditions and unsafe procedures must be identified before correction can be made. Consequently, every employee is responsible for immediately reporting and documenting those that are recognized. All accidents are to be reported whether personal injury or property damage is involved or not. Remember . . . the "near misses" are danger signals. The accident you prevent may be the one that could have injured you. **AN ACCIDENT IS ANY UNPLANNED EVENT THAT INTERRUPTS PRODUCTION.**

The following general safety rules/procedures are established:

1. Report all accidents and personal injuries, no matter how minor, to your supervisor as soon as possible. This must be done whether the accident resulted in lost time from work or medical treatment or not. Prompt reporting of accidents is a requirement under the Workers' Compensation Law.
2. Learn the right way to do your job. That will be the safe way. If you are not sure you thoroughly understand the job, ask your supervisor for further instructions.
3. Avoid horseplay and practical jokes on the job. Any employee participating in such activities shall be subject to disciplinary action.
4. Drinking of alcoholic beverages or use of illegal drugs on the job or during working hours is prohibited. Any employee reporting to work under their influence shall be subject to disciplinary action.
5. Work at a speed consistent with safety. "**FOOLISH HURRY**," such as running in passageways or on stairs, is dangerous.
6. Keep yourself in good physical condition to do a day's work.
7. Use handrails on stairs or on elevated places.
8. Jumping from an elevation, such as a table, bench, or platform, may result in serious injury. "**DON'T DO IT.**"
9. Always inspect tools and equipment before use. Report defects to supervisors and other potential users. Do not use tools that are defective to an unsafe degree.

10. Remove splinters from work benches, tables, bins, shelves, and chairs before someone is injured.
11. Remove, cut off, or hammer down protruding nails, staples, or steel straps.
12. Work clear of suspended loads. If a load is moved above where you are working, stand aside until it has passed by.
13. Obey warning tags and signs. They are posted to protect you by pointing out hazards that exist.
14. Operate only the machinery or equipment that you have been authorized and trained to operate.
15. Remove jewelry, such as rings, identification bracelets, etc., in work involving climbing, materials handling, operating mechanical equipment, or working around electrical circuits.
16. Never reach over moving parts of machinery or equipment.
17. Never operate machinery or equipment with the required guards removed.
18. Report to work in appropriate clothing suitable for the type of work you perform. This includes footwear. Avoid wearing loose clothing or personal equipment near machinery or equipment with moving parts.
19. The use of issued protective equipment is mandatory, and the use of the same will be enforced.
20. Common sense, health, and sanitation rules must be observed for the welfare and consideration of other employees.

SECTION II - OFFICE SAFETY

SO YOU'RE AN OFFICE WORKER

The insurance companies say that you occupy a nonhazardous position.

I will agree with the insurance companies if you are the type of office worker who knows and follows office safety rules. If you are not this type of worker, **YOU** occupy a hazardous position and are a hazard to your fellow employees.

Many accidents are caused by seemingly harmless objects. It is a fact that a paper clip casually thrown at a wastepaper basket and left to lay on the floor has caused sprained ankles; a packet of matches laying on a smooth floor has been known to cause a dislocated hip or a broken leg or arm. Haste on the stairway, combined with high heels, has often caused serious falls and injuries.

Let's put a few don'ts in this article:

1. Don't do office maintenance work unless it is your job.
2. Don't have pencil sharpeners protruding beyond your desk.
3. Don't close a drawer by placing your hand on top of the drawer.
4. Don't place sharp or pointed articles in your wastepaper basket; wrap them, the custodian then won't get cut.
5. Don't tilt yourself back in your office chair or use the chair for a stepladder.
6. Don't use pins to fasten papers.

In conclusion, let's apply this thought: "No job is so important, no service so urgent, that we cannot take time to perform our work safely."

PREVENTING OFFICE ACCIDENTS

For convenience, office hazards have been arbitrarily classified in the following major groups:

1. Tripping, slipping, and falling.
2. Equipment.
3. Collisions and obstructions.
4. Falling objects.
5. Fire.
6. Other items.

There is considerable overlapping in this arbitrary grouping, but pertinent points to be observed for the control of each hazard are listed under the type of hazard/activity which is most likely to result in injury.

PREVENTING OFFICE ACCIDENTS

1. Tripping, slipping, and falling:

Statistics show that slips and/or falls account for 53.1 percent of the lost-time injuries occurring in offices. Suggestions to rectify hazardous conditions are:

- a. All floor areas, including storage space, should be well lighted.
- b. Floors should be kept clean, dry, and free from obstructions of any kind.
- c. Linoleum and other polished floor surfaces should be treated with a slip-resistant preparation.
- d. Rough or splintered floors should be treated with a suitable floor preparation or covered with a protective material. Torn or damaged floor covering should be removed or properly repaired.
- e. Building entrances, surfaced with smooth flooring, may become slippery during stormy weather, and should be provided with suitable storm mats made of fluted rubber, untreated leather links, etc.
- f. All stairways should be equipped with antislip treads and suitable handrails, and should be kept clean and dry.
- g. Differences of floor elevations in aisles, corridors, and other walkways should be clearly indicated and, where necessary, proper railings should be provided.
- h. Power and telephone outlets, wires, or extension cords should not be permitted in any location where they will cause a tripping hazard.
- i. Ladders or stands provided with nonslip treads and feet should be available for personnel when high files or other high equipment is used.
- j. Drawers of desks and file cabinets should be kept closed when not in use. Materials should never be placed on floors where tripping may result.
- k. Rugs and carpets should be secured in such a manner as to prevent them from slipping or creeping.

2. Equipment:

The next largest producer of disabling injuries is equipment. Suggestions are:

- a. Windows should be readily accessible, equipped with suitable operating devices, and should open and close easily.

- b. The variety of office machines now in common use are generally operated by personnel unfamiliar with mechanical hazards. All belts, gears, pulleys, and other rotating or reciprocating parts of office machines should be guarded as completely as possible. Electrical machines should be properly grounded. All necessary repairs should be made by qualified personnel.
- c. Sharp burrs sometimes found on metal furniture, equipment, etc., should be removed before use.
- d. All washroom fixtures should be maintained in good repair, both for safety and sanitation.
- e. If it is necessary to use safety-razor blades for various office cutting operations, proper holders should be provided. When not in use, these blades should be stored in a safe manner.
- f. Broken glass should never be placed in wastepaper baskets. If a special container is not provided for its disposal, it should be safely wrapped, carefully marked, and safely placed for disposal by the custodial staff.
- g. Through normal wear and tear, wooden office furniture often becomes chipped or splintered and conditions are created which may cause injury. Equipment in such condition should not be used until it is properly repaired.
- h. Pointed objects, such as pens, sharp pencils, paper cutters, spike files, etc., should not be carelessly used or stored. The use of unguarded spike files should not be permitted since such pointed objects can, and often do, cause injury to office personnel by inflicting puncture wounds.

3. Collisions and obstructions:

Of the disabling injuries occurring in offices, 7.9 percent are directly chargeable to accidents of this type.

- a. Two-way traffic around blind corners should be separated by lines painted on the floor or, if necessary, by railings.
- b. Employees have been injured by walking into closed, transparent, unlettered glass doors. Such doors should have a clearly visible identifying mark in the center of the glass panel approximately 4½ feet above the floor. Solid swinging doors should have clear observation panels. Partly open doors are dangerous; doors should be kept either wide open or shut completely.
- c. Electric fans should be installed at points where employees are not likely to come in contact with them. They should be securely anchored, properly guarded, and maintained in good operating condition.

d. Any protruding object or projection constitutes a hazard that should be eliminated, properly guarded, or clearly marked. Illustrations within this category:

(1) Pencil sharpeners projecting beyond edge of table or desk.

(2) Drawers or doors left open when not in use.

4. Falling objects:

a. File cabinets may overturn when the top drawers are open, especially if they are overloaded and the lower drawers are empty or filled with lightweight material. Where possible, groups of files should be securely fastened together; or, in the case of individual files, weights may be placed under the bottom file drawer.

b. The placing of card index files or other heavy objects on top of file cabinets or other high equipment should be discouraged.

c. Ceiling fixtures, fans, etc., should be carefully inspected immediately after installation and when repaired or replaced.

d. Ceilings should be checked for defects which may cause material to fall. Such defects should be remedied immediately.

e. The pulleys, cords, etc., on venetian blinds and the operating mechanism of other window coverings should be regularly inspected and kept in good repair.

f. Movable objects, such as flower pots, boxes, vases, should not be permitted on window sills or ledges.

5. Fire:

Fire is an ever-present hazard, taking its toll of life, and causing injury and property damage even in the office. Constant vigilance is necessary to control this hazard, and a few suggestions are stated:

a. Good housekeeping is required at all times.

b. Do not permit loose paper to accumulate on the floor, in or on equipment.

c. Matches should not be left loose or exposed. Only safety matches are to be used.

d. Wastepaper baskets shall be made of noncombustible material.

e. Flammable liquids and similar material shall be stored in safe containers, preferably in locked cabinets. Only minimum quantities should be kept in the office, and bulk storage should be in properly constructed fireproof vaults.

- f. Oily rags shall be placed in closed, fireproof containers. They shall never be stored with other flammable material.
 - g. Open gas heaters, if required, will have metal connections to gas lines and be properly vented to ensure safe disposition of products of combustion.
 - h. The proper type of fire extinguishers shall be provided.
 - i. All electrical equipment, connections, cords, and wires should be inspected regularly. Any defects found should be repaired immediately by competent electricians. Do not run wires under carpets or where they can be pinched (under legs of furniture, jammed against walls, or where chairs roll over them).
 - j. The use of portable electric hotplates should be discouraged. If their use is necessary, they should be used on a fireproof base, and all electric connections and cords be kept in a safe condition. Check at end of each workday to ensure all hotplates and coffee makers are off and unplugged.
 - k. Use properly sized and grounded extension cords (no "Zipcords").
 - l. Do not overload electrical outlets. If necessary, have more outlets installed.
6. Other items:
- a. Working space and office equipment should be so arranged that safe and comfortable working conditions are assured.
 - b. Precaution should be taken to see that floors are adequate to hold loads placed upon them. Special consideration should be given to heavily concentrated loads, such as safes and other heavy objects.
 - c. Illumination at all points should be free from glare and ample for the type of work being done. Highly polished desk tops may cause excessive glare unless covered by desk pads or other nonreflecting materials.
 - d. Adequate heat, properly controlled, should be provided. Steam pipes which are exposed should be guarded or covered to prevent burns.
 - e. Adequate ventilation is of prime importance.
 - f. Office furniture should be of a type that permits workers to maintain correct posture. Chairs should be posture-shaped and adjustable to accommodate both short and tall employees.
 - g. Any condition which impairs the health of an employee has a like effect on production as an equivalent loss of time or reduction of efficiency through accidental injury. Good housekeeping and general cleanliness will help to solve this problem.

- h. First-aid kits should be provided in every office. As many employees as possible should receive training in CPR/first-aid.
- i. When purchasing materials and equipment, the safest possible design and all necessary safety devices should be specified in the original order.
- j. Conditions existing in the vicinity of occupied space, either in the same or adjacent buildings or areas, should be evaluated as sources of danger to employees. These may consist of fire or explosions hazards, unpleasant or noxious fumes, or unsanitary conditions. Every effort should be made to abate such conditions.

SECTION III - HOUSEKEEPING

Many painful and sometimes disabling injuries are caused when employees are struck by falling objects, or striking against or tripping over objects they did not see. Many injuries and much property damage stems from fires caused by poor housekeeping practices and improper storage of materials that are flammable. The best protection against these hazards is good housekeeping.

When materials are stored properly with adequate space to move through the storage area, accidents are prevented. With some planning before laying out a job, tripping hazards can be avoided and many sprains, fractures, and bruises that result from falls can be prevented.

Aside from the accident prevention benefits, good housekeeping means efficient performance. When materials, tools, and equipment all have a place for orderly storage and are returned to the proper place after use, they are easier to find and are available for wear and damage inspections.

The following safety procedures are established:

1. Keep work areas and storage facilities clean, neat, and orderly.
2. All aisles, stairways, passageways, exits, and access ways to buildings shall be kept free from obstructions at all times. All grease and water spills shall be removed from traffic areas at once.
3. Do not place supplies on top of lockers, hampers, boxes, or other moveable containers at a height where they are not visible from the floor.
4. When piling materials for storage, make sure the base is firm and level. Cross tie each layer. Keep piles level and not stacked too high. Keep aisles clear and with adequate space to work in which to work.
5. When storing materials suspended from racks or hooks, secure them from falling. Route walkways away from suspended materials .
6. When storing materials overhead on balconies, provide adequate toe boards to prevent objects from rolling over the edge.
7. Do not let drink bottles, soiled clothing, etc., accumulate in lockers and work places.
8. Tools, equipment, machinery, and work areas are to be maintained in a clean and safe manner. Defects and unsafe conditions shall be reported to your supervisor.
9. Return tools and equipment to their proper place when not in use.
10. Lay out extension cords, air hoses, water hoses, ladders, pipes, tools, etc., in such a way as to minimize tripping hazards or obstructions to traffic.
11. Clean up spills immediately to avoid slipping hazards. In the event the removal cannot be done immediately, the area must be appropriately guarded by signs or by roping off the affected areas.

12. Nail points, ends of loop, or tie wires, etc. , must not be left exposed when packing and unpacking boxes, crates, barrels, etc. Nails are to be removed as soon as lumber is disassembled.
13. Sharp or pointed articles are to be stored in such a manner as to prevent persons from coming in contact with the sharp edges or points.
14. All packing materials should be properly disposed of to prevent fire.
15. Waste material baskets are to be emptied into approved containers.
16. Oily/greasy rags shall be put in an approved metal container.
17. Adequate lighting in obscure areas shall be secured for the protection of employees and the public.
18. All switches or drives on machinery shall be shut down and locked out before cleaning, greasing, oiling, or making adjustments or repairs.
19. Control or fuse boxes should be kept closed at all times and clear of coats, rags, and/or bottles. These are to be properly labeled.
20. Extension cords should not be run across aisles or through oil or water. Cords are to be inspected for kinks, worn insulation, and exposed strands of wire before use. Remove cords by pulling on male or female plug end. Never pull on cord!
21. When fuses blow continually or breakers trip, it is an indication of an overload or short. This condition is to be reported to your supervisor immediately. Do not tape breakers in "ON" position.
22. Keep electrical equipment properly oiled, free of grease and dirt.
23. To prevent static sparks, keep drive belts dressed. Also, check belts for proper tension to prevent overloading motors.
24. Fire inspections and prevention measures shall be maintained.

SECTION IV - FIRE PREVENTION

One of the most fearsome and damaging disasters that can occur in work activities is fire. In the variety of activities performed in County operations, there are shops and job sites in which potential fire hazards exist. Fires can be prevented by orderly planning, sensible arrangement of fire-producing activities in relation to combustible materials, good housekeeping, and observance of practical controls of smoking habits when flammable substances are present.

The following safety procedures are established:

1. Firefighting equipment shall be prominently displayed, labeled for usage, and kept clear for easy access at all times.
2. Know the location of fire extinguishers and how to use them. After use of an extinguisher, report such use immediately to your supervisor so that a replacement may be obtained or the unit recharged.
3. Do not use water-type extinguishers on electrical fires. There is a danger of electrocution and damage to equipment. Water type extinguishers are intended for use on Class "A" fires only (flammables, such as wood, paper, rags, etc.).
4. Oily rags and other flammable wastes shall be kept in approved, metal containers. Such debris shall be removed from the shop building as soon as possible and, in no instance, to be left unattended in a building overnight.
5. Cleaning solvents that have a flammable property (flash point below 140° Fahrenheit) shall be kept in OSHA-approved safety containers having spring lift caps. Each container shall be labeled as to the contents. Use of gasoline is prohibited for cleaning parts, floors, or any parts of a building.
6. Gasoline utilized in small quantities in shops for fueling engines being repaired, tested, adjusted, etc., shall be handled and dispensed in the smaller (one-gallon) OSHA-approved safety containers, having a spring-lift cap. Containers must be labeled as to contents.
7. The fueling of any type of motorized equipment while the engine is running is prohibited. When transferring flammable liquids, be sure the filler nozzle touches the equipment or can being filled in order to guard against the build-up of a static electrical charge.
8. Never overfill a tank; under fill to allow room for expansion of liquid.
9. No artificial light, except UL-approved electric flashlights will be used near escaping gasoline or other flammable vapors or when entering an enclosure suspected of containing gas. Stay out of the area completely and call Fire Department. Check the atmosphere with a hydrocarbon sniffer or explosive meter.
10. Dark places, basements, or cellars must not be entered without proper lighting. The use of matches or any open flame is forbidden.

11. The use of fuel oil or kerosene for starting fires is allowed only in outside areas. Caution must be observed. Fuel oil or kerosene will not be used for starting fires in stoves. Under no circumstances will gasoline be used for starting fires.
12. "**NO SMOKING**" signs are to be posted in all areas where hazardous substances are stored or used. The "**NO SMOKING**" edict shall be strictly enforced by all employees.
13. Exits shall not be locked (chained or otherwise) from the inside.
14. All heavy equipment should have a "dry chemical" fire extinguishers in the cab.

SECTION V - MATERIAL HANDLING

Analysis of accident records reveals that many injuries occur in the process of handling materials.

The types of injuries that have been experienced are strains and sprains, crushing, hernia, fractures, lacerations, bruises, and contusions.

Accidents of this nature can be avoided by taking time to plan ahead, using mechanical equipment wherever possible, and thinking about the proper way to accomplish the task using the proper tools.

The single and most important preventative measure an employee should keep in mind is the **FOUR-STEP LIFTING PROCESS**. The technique, putting aside costly hospital and medical bills, will save you pain and suffering that may extend into your retirement years. Therefore, it is essential that you carefully read and implement the following lifting procedures:

1. Get ready . . .

Size up the load. If it is too heavy or bulky, play it smart—get help.

Check the load and remove protruding nails, splinters, sharp edges, oil, grease, or moisture.

If the surface is rough—wear gloves.

Wear safety shoes to prevent foot injuries.

Know where the load is going and where you are going to put it. Be sure the path you take is free of obstacles.

2. Pick it up . . .

Get a firm footing and good balance; have your feet about shoulder width apart.

If the load is below waist level, bend your knees to get into position. Keep your back as straight as possible.

Grip the load firmly.

Lift the object to carrying position, keeping it close to the body. Let the leg and arm muscles do the work.

3. Carry it carefully . . .

Be sure you can see where you are going.

When changing directions, be careful not to twist your body—turn your body with the changes of positions of your feet.

Use extra caution in tight places so as not to smash your fingers or hands.

4. Put it down . . .

If the receiving surface is about waist high, use the edge to take part of the load. Then, push the load forward.

If you lower the load to the floor, bend your knees, keep your back as straight as possible, and the load as close to the body as possible.

. . . Beyond knowing the proper technique for lifting, employees are to follow established material handling rules . . .

Hand Trucks:

1. Four-wheeled hand trucks with swivel axles and tongue are to be pulled; all other trucks are to be pushed.
2. Use the right type of hand truck for the material you are using. If there is a special truck, for example, a drum or drawbar truck, it should be used.
3. Watch where you are going when pushing or pulling a hand truck; slow down when nearing corners.
4. Allow clearance for your hands when moving through doorways or past other objects. Use truck handles.
5. Secure help in getting hand trucks up or down inclines to prevent them from getting away from you.
6. When using trucks, stop at all blind intersections before passing the area.
7. Always park trucks at a spot where people will not stumble over them; leave handles in a vertical position.
8. Report hand trucks with broken wheels, splintered handles, and other defects to your foreman.
9. All hand truck operators are advised to wear steel-toed shoes.
10. When using hand trucks, be sure to watch the floor ahead to avoid bumps, cracks, uneven surfaces, etc.
11. Pile loads evenly. An unbalanced load may shift causing the hand truck to overturn.

Power Trucks:

1. Power trucks should not travel with loads above six inches from the floor. Loads should never be lifted or lowered while traveling.
2. Power trucks must be handled only by properly trained and authorized employees.

Hoisting Equipment:

1. All hoists are to have a rated load capacity posted on the exterior of the hoist. Employees are not to exceed the specified limit.

Piling Materials:

1. Have a safe base. That means a solid, smooth, and level surface. If the floor or ground is not level, use dunnage or bearing strips or timber to make sure the pile will not shift. Barrels and other materials that may roll or slide should be chocked at the base.
2. Pile to a safe height, not so high that the pile will be unsteady. Ensure that the floor load limit is not exceeded and that 18 inches remain between the pile and the sprinkler heads, if applicable.
3. Lock the material by cross-tying the layers so that there is no unsteady stacks within the pile. Piles should be stepped-back to ensure stability.
4. Maintain aisle space for workers and fire equipment. Materials should not protrude beyond the face of the pile.

Handling Gas Cylinders:

1. The protective cap over the valve should be kept on when the cylinder is not in use.
2. Never wear gloves or allow grease or oil to be on your hands. Keep hands away from the oxygen cylinder controls.
3. Lifting cylinders is always a job for two persons. If available, move cylinders with a cylinder dolly.
4. Keep cylinders on end; strap or chain them securely so that they cannot fall.
5. Store cylinders away from salt, acids, films, or other corrosive substances.

SECTION VI - PROTECTIVE CLOTHING AND EQUIPMENT

The variety of work operations performed by County employees involves many industrial hazards. The tasks performed range from custodial services to heavy construction activities. In all tasks, however, there are counterparts in private industry where much research has been done to develop measures to protect employees from accidental injury. Where possible, this is done by "engineering out" the hazards. Most commonly, this is done by providing guards for various types of machinery. All machine guards shall be kept in place while machinery is in operation. Tampering with machine guards is prohibited, and any removal requires the prior approval of a supervisor. All guards are to be properly replaced after the repair work that necessitated their removal has been completed. When necessary to work on electrically-driven machinery, the disconnect switch for controlling the machine shall be secured in the open or off position by the worker or workers performing the job. The securing device should not be removed until the work has been completed and the area has been cleared.

When it is impractical or impossible to place a guard over the source of the hazard, then it becomes necessary to place the guard on the worker. This is done by wearing approved personal protective apparel such as hard hats, safety belts, safety goggles, traffic vests, face shield, gloves, aprons, toe guards, respirators, etc. Supervisors shall ensure that all their employees are properly protected. Local dress codes may be established within a particular department, division, or work area, and each employee is expected to know and follow these codes.

Every possible effort will be made by management to select protective clothing and equipment that is acceptable for comfort, appearance, and utility and still afford the desired protection. It is sometimes less comfortable to wear than ordinary dress, and this creates a temptation for some individuals to lay it aside when the "boss" isn't around. That employee becomes a gambler who is betting on their life or eyesight, or other physical well-being, that "it won't happen to me." Losing that bet becomes more uncomfortable for a lifetime than wearing the equipment for the duration of the job. Safety, in this instance, is a knowledge of the hazards, knowledge of the protection available, and a frame of mind that makes use of available protection a safe work habit.

General Clothing:

1. For your safety and comfort, wear work clothes that are sturdy, that fit well, and are washable.
2. The wearing of loose, flowing, or ragged clothing on or near moving machinery or equipment is prohibited.
3. Short sleeve shirts or tee shirts should be worn for operating machinery. Rolled up sleeves are dangerous because they have flapping ends and because the added thickness of the cloth can pull your arm into a machine before the cloth tears.
4. Pant legs should be cut ankle length and cuffs sewn up. Rolled up cuffs collect dirt and are likely to come down and cause you to fall.
5. Steel-toe safety shoes should be worn in all the jobs involving handling or moving heavy material. Otherwise wear sturdy, comfortable work shoes. Excessively high-heeled shoes may create a tripping hazard and soft-soled shoes (such as

- tennis shoes) do not afford protection from puncture wounds when in the field, and their use is prohibited while on the job.
6. Shoes with run-down heels or torn soles are hard on the feet and can cause falls. Keep your shoes in good repair.
 7. The safe worker does not wear rings, medals, identification bracelets, and other jewelry. Jewelry increases the danger of electric shock and can cause fingers to be badly injured.
 8. Work clothes should be washed frequently as a safeguard against skin infections and irritations.
 9. For outdoor work in winter weather, it is best to wear loose, warm, fairly lightweight clothing. Wear layers of clothing—so you can peel it off for inside work and put it back on when you have to go outdoors.
 10. Oil soaked clothes are a serious fire hazard. Keep your clothes free from oil.

Head Protection:

The many construction and maintenance activities performed by employees involve working above or below ground levels, movement of material overhead, or working near construction machinery. In such operations, the hazards of being struck by falling objects, machinery, or loads being moved by machinery, constantly exist. Hard hats are provided to prevent head injuries from being struck by falling objects and bumps against objects when working in confined spaces. The proper protection is provided when the head harness is adjusted so that there is approximately 1½-inch clearance, plus or minus one-eighth-inch, between the skull and the inside of the hat when it is worn. When the harness becomes worn to the extent that it no longer can be adjusted to maintain that clearance, hard hats should be turned in for repair or replacement. Hard hats that have been repaired, reconditioned, etc., shall be sterilized and kept sterile until issued to an employee. The construction and shape of hard hats shall not be altered in any manner by the employee. Hard hats shall not be painted because it alters the dielectric properties of the hat. Metal hard hats are not permissible. A hard hat is a personal item and shall be for the individual and exclusive use of the person to whom it is issued.

Employees working where there is possible danger of head injury from impact, falling or flying objects, or electrical shock and burns must be protected by approved protective helmets.

Face and Eye Protection:

Hazards involving the possibility of injuries to the face and eyes exist in both indoor and outdoor tasks. They range from dust blown into eyes on a windy day to particles of steel, sand, concrete, etc., propelled into eyes with considerable force by power tools and machinery, or splashes of corrosive dust and liquid chemicals.

There are many types of safety glasses, goggles, shields, etc., made of glass or plastic to protect the worker from these hazards. The loss of one or both eyes can have extremely serious consequences to an employee. Yet individuals often vigorously resist

efforts of management to require this vital protection with no better excuse than the slight discomfort or false pride. This is probably one of the most important protective features of any safety program, yet one of the most difficult to sell.

Face and eye protection shall be provided for any tasks where there is any probability that an injury may occur without such protection. Employees assigned to perform tasks which require eye protection shall wear the protector provided. Management shall provide appropriate face and eye protection devices at no expense to the employee and shall make their use mandatory in specific tasks.

Safety glasses, goggles, and other eye protective equipment offer a vital protection. If sufficient care is not exercised to maintain them properly, dirty or scratched lenses may provide another hazard from reduced visibility.

Employers with work places where exposure to injurious corrosives is a possibility are well aware of the fact that OSHA requires suitable facilities for quick drenching of the eyes and body. Not all employers, however, are aware of how to locate, select, install, and maintain these facilities.

Safety experts suggest that you learn to get the most out of emergency fixtures before an accident happens.

Survey your work area and determine where the eyewash/drench shower stations will be the most accessible. The NATIONAL SAFETY COUNCIL recommends that the stations require no more than ten seconds to reach and should be no greater than 100 feet from the potential hazard. They should be unobstructed and located a safe distance from electrical outlets or equipment.

What about maintenance? Regularly scheduled maintenance and testing are a must because an emergency station that is not working properly could actually worsen injuries. To prevent this, the manufacturer recommends that you activate your emergency fixtures at least once a week. This procedure is necessary to help flush contaminants, test for pressure and volume, and check for malfunctions. A maintenance log is to be kept at each station. Supervisors must check each eye-wash station maintenance when they do their visits.

No matter how good your emergency equipment, it won't do the job if you have not trained your employees to use the equipment properly. Be sure to post operating and first-aid instructions near each eyewash and shower station. Employees should be trained in the use and location of these stations at regularly scheduled intervals.

In work places where the installation of a fixed eyewash unit is not possible, self-contained units should be provided that flush with adequate amounts of water over a 15-minute period.

The following safety procedures are established:

1. Safety goggles or safety glasses with temple shields shall be worn when:

Grinding, cutting, milling, or drilling with powered tools.

Using impact wrenches and compressed air tools.

Chipping, scraping, or scaling paint, rust, carbon, or other materials.

Using punches, chisels, or other impact tools.

Cutting rivets.

Cutting or breaking glass.

Chipping or breaking concrete.

Pipe cutting; threading.

Using paint remover.

Soldering.

Cleaning dust or dirt from vehicles, machinery, etc.

Sandblasting or air cleaning operations.

Using metal cutting lathes, shapers, drill press, power hacksaw, and other metal working tools.

Using power woodworking machinery, both fixed and portable.

Tree trimming, brush chipping, or stump removal.

Using brush cutters.

Steam cleaning.

Washing vehicle parts with soaps or solvents.

Working under vehicles.

Using push-type rotary lawn mowers.

A supervisor deems it necessary.

2. A full plastic face shield shall be worn when handling acids, caustics, and other harmful dusts, liquids, or gases.
3. Spectacle-type safety glasses shall be worn when performing electrical switching operations or activating high voltage circuits where arcs may occur.
4. A face shield with the proper filter lens or welder's lens, or welder's goggles shall be worn in all welding and cutting operations.

Electric Arc Welding:

1. Welder's helmet with proper filter lenses shall be worn.

2. Portable welding screens shall be used to protect the eyes of others in the vicinity whenever potential exposure to others exists.
3. Helpers and observers shall wear safety glasses, goggles, or handheld shields with the proper filter lenses.

Gas Welding and Cutting:

1. Welder's goggles with proper filter lenses shall be worn.
2. Portable welding screens shall be used to protect the eyes of others in the vicinity whenever potential exposures to others exist.

Eye protection may be required on other jobs not listed, if so designated at the time by your foreman. Beyond this, you are encouraged to wear eye protection at all times. REMEMBER—YOU HAVE BUT ONE PAIR OF EYES—THEY CANNOT BE REPLACED—PROTECT THEM.

Hearing Protection:

Employees working on or near streets and highways must be alert to passing vehicles. For this reason, they are not to play commercial-type radios that would affect their hearing.

In the variety of activities conducted by County work crews, there are some machines or equipment that may produce sound levels in the frequencies which cause hearing loss. When employees are subjected to excessive sound levels, attempts should be made to use engineering controls to reduce noise levels. If the sound level cannot be reduced within tolerable range, then personal protective equipment shall be provided and shall be worn by employees so exposed.

Ear protection may consist of ear muffs, ear plugs, or some of the newer disposable materials. The type most acceptable to employees shall be provided whenever possible, so long as it achieves sufficient reduction of noise exposure.

Foot Protection:

Many tasks involve manual lifting or handling of heavy tools and materials. Foot injuries frequently occur when heavy objects are dropped, resulting in bruises, dislocations, fractures, or crushes. Shoes, rubber boots, etc., reinforced with steel toes or soles will prevent foot injuries from impacts of falling objects, stepping on sharp objects, or exposures to blades of power tools. These items of foot wear are available in a variety of attractive styles as comfortable as any pair of properly fitted shoes can be.

Foot protection is a sound investment for any employee—not only for work activities, but for many off the job tasks, as well. Following are some of the activities in which safety shoes are recommended and wearing sandals or canvas sneakers (tennis shoes) is prohibited:

1. Engineering office personnel while on the job site of any public service construction or maintenance project.

2. All road and highway maintenance personnel while on the job site of road maintenance, storm drain maintenance, curb and gutter construction, or other public service maintenance projects.
3. Parks and Recreation Department personnel while on the job site of any park construction project, or during ground maintenance activities involving the use of trimmers and other power equipment.
4. Environmental services personnel working collection routes or in the disposal area.
5. Sewage treatment plant maintenance personnel and plant operators when assisting in the tear down of machinery.
6. Water filtration personnel and plant operators when assisting in the tear down and maintenance of heavy machinery.
7. All other personnel working near construction equipment.
8. All personnel performing repair tasks.

Finger and Hand Protection:

One of the most dangerous human ornamentations to wear in occupational or industrial work is a ring. They should be removed or not worn to work if there is the slightest chance of getting the ring caught in any hook or piece of machinery. Rings can cause the loss of fingers or painful lacerations, and frequently have to be cut off of fingers if bent in such a manner as to shut off circulation. Gloves with leather palms should be worn when handling rough edge or abrasive material or when the work subjects hands to possible lacerations, puncturing, or burns. Other hand protection may be designated by authorized persons. Skin irritation should be prevented by washing with soap and water—not gasoline. Learn to recognize poison ivy and poison oak, and avoid it. Rubberized gloves should be worn when handling irritating materials.

Other Protective Equipment:

1. High visibility safety vests or shirts shall be worn by all employees in and around any area where there is a danger from street traffic, such as patching and maintenance of streets, in and around street excavations, a construction or maintenance area where there is moving machinery or equipment, while surveying on streets where there is moving traffic, or in any other area designated as "safety vest" area by the supervisor.
2. Safety harnesses with lifelines shall be worn by employees working in closed tanks or spaces underground where the worker's position is obscured or where air supply may be inadequate, with an attendant worker stationed outside tending the lifeline.
3. Safety seat belts shall be properly fastened whenever the motor vehicle is so equipped and is in motion. This applies to County lease, as well as County-owned vehicles.

OUTLINE FOR A RESPIRATORY PROTECTION PROGRAM

(Nonpowered Air-Purifying Respirators)

1. Every effort shall be made to use engineering control to eliminate the hazard. When engineering control is not feasible, or while controls are being instituted, appropriate respirators shall be used.
2. These respirators shall not be used in oxygen-deficient atmosphere or in atmospheres immediately dangerous to life and health.
3. The employer is responsible for the establishment and maintenance of a respiratory protective program.
4. The employer shall provide the proper respirator for the job.
5. Written standard operating procedures shall be developed for respirator usage.
6. Operators should be fit tested for the appropriate respirator.

It is important to determine that the respirator fits satisfactorily before entry into a contaminated area/atmosphere. Proper fit can be determined by the use of a qualitative or quantitative fitting test. Qualitative testing determines existing leaks. Quantitative testing is done to determine the degree of leakage. If qualitative testing is done with care, it can provide a satisfactory estimate of respirator integrity.

Qualitative Fit Testing:

Initial qualitative fit testing should be performed on each employee using negative pressure respirator. The test is most important in determining which respirator will fit the user's face properly. This test submits the user to Isoamyl Acetate (banana oil) or the testing may be done by using a low toxicity irritant gas or aerosol. If the employee can smell the gas, there is a leak in the respirator and the respirator should not be used until the unsafe condition is corrected. During the fitting test, the head straps are to be as comfortable as is possible. Tightening the head straps will sometimes reduce face piece leakage, but the wearer may be unable to tolerate the respirator for any length of time.

As a person gets older, facial features change; therefore, the initial qualitative test should be performed periodically (possibly on an annual basis) to ensure that the respirator provides the necessary protection. The half mask must accommodate complex facial surfaces. The possibility of leakage is greater than using a full face mask. Individuals with a flat bridge may not be able to obtain a proper fit with a half mask; therefore, a full mask may afford a proper fit to obtain maximum protection. A negative pressure full face mask must also be tested for proper fit.

Positive and negative pressure tests; these tests are performed each time the respirator is used to determine if the face piece fits properly. For the negative pressure test, the wearer closes off the air inlets by the placing of the hand over the inlets and inhaling gently so that the face piece slightly collapses, hold breath for approximately ten seconds. If a leak exists, the incoming air can be felt by the user. For the positive pressure test to be conducted, the user closes off the exhalation valve and exhales gently into the face piece. A slight positive pressure builds within the face piece without evidence of leakage to the atmosphere. If a leak is detected, the face piece should be tightened or adjusted and retested. For more information, refer to the manufacturer's instructions concerning the respirator.

7. The user shall be instructed and trained in the proper use of the respirator. For respirators designed for use in extremely dangerous areas, some canisters are equipped with devices which change color when sorbent depletion approaches. Respirators designed for use under less dangerous conditions, the odor of the gas penetrating the canister is the only warning. Cartridges for dust and mist respirators should be changed when the resistance in respiration increases to an uncomfortable level. Air purifying respirators shall not be used for hazardous gases with no odor. Always refer to manufacturer's specifications manual.
8. Respirators shall be cleaned and disinfected on a regular basis. Respirators issued for the use of one employee should be cleaned after each use. Respirators used by more than one individual shall be thoroughly cleaned and disinfected after each use. Wash the respirator with detergent in warm water using a brush; then rinse the respirator in clean water. The respirator should then be air dried in a clean area. Do not use organic solvents; their use can deteriorate the face piece. After cleaning, the respirator should be disinfected to kill any remaining microorganisms that remain. A reliable disinfectant may be made from household bleach. A two-minute immersion of a respirator in a solution of one-quarter cup of chlorine bleach per gallon of water will effectively disinfect the respirator. Rinse the respirator thoroughly in clean water, temperature not to exceed 125° Fahrenheit, to remove all traces of detergent and disinfectant.
9. Respirators shall be stored in a clean and sanitary location, preferably outside the work area. They should be placed in a plastic bag with the face piece and exhalation valve in a position so as not to distort the face piece.

Canisters deteriorate with time. Consult and follow the manufacturer's available information regarding shelf life of the canister. Outdated canisters are to be destroyed, again following the manufacturer's instructions.
10. Only approved respirators shall be used.
11. Each employee assigned to use a respirator is to be medically tested to determine if they are physiologically able to use the assigned respirator.

12. If corrective glasses are used by the employee, a special fitting will be required.

For more information, contact the County Safety Officer.

Air-purifying respirators remove gaseous or particulate contaminants or both from otherwise respirable air that is inhaled by the wearer. They are of no use where an oxygen deficiency exists or in IDLH atmospheres. They are divided into the following types:

1. Mechanical filter respirators offer respiratory protection against airborne particulate matter, including dusts, mists, metal fumes, and smokes. They consist of a soft resilient full- or half-mask face piece. Directly attached is one of several types of mechanical filters made up of some fibrous material which removes particles by physically trapping them as air is inhaled through the materials. NIOSH certifies respirators for one or any combination of particulate hazards- nuisance; fibrosis-producing; and/or toxic dusts, mists, and fumes. Mechanical filter respirators have been designed for protection against atmospheres which are not immediately harmful. They do not protect against gases or vapors or against an atmosphere deficient in oxygen (less than 19.5 percent). There is a practical limit for the concentration in which a mechanical filter respirator should be used. If the concentration is so high that the filter must be changed several times an hour in order that the wearer can inhale without undue resistance, a more suitable type of device should be selected.
2. Chemical cartridge respirators afford protection against high concentrations (up to 0.1 percent by volume, depending upon the contaminant) of certain acid gases and organic vapors by utilizing various chemical filters to purify the inhaled air. Chemical cartridge respirators are "nonemergency" respiratory protective devices and should never be used in dangerous atmospheres. It is necessary that oxygen be present at all times to support life (greater than 19.5 percent). Face pieces are the same as for mechanical filter respirators.
3. Combination respirators use dust, mist, or fume mechanical filters, plus a chemical cartridge for dual or multiple exposure. One common job where combination respirators should be used would be spray painting.
4. A gas mask, consists of a full-face piece connected by a flexible breathing tube to a canister under the chin, or that may be carried in a harness on the chest, under the arm, or on the back. The canister contains the materials for removal of contaminants and purifying the air. No single substance has been developed that will remove all types of gaseous and vapor contaminants, the canister fill depends upon the type of contaminant against which it is designed to protect.

It is extremely important to know the contaminants against which a canister will protect. To assist users in easy identification, a classification of gas mask canisters has been developed in conjunction with a color code. This code, an American Standard used by all manufacturers of gas masks in the United States, is given in Table I.

TABLE I

Atmospheric contaminants to be protected against	Colors Assigned
Acid gases.....	White.
Hydrocyanic acid gases	White with ½" green stripe completely around the canister near the bottom.
Chlorine gas	White with ½" yellow stripe completely around the canister near the bottom.
Organic vapors.....	Black.
Ammonia gas	Green.
Acid gases and ammonia gas	Green with ½" white stripe completely around canister near the bottom.
Carbon monoxide.....	Blue.
Acid gasps and organic vapors	Yellow.
Hydrocyanic acid gas and chloropicrin vapor.....	Yellow with ½" blue stripe completely around canister near the bottom.
Acid gases, organic vapors, and ammonia gases.....	Brown.
Radioactive materials, excepting tritium and noble gases	Purple (magenta).
Particulates (dusts, fumes, mists, fogs, or smokes) in combination with any of the above gases or vapors	Canister color for contaminant, as designated above, with ½" gray stripe completely around canister near the top.

SECTION VII - HAND TOOLS

Disabling injuries, such as metal chips from mushroomed chisel heads flying in an eye, do happen. Injuries to fingers and hands are a common occurrence.

The following safety rules are established:

1. Select the right tool for the Job.
2. Sharpen the cutting edges of the tool and carry the tool with the sharp edge down.
3. Sand the wooden handles of a shovel, rake, mall, etc., thus preventing splinters and burns.
4. Check the handle on each tool for tightness.
5. Check the head of each tool, such as hammers, chisels, punches, and malls, and have the tool dressed if it is mushroomed (includes burrs and chipped edges).
6. Wear shatterproof, clear goggles when using chisels, punches, and wedges. Be sure no one is in the area before using such a tool.
7. Use properly insulated tools (screwdrivers, wire cutters, etc.) when working around energized electrical circuits or equipment.
8. Avoid using metal measuring tape, fabric tapes containing woven metal strands, rope with wire cord, or other tools and equipment that have conductive properties while around energized electrical circuits or equipment.
9. Return tools to their proper place so that they do not fall from a ledge or can be tripped over.

SECTION VIII - POWER TOOLS

ELECTRICAL EQUIPMENT

Electrically powered hand drills, saws, hedge trimmers, and many other indoor and outdoor tools have become as much a part of routine living as television and powered transportation.

Because power tools touch the lives of millions of do-it-yourselfers around the home, the manufacturer members of the Power Tool Institute strongly emphasize the importance of safe, proper grounding of electrical tools that are not double insulated.

Double-insulated tools have an added internal insulation barrier built in that safely eliminates the need for a third grounding wire. These tools are clearly marked to show they are double insulated and are equipped with a two-pronged power cord.

Grounding, in simplest terms, is your assurance of keeping the electricity flowing through the wire and **NOT THROUGH YOU**.

The following are recommended do's and don'ts concerning the grounding of power tools:

This advice relates only to the three-wire system now in use. If you have an old nondouble insulated two-wire tool, it should be replaced with either a three-wire unit or a double insulated one.

Extension Cords: Frayed, cut, or loose-connection power extension cords can be dangerous. **DON'T USE THEM.** Store extension cords up and away from possible damage. Use three-conductor cords for all grounded-type tools.

Be positive cords are of sufficient size (capacity) to carry the electrical current - refer to labels and tool owner's manual.

Plug-In Receptacles: Be positive they are grounded. If in doubt, have a licensed electrician check them out carefully.

If you use an adapter for plugging in a three-wire cord into a two-wire outlet, be certain the pigtail or grounding lug is connected to an unpainted screw of the grounded wall receptacle. Never cut off the third prong.

Ground all tools, unless double insulated. If the tool is equipped with a three-pronged plug, it should be plugged into a three-hole electrical receptacle. If an adapter is used to accommodate a two-pronged receptacle, the adapter wire must be attached to a known ground.

The Power Tool:

1. Know the tool you are to use, its application, limitations, and potential hazards.
2. Select the proper tool for the job. Don't try to tackle a big job with an undersized tool. Makeshift tools cause accidents.

3. Use only the manufacturer's recommended accessories. Follow the instructions of the manufacturer. Read manuals thoroughly.
4. Do not force the tool. It will do a better job and do it safely at its designed speed.
5. Avoid accidental start-up. Make sure switch is off before plugging in cord, or when power is interrupted. Don't carry plugged-in tools with finger on switch.
6. Keep the tool in top-operating condition, serviced by an authorized repair person.
7. Store in protected place away from dampness, children, and other unauthorized persons.
8. Never leave tool unattended. Do not leave job area until tool has come to a complete stop and is disconnected from the power source.
9. Never use tools with frayed cords. Return them for servicing. Use only heavy-duty UL-listed extension cords of proper wire size and length.
10. Do not attempt field repairs. Return disabled or malfunctioning tools for servicing even if the tool has only a slight defect or malfunction.

Personal Safety:

1. Never stand in damp or wet places or work with wet hands when using a power tool.
2. Never work with a power tool in one hand and a secondary power source (electric light) in the other.
3. Keep work area free of clutter, boards, boxes, debris, tools, etc., that can be tripping hazards.
4. Be sure saw blades, drill bits, router cutters, etc., are sharp, clean, and regularly maintained.
5. Use safety glasses and face or dust mask if the operation requires.
6. Do not overreach. Keep proper footing and balance at all times.
7. Never adjust, change bits, blades, or cutters with tool connected.
8. Never brush away chips or sawdust while tool is operating.
9. Never surprise or touch anyone operating a power tool. The distraction could cause a serious accident or injury.
10. Dress properly. Avoid the wearing of loose clothing that could catch in moving parts. Wear rubber boots in damp locations.
11. Secure work areas. Use clamps or vise to hold work when practical. This maneuver frees both hands to operate the tool.

12. Remove adjusting keys and wrenches before turning on the tool.
13. Keep guards in place and in working order. Do not remove or wedge out of the way.
14. Be aware of the conditions that exist in the working area. There are hazards to be considered. Are you in an area where there may be combustible materials, such as, gasoline, naphtha, etc.?

Grinders:

1. Only those employees familiar with the mounting of grinding materials are permitted to do so. A ring test on each of the new grinding wheels should be completed before installation (a ring test is made by supporting the wheel freely on a rod through the arbor hole and tapping it lightly with a wooden object. A clear, metallic ring indicates absence of cracks).
2. The wheel must fit easily onto the spindle. Too loose or too tight is dangerous.
3. When the wheel is mounted, stand out of danger at one side while you allow it to develop full operating speed for at least one minute.
4. Apply work gradually to a cold wheel at the beginning of each work period, as cold wheels are most subject to breakage.
5. Never store a grinding wheel on damp or cement surfaces, nor put oily rags on the wheel.
6. Every grinding tool must be securely fastened to the shaft before commencing work.
7. The maximum operating speed as given by the wheel manufacturer is on the wheel label, and grinding wheels are not to be operated in excess of these speeds.
8. The work-rest must be securely adjusted on all stationary grinders to about one-eighth inch of the wheel. Never attempt this adjustment while machine is in motion.
9. Avoid using the side of an emery wheel for grinding, unless it is especially designed for side grinding. Side grinding weakens the ordinary wheel and may cause it to burst.
10. Use the cutting surface of a grinding wheel uniformly, as a grooved wheel has been dangerously weakened.
11. Grinder bearings must be kept properly oiled and adjusted. This will help to prevent hot bearings and spindles, which are sometimes responsible for melted brushes.
12. Do not abuse the wheel by applying excess pressure.

13. Be particularly careful when grinding narrow tools or other objects as they are apt to catch between the rest and the wheel.
14. The operator's eyes must be protected with goggles at all times when the machine is in use.

Drill Presses:

1. Adjust the table so that you have plenty of room for the jig, and keep your hands away from the revolving drill. Never run the point of the drill into the table.
2. Be sure that both the chuck and the drill are tight on the spindle, and that any circular tables are tightened before beginning to drill.
3. A sluggish drill is probably the result of incorrect grinding. Be sure the drills are sharpened properly for the particular material so that the cut may be the right size.
4. Materials shall be clamped or otherwise fastened to the drill press bed, not held in the hand.
5. Never run a drill faster than the rated speed as this may result in broken drills, damaged material, and serious injury.
6. It is dangerous to attempt the removal of broken drill pieces with a center punch and hammer. For further details, see your supervisor.
7. Never leave the key in chuck after tightening the drill. If set screws protrude, report it to your supervisor.
8. Reduce the pressure if there is any backlash in the spindle. Listen carefully for the distinctive noise made when the drill comes through work so that you can ease off the pressure.
9. The safety stop must be set to keep the over arm of a radial drill from swinging out where it may cause an injury.
10. The wearing of gloves and loose clothing while operating a drill press is prohibited.

Lathe Operations:

1. Lathe tools should be ground so that the chips will break off instead of curl. Only lathe dogs equipped with safety set screws are to be used.
2. Make sure that all gear and belt guards are in place. This includes back gears and in gears, especially.
3. Whenever chucks or face plates are changed, they must be started on the spindle by hand power. Keep hands off chuck rims when the lathe is in motion.

4. After adjusting a chuck, be sure to remove the chuck wrench immediately. See that the tailstock tool holder and material are properly clamped before turning on power.
5. For external work, never set the lathe tools below the center of the work being turned.
6. Use a brush to remove chips. Do not use compressed air.
7. Wear only short sleeves when filing on a lathe. When near the chuck end or head stock, file with the right hand over the lathe stock instead of the left hand, holding the file in such a position that, in case it is forced back, the hand will not be forced against the body.
8. The operator's eyes must be protected with goggles at all times when the machine is in use.

Compressed Air:

Cleaning with compressed air.

The use of compressed air for cleaning purposes is prohibited. Brushes should be used for cleaning machinery.

Air Hammers:

1. Remove the piston or tool of an air hammer whenever it is not in use to avoid the danger of it flying out and striking someone.
2. Always close the valve on the air line and release the air from the hose before cleaning, repairing, trying to insert any tool, or leaving any air-powered unit.
3. Maintain your hold securely on the handle on an air motor to prevent it from flying around and striking you.
4. Be sure to show that the discharge end is made secure before turning compressed air into a hose so that it will not swing around and cause injury.
5. Hearing protection in the form of an earmuff is required, the use of safety goggles is required, and the purchase of steel-toed shoes is highly recommended. If steel-toed shoes are not worn, steel-toe caps are required. In addition, metatarsal guards must be worn.

Woodworking Machinery:

1. Machine guards are to be permanently attached.
2. If you are running short or narrow stock, protect your fingers by using a block.
3. Before using a circular saw, check all materials for possible warping. If a concave edge is found, always place it away from the straight-edge guide of the table saw.

4. If the saw binds in a cut, the saw must be shut off before attempting to dislodge the lumber.
5. A rip saw shall not be used for crosscutting; nor shall a crosscut saw be used for ripping. A spreader and kickback fingers shall be required when using a rip saw. A spreader will be required when using a crosscut saw.
6. Learn to stand out of the line of possible "kickback" and to avoid the danger of being struck by the small pieces that are frequently thrown from a circular saw.
7. Never reach over any machine to get finished materials from the opposite side, to remove dust or wood particles from the saw table, or to oil the machine while it is in operation.
8. In using a joiner, never allow either hand to pass over the knife. Use both hands—one on each side of the material—using particular care from start to finish.

Gas Welding:

1. All gas welding equipment and connections should be kept free from grease and oil (oxygen will explode upon contact with oil or grease). Oily and greasy gloves may bring about the same effect, besides making it difficult to handle the cylinders.
2. Never roll tanks on the floor, nor attempt to carry them by hand or hoist unless properly slung. Use the skid provided when unloading cylinders from the truck. After unloading the tank, the cylinder must be securely chained.
3. Securely fasten with a chain, the acetylene and oxygen tanks in an upright position where there is no danger of their falling or being bumped.
4. Use only standard green oxygen hose with right-hand couplings, together with red acetylene hose with left-hand thread.
5. Blow out the tank valve before attaching the regulator. Never use compressed air for blowing out equipment as air may contain oil and moisture. Use oxygen to blow out the oxygen hose and acetylene to blow out the acetylene hose.
6. When changing empty tanks for full ones:
 - a. Shut off valve on empty tanks.
 - b. Release thumb screw on regulator.
 - c. Disconnect regulator, blow out tank valve, and connect on full tank.
 - d. Stand on opposite side of tank, point the acetylene valve outlet away from the oxygen tank, and face away from the gauge while opening the tank valve.

- e. Adjust thumb screw on regulator to proper pressure, making sure that you do not have excess oxygen, which only causes unnecessary sparks in operation.
7. Be sure that the end of your torch is cleaned before attempting to light. Use only friction lighters.
8. Do not put the materials in such a position as to permit sparks, hot metal, or the severed section of metal to fall on the gas supply hose or the feet of any employee.
9. At the completion of the work, the welder may make a careful inspection of the job site to ensure that hot articles have not been left smoldering which might later develop into a serious fire.
10. Proper goggles and gloves shall be worn. Employee should wear steel-toed shoes.

Electric Arc Welding:

1. Whenever possible, welding operations should be carried on inside a regular welding booth. If work must be performed outside a booth, the arc shall be effectively screened to prevent injury to eyes and others.
2. Before entering the welding area, an effective warning, such as shouting, shall be given so that the operator may be aware of your presence and help you to avoid a sudden flash or other injury.
3. Like the welding operator, the person entering the welding area is also required to wear eye protection.
4. The welding of galvanized material requires the operator to protect themselves with a specially designed airline respirator which fits under their helmet.
5. Deposit short ends of welding rods in the containers provided for that purpose to prevent burning holes in your shoes or starting fires.
6. When not in use, place the electric holder where it cannot cause an arc and remove the rod.
7. Prevent injury to yourself and others from short circuits by only using welding cables that are in good condition.
8. Only a properly authorized operator shall use welding equipment. Never attempt to repair welding equipment yourself.
9. Helmets and shields will be used with all electrical welding. Do not remove your helmet while bending over a hot weld.

Tree Trimming And Chain Saw Safety:

1. No employee shall be assigned to work in a tree unless they have been trained as a climber and is:
 - a. Able to use a climbing rope and saddle.
 - b. Able to tie all necessary knots.
 - c. Able to use necessary hand tools.
2. Before starting any tree operations, time should be taken to check the trees in the surrounding area for any dangerous conditions.
3. Except in cases of emergency, tree work should be avoided when trees are wet, during high winds, or during extreme low temperatures.
4. Only physically fit individuals should be allowed to climb.
5. Tree trimmers should ask for assistance only from someone on the crew, never from bystanders.
6. Danger signs and barriers will be placed around areas where tree work is to be done.
7. The supervisor is responsible for instruction to his workers; inspection of tools; enforcement of all safety rules; suitable clothing should be worn as determined by the supervisor.
8. Ropes of a suitable strength should be used for lowering of large limbs.
9. Ropes shall be used for raising and lowering of tools.
10. Safety or climbing ropes should not be used for lowering of limbs.
11. Ladders should not be used unless they can be set on a firm foundation.
12. Ladders should be frequently inspected for damage. All additional safety rules of Section XI, regarding ladders, are to be adhered to.
13. Climbers should always call a warning before dropping limbs.
14. Never leave hangers or tools in a tree over noon hour or overnight.
15. Special precaution should be taken when it is necessary to work around live wires.
16. All wires broken during tree work should be reported immediately to the proper utility company.
17. Fallen wires should be guarded until service workers arrive.

18. In case of contact with live wires, do not touch the victim. The person must be separated from wires by use of nonconductive materials, such as wood, ropes, etc. Call an ambulance at once.
19. For removal operations, pull ropes are used to guide the fall of large trees. Once the notching has started, the tree must not be left unguarded.
20. Only one-person saws should be used in a tree. All chain saws should be roped with their own rope using either a taut-line hitch or a ground person to hold the rope.
21. Walk with the saw stopped and the guide bar pointing to the rear.
22. Never walk with the power saw, running.
23. Always stand at the end of the saw when cutting, never at the side.
24. Avoid using the tip of the saw for cutting.
25. Never replace chain in guide rail groove while motor is running.
26. Clean and check saw thoroughly and lubricate daily as required. Maintain a proper tension on the chain. Always inspect the saw for sharpness, as a sharp saw will reduce maintenance cost, and result in faster, safer, and easier cutting.
27. Refuel the saw before it runs out of gasoline to avoid a "bound saw" which is difficult to refuel and start, and to avoid the danger of fire when starting a saw at the refueling site. Always allow the engine to cool. Never refuel a hot engine.
28. Hard hats and goggles are mandatory; steel-toed shoes should be worn.

Lawn Mowers:

1. Power push mowers will not be left unattended with the motor running.
2. The area to be mowed must be inspected for foreign objects. Wire, stones, bottle caps, sticks, etc., should be removed before mowing.
3. Bystanders should be warned by the operator of the danger of flying objects. Extreme precaution must be taken when there are children in the immediate area.
4. Operators must keep hands and feet away from undercarriage of the mower.
5. During maintenance repairs, the spark plug wire must be disconnected from the spark plug and secured away from the spark plug.
6. After mowing is completed, disconnect the spark plug wire from the spark plug; remove dirt, grass, etc., from the top of the mower; place the mower in a dry location under cover.

7. Operators of power push mowers should wear steel-toed shoes or steel-toed caps.
8. Again, allow the engine to cool when refueling is needed. Never refuel a hot engine.

**SECTION IX - CONSTRUCTION SAFETY, ABOVEGROUND
AND UNDERGROUND WORK**

County employees are often involved in tasks related to the heavy construction industry. Heavy machinery is employed in public works projects to save time and labor, but potential hazards to inexperienced or untrained workers are multiplied in the process. The operators of construction machinery often do not have sufficient visibility to detect danger to nearby workers or the ability to avoid an accident by quick reversal of controls. The machinery is designed to handle extremely heavy work and usually does. Being struck by, or caught in or between such machinery and its load, usually inflicts severe injuries.

Other public facilities are often installed in or near the work site area of projects to be completed by County employees. Contact with, or damage to, the other utilities may affect the safety of the workmen on the job, the safety of the general public, or interruption of essential utilities services. The following is a list of most of the utilities an employee must consider at job sites:

Electric Company	Water Works
Telephone Company	State Highway Department
Sewers	Storm Drains
Gas Company	Traffic Signals
Western Union (A & T)	Cable TV

The daily familiarity with these services may make even experienced employees treat them too lightly until there occurs a gas explosion, an electrocution, a cave-in, or loss of a vital communication service. Frequent work in a particular area may lead employees to believe they know what other services are there. The rapidly changing demands of today's society leaves no room for such assurance. Recent changes may have been made. This attitude must be consciously avoided at all times. Safety precautions must be a part of job planning. Overhead lines constitute a hazard that must be considered when operating machinery beneath them. Underground services constitute many hazards when damaged in a dig-up.

The most immediate danger to workers lies in contact with electric service or rupture of a gas service. Such accidents can be prevented by advance planning. But, if they should occur, prompt reporting to the utility concerned is of prime importance. Escaping natural gas constitutes an explosion potential, and the leak must be stopped by trained personnel as soon as possible. Contact with a primary electrical circuit constitutes a shock hazard. If an injured employee is still at the point of contact or rescuers are attempting to remove the employee, the reactivation of the circuit poses additional hazards. An immediate report to the utility affected will avoid compounding the hazard.

Some of the principal hazards affecting employees and/or public safety are:

Dig-ups resulting in gas explosion, electrocution, flash burns, etc.

Rupture of gas, water, and sewer facilities from using mechanical compaction, boring or digging equipment.

Electrocution resulting from contact with overhead electrical wires.

Interruption of electrical service or communication lines from dig-ups, pole collapse, etc.

Fractures, contusions, crushes, etc., from being struck by or caught in materials and/or machinery.

Fractures, strains, dislocations, etc., from cave-ins. Strains from lifting and material handling tasks.

Eye injuries from dust and debris propelled by machinery and tools used in the operations.

Construction accidents can be prevented by constantly including consideration of necessary safety precautions in planning every job, coordinating with other utilities to locate services near the job site, instruction of workers about hazards involved as each job is explained to them, use of approved protective clothing and equipment, and adherence to approved safe job procedures.

The following safety procedures are established.

BEFORE THE WORK IS STARTED, a supervisor shall:

1. Check plans to see what public utility services are located on or near the job site area.
2. Contact other public utilities having service in this job site area to secure assistance in locating and protecting all underground or overhead services that may be affected.
3. Make a personal inspection of the job site area to identify what signs, post markers, overhead electrical lines, etc., may be seen and make this information known to fellow workers.
4. Obtain the service and repair telephone number of all utilities having services in the job site area so that an immediate report may be made to them if an accidental contact is made.

Natural Gas Service:

1. Inform all crew members of locations and depths of buried pipelines.
2. Consult the local gas utility of closely paralleling or crossing buried pipelines.
3. Specifically instruct equipment operators to avoid contacts with buried lines. Do hand digging when in close proximity to buried pipelines.
4. Be aware of proper compaction procedures when using mechanical compaction equipment after backfilling over buried pipelines.
5. Do not use drop-weight type concrete over buried pipelines.

If a Gas Pipeline is Damaged:

1. Immediately notify the fire department, the gas utility service, and the repair office to report the damage.
2. Shut off all motors in the area.
3. Remove all flares or lanterns.
4. Enforce **NO SMOKING** in the area.
5. Do not cover up a damaged pipeline.
6. Do not operate gas valves.
7. Check buildings in the immediate area for gas odors.
8. Request occupants to leave the area if gas odors are detected.
9. Reroute traffic from the immediate area and notify Emergency Communications of the situation.
10. Stay near the area until relieved by fire or gas company personnel.

Electrical Transmission Service:

1. Contact the local electric power utility if work is to be done near electric service and accurately locate any buried service.
2. Consult the power company if excavating near poles or guy wires and the possibility of damage to cable or collapse of a pole line exists.
3. If excavating beneath buried conduit or cables, arrangements shall be worked out in advance with the power company concerning maintenance of electrical services, proper support of exposed conduit, and suitable compacting of the backfill.
4. All wires and conduit shall be considered energized and dangerous.
5. Booms and protruding parts of construction machinery shall not be operated closer than ten feet from overhead electrical lines. When construction machinery is operated in close enough proximity to energized lines that a full traverse of the moving parts could result in contact, a signaler shall be provided to direct the operator. Signalers in those circumstances shall be especially watchful to prevent movement of the machinery any closer than the minimum ten-foot clearance prescribed above.
6. Workers on the ground handling suspended loads, slings, cables, or in contact with the machine are in the most hazardous position if contact with energized electrical lines occur. Ground crews shall be repeatedly warned of the hazard and especially watchful to prevent such contact.

If Machines Contact Energized Wires:

1. Immediately contact the power company service and repair office.
2. The operator should attempt to swing the boom clear.
3. Persons on the rig are usually safe. If necessary to leave the rig, jump entirely free, being careful that no part of the body is in contact with the machine and the ground at the same time.
4. When jumping clear of energized equipment, aim for dry ground.
5. Once clear of energized equipment, do not return to it and keep others away from it.
6. If wires are down, post guards to prevent anyone from touching them.

Telephone Service:

1. While telephone circuits operate on low voltage and are not an electrical hazard in themselves, they may be energized with higher voltage when crossed with power lines by accident at points far removed from the job site. Consider **ALL** lines hazardous.
2. Do not cut or disturb guy wires. Sudden release of tension may cause an entire pole line to collapse.
3. Observe the precautions listed for electric power lines.
4. Underground telephone cable is generally buried with a minimum cover of 24 inches. Subsequent grading may have reduced this minimum. Pipe pushers, trenchers, boring tools, air hammers, pins for paving and curb forms, etc., should not be used until determining the depth and location of buried telephone cables and conduit.
5. When working around guy wires, observe the clearance between the guy wire and overhead power lines. Guy wires could be energized.

Digging and Trenching Operations:

1. Approved guards, such as cribbing, barricades, warning signals, or flaggers, shall be in place when workers are engaged in any street excavation or street repair work, or when removing or replacing manhole covers. Warning devices shall be placed a sufficient distance ahead of the work to permit vehicles a reasonable stopping distance with due regard for visibility, speed, and volume of traffic. Open manholes shall be properly guarded with approved warning devices.
2. Signalers shall be posted on the surface to assist the machine operator. They shall station themselves where they can be seen by the operator, outside the range of movement or hazardous area from loads, and warn the operator of the presence of others who may enter that area.

3. Manhole covers not provided with lifting devices shall be raised slightly on one edge and slid off the hole. To replace the cover, reverse the procedure.
4. All tools, materials, and equipment shall be kept at a reasonable and safe distance from the edge of trenches, curbs, or embankments.
5. Cribbing of trenches shall commence at a depth of five feet. Earth banks more than five feet in depth, when not shored or braced, shall be sloped to a safe angle. Excavation work shall be under the supervision of someone with the necessary experience and authority to modify the shoring and method of excavating as necessary to insure safety. Excavations less than five feet shall also be guarded when hazardous ground movement may be expected.
6. Workers in an excavation that is properly sloped or shored should not be in danger of being buried by a cave-in.
7. However, accidents have occurred where workers standing on the surface at the edge of an excavation were carried into the excavation and buried by a cave-in at the point where they were standing. If such an accident should occur, pull the hard hat over your face to trap a pocket of air.
8. Prevention is the best insurance. To avoid the situation described in No. 6, watch the texture of the earth being removed. If it is unstable (sand, loose fill, etc.), warn all workers against working too close to the excavation before shoring is installed.
9. When chains, ropes, cables, slings, etc., are placed under tension, warn workers and observers to stay beyond the range of whipping strands if they should part from the tension.
10. The public shall be directed away from hazardous areas and material piles.

Materials Handling Machinery:

1. When moving heavy objects with a crane, use the proper slings and grips to secure the load to be suspended.
2. When guiding a suspended load into position, always use nonconductive rope or nylon tag lines to permit maintenance of a safe distance from the drop zone in case a suspended load should fall or contact with an electrical service should occur.
3. Never crawl under mobile construction machinery during rest or lunch breaks.
4. Avoid moving a suspended load over persons on the ground or above persons working in an excavation.

Aerial Platforms and Baskets:

County employees use several kinds of mobile equipment that provide platforms or baskets on which they are mechanically lifted to work on things too high to reach from

the ground. This equipment is used by linemen, tree trimmers, and in various public service maintenance tasks.

The hazards involved are:

Contact with electrically charged, overhead wires.

Falls.

Dropping tools and other objects upon workers below.

Being caught in, on, or between equipment parts.

Extreme care must be exercised when operating this equipment near overhead lines. With certain exceptions, aerial platforms or baskets should not be positioned closer than ten feet to overhead lines.

Falls can be prevented by use of adequate and appropriate safety equipment. A raised platform or basket becomes a highly unstable support if jarred by a collision with the base vehicle or jerky operation, or failure of mechanical controls. Prevention of falls is achieved by using a safety line, strong enough to support the weight of the employee using it, secured to the employee and to the boom or platform.

The equipment has controls located in various parts of the basic machine to operate the out-riggers, booms, power take-off, etc. There is little standardization, even on equipment of the same general type. The operator who activates such controls should make sure that all persons in the vicinity of this equipment are clear of any moving part before power is applied. The supervisor or lead worker in charge of the crew is responsible for ensuring that this precaution is taken and that appropriate warning is given.

The following safety procedures are established:

1. Always lower out-riggers before raising the basket (most equipment now in use is equipped with an interlock which prevents raising the basket until out-riggers are down).
2. Give verbal warning to persons near the vehicle when lowering out-riggers if an automatic audible signal is not operative.

Working in Public Rights-of-Way:

Employees are often required to work in or alongside rights-of-way normally used for vehicle or pedestrian traffic to repair utilities services or perform tree trimming or landscaping tasks and other maintenance activities. It is desirable that, whenever possible, some continued flow of traffic be maintained with the least possible interference with normal traffic patterns. There are two safety considerations involved: 1) protecting employees from being struck by vehicular traffic; and 2) helping the using public to safely avoid hazardous obstructions, excavations, etc., that interrupt the flow of both vehicle and pedestrian traffic.

When road surfaces are being repaired, manholes opened, or excavations dug, it is necessary then that adequate warning of the hazard be posted, that a minimum amount of the right-of-way be blocked off consistent with safety requirements, and that traffic be efficiently rerouted.

If repair work obstructs a traffic lane in a street and, thus, compresses several lanes of traffic into fewer lanes, warning by signs and barricades must be given to motorists well in advance of the obstruction. If manhole openings and excavations constitute a hazard to pedestrians, then adequate barricades and rerouting of walkways must be provided.

Maintenance activities may include such minor interference as tree trimming, curb site planting, light fixture cleaning, traffic signal repair, etc. They may interfere with normal traffic in the form of standing or slow-moving vehicles and equipment, or occasional movements into the normal right-of-way. The feature of simultaneous flashing of all turn signal lights should be used, augmented by oscillating or rotating lights, or flashing arrow signs mounted on the vehicle. For minor construction or maintenance operations requiring 15 minutes or less, the work vehicle itself with high visibility color or reflective markings mounted on the vehicle and warning lights described above will usually be adequate.

When maintenance or construction activities exceed 15 minutes duration, adequate signs and barricades shall be set up.

The following safety procedures are established:

1. No County road shall be completely closed for repair work without prior approval and adequate notice in writing to the Consumer Affairs Section, including detour routes.
2. Mobile equipment used for maintenance and repair work on roadway shall be equipped with flashing or rotating lights.
3. When a portion of a road has been closed for maintenance and repair work and construction equipment must be operated in lanes left open to traffic, a flagger shall be provided to control traffic.
4. Any obstruction of a public right-of-way by work crews for maintenance and repair work exceeding 15-minute durations shall be signed and barricaded according to basic traffic warning principles.

Traffic Warnings:

Traffic warnings are to be posted as prescribed in the State *Manual on Traffic Control and Safe Practices*. This also includes flaggers.

Flagging Procedures:

The following methods of signaling with a flag should be used.

TRAFFIC CONTROL AND SAFE PRACTICES

The Flagperson

Each concerned department should establish a training period for those County employees assigned to duties as the "flagperson" for street construction and street maintenance. This safety training shall be based upon the requirements set forth in *State of Florida Roadway and Traffic Design Standards*.

1. Function: Move traffic safely and expeditiously through and around work areas.
 - a. Essential part of utility, construction, and maintenance operations.
 - b. Maintaining of good public relations.
 - c. Obtaining the cooperation of the news media is essential. Publicizing the locations of work sites, the need thereof, and estimated time of completion can be of great assistance in keeping the public informed and in obtaining public cooperation.
2. Signaling devices: Control traffic through work areas.
 - a. Stop/Slow paddles.
 - b. Flags.
 - (1) The signaling device to be used shall be the flagger's traffic control sign (stop/slow paddle).
 - (2) Red flags are to be used only in the event of an emergency.
3. Flagpersons: Since flaggers are responsible for human safety and have the greatest amount of public contact than all construction personnel, it is important that qualified people be selected by supervisors.
 - a. All flaggers should have the following minimum qualifications:
 - (1) Average intelligence.
 - (2) Good physical condition, to include vision and hearing.
 - (3) Mental alertness.
 - (4) Courteous but firm manner.
 - (5) Neat appearance.
 - (6) Sense of responsibility for safety of work crew and the public.

- b. The use of orange-colored clothing such as vest, shirt, or jacket is required of flaggers.

4. Flagging procedures:

- a. **To stop traffic** - The flagger shall face traffic and hold the mounted sign paddle in a stationary position with the arm extended horizontally, away from the body.
- b. **The Stop** - The face of the paddle is to be visible to the motorist upon approach.

For greater emphasis, the flagger's free arm may be raised with the open palm facing the traffic approaching.

- c. **When it is Safe for Traffic to Proceed** - The flagger shall rotate the sign paddle so as to show the "Slow" face and motion the stopped traffic to proceed with the movement of the free arm.
- d. **To Alert or Slow Traffic** - The flagger shall face oncoming traffic with the "Slow" face of the sign paddle visible to oncoming traffic.

If further restraint is needed, the flagger may move his free arm with palm outstretched in an up and down motion. This action should be reserved for emergency use only.

5. Flagging stations:

- a. Shall be provided at work sites to stop traffic intermittently as necessitated by work progress or to maintain continuous traffic flow past a work site at reduced speeds to help protect the work crew.
- b. For both of the functions as stated in the above paragraph, the flagger shall, at all times, be clearly visible to the operators of approaching vehicles for a distance sufficient to permit proper response by the motorist to flagging instructions, permitting traffic to reduce speed before reaching the area of work being performed.
- c. Ideally, the flagger will stand either on the shoulder adjacent to the lane of traffic being controlled or in a lane that has been barricaded.
- d. Under no circumstances should the flagger stand in an active traffic lane.
- e. In rural areas, the flagger should be visible to the traffic being controlled for a distance of 500 feet.
- f. The flagger should never allow other workers to congregate around the flagger.
- g. The flagger's stations must be adequately protected by needed illumination sufficient to expose the flagger to motorists' vision.

- f. When hazardous conditions do not exist, one of the required flaggers may be eliminated under the following conditions:
 - (1) The normal posted speed is 35 mph or less.
 - (2) Where two-way traffic volumes average less than one per minute.
 - (3) The closure length is less than 100 feet, not to include the taper length.

- 8. Flag carrying or official car:
 - a. Flag carrying is effective when route is well defined and nonhazardous.
 - b. It should be employed only when the one-way traffic is confined to roadway segments not more than one mile in length, having no intermediate side road unless each side is controlled by a flagger.
 - c. The driver of the last vehicle proceeding into the one-lane section is given a red flag or token and instructed to deliver it to the flagger at the other end.
 - d. The opposite flagger then knows it is safe to allow traffic to move in the other direction.
 - e. Variation of this method is the use of an "official car" that always follows the vehicle that is last to proceed through the section.
 - f. The use of an official car eliminates the delay associated with dispatching and delivering the flag, also eliminates the possibility of losing the flag.

- 9. Pilot car:
 - a. Can be most effective when the route is particularly hazardous or so involved or frequently altered as to preclude adequate signaling.
 - b. Used to guide a train of vehicles through the job site or detour.
 - c. Must be coordinated with flagging operations or other controls at each end of the one-lane.
 - d. Sufficient turnaround room should be provided at these points.
 - e. A vehicle selected for this duty should be lightweight and easy to handle and shall have the Pilot Car sign mounted on the rear of the vehicle.

- 10. Traffic control signals: May be used for special applications to control vehicular traffic movements at construction or maintenance work areas.

Typical Applications:

- a. A roadway or street intersection with temporary "haul road" or equipment crossing.
 - b. Through areas requiring one-way traffic operations.
 - c. All traffic signal and control equipment shall meet the applicable standards and specifications prescribed in Part IV, *Manual on Uniform Traffic Control Devices*.
 - d. Normally these installations shall be operated by means of traffic actuation or manual control.
 - e. Unless otherwise directed, any existing traffic control signals and other electrically operating traffic control devices shall remain in operation throughout a construction, maintenance, and utility operation.
11. Urban characteristics: The difference between rural and urban situations warrant some separate treatment of urban traffic control requirements.
- a. There is already congestion inherent in urban traffic movement, and further congestion, utility and maintenance operations should be kept to a minimum.
 - b. Consideration must be given to allowing critical merging maneuvers to occur in advance of work areas in a manner designed to create minimum disturbance in the traffic stream.
 - c. On arterial streets, such work should, if possible, be restricted to hours other than those of maximum traffic flow.
 - d. Partial lane closures should be avoided.
 - e. Changes in operation may be necessary to maintain traffic movement through an area where a major street is closed or partially obstructed.
 - f. Additional regulatory signs (**ONE WAY, DO NOT ENTER, OR NO PARKING**) signs will be needed to control traffic under these conditions.
 - g. The sign layout should provide the motorist specific information on the lane closed, type of activity, speed guidance, and special directions for passing around or through the work site.
 - h. Where a street must be closed to through traffic but where access to adjacent property can be maintained, a special sign with the message "**LOCAL TRAFFIC ONLY**" should be used in conjunction with any other detour signs or barricades that are present at the points of closure.
 - i. Regulatory, guide, and informational signs can usually be erected at the curbs, although it may be more advantageous to place them on barricades, pedestals, or other temporary supports in the roadway.

- j. When these signs are erected at the curbs, they shall be posted at a height that will be visible above a row of parked cars.

Conclusion: Training should be given at least twice a year; however, it is recommended that it be given as often as the need arises. Of course, training is directed towards those departments that have occasion to have work crews operating in such a manner that will affect the flow of vehicular traffic.

SECTION X - WORKING IN CONFINED SPACES

Employees are frequently required to work in confined spaces. By definitions in industrial codes, a confined space is one "so enclosed that dangerous air contamination therein cannot be prevented by natural ventilation through openings in the enclosure." Examples are closed storage tanks, storage bins, duct work, sewers, tunnels, vaults, manholes, valve chambers, and even open pits where heavier-than air gases may accumulate.

Employees may be tempted to adopt the attitude "It hasn't happened to us so why worry about it?" The records supporting accident statistics are full of stories about people trapped in confined spaces and overcome by gases, fumes, lack of oxygen, etc. Many of these tragedies were compounded when would-be rescuers exposed themselves to the same situation without knowledge of what caused it to begin with and, thus, also became casualties. It can happen to us, and we must avoid that possibility.

The hazards include flammable or explosive gases or vapors, toxic gases, or vapors and not enough oxygen to support life. They can kill with frightening efficiency and lightning speed. Some are colorless, odorless, and tasteless. With some, only a very small amount is dangerous.

When employees must enter manholes to clean and repair sewers, to check underground electrical circuits, etc., there may be flammable gases, asphyxiant gases, irritant gases, or a lack of oxygen present. These may be caused by natural sewer gases from decomposition, spills of chemical compounds, or seepage through the ground. The protection against these hazards involves adequate precautionary measures. Testers are available to detect the presence of explosive gases or vapors and to detect the presence of other toxic gases or vapors. If tests indicate danger, the area should be purged of dangerous atmospheres whenever possible and ventilated, then tested again. The source of contamination should be closed off if possible. Whenever it is necessary for a worker to enter a space that is potentially hazardous, appropriate respiratory equipment shall be available. A safety belt or harness and lifeline shall be used with a standby worker at the opening in a "buddy system." The standby should be equipped with a respirator, fire extinguisher, a means of calling for help, and any other equipment dictated by the potential hazard. Standbys should be trained in emergency first-aid procedures—especially cardiopulmonary resuscitation.

The following safety procedures are established:

1. Before entering confined spaces, a test shall be made to determine whether explosive or toxic gases or vapors are present.
2. Venting of hazardous atmospheres shall be accomplished before entering whenever possible.
3. Maintain adequate ventilation while working.
4. When using portable blowers to ventilate, make sure the air intake will not pick up carbon monoxide fumes from the engine.
5. Adequate respiratory equipment shall be available for use if necessary, and all potential users shall be instructed in the proper use of such equipment.

6. No employee shall enter a manhole, sewer, tank, or other underground confined space without a safety belt or harness and attached lifeline tended by another employee at the point of entry.

(Exception: Entry in sewage plant lift stations shall be governed by procedures outlined in Paragraph 14.)
7. Smoking or open flames shall be prohibited in any underground operations or in other confined spaces.
8. When opening manholes in streets, use barricades and warning signs to protect pedestrian traffic and to alert vehicle traffic to the hazard.
9. Never allow exits to be blocked.
10. Ladders shall be used when entering manholes when there is any question about the safety of manhole steps.
11. Only lights approved and provided by the department shall be used in manholes and sewers.
12. Air supply shall be shut off at supply source when changing air tools (not shut off by bending or pinching airline hoses).
13. No gasoline or diesel motor shall be operated in the shop or other enclosed places unless the exhaust is connected to the proper outlet.
14. The following procedures shall apply to sewage plant lift stations:
 - a. A lifeline shall not be required for entry into dry wells when the well is equipped with an automatic ventilation system, and access is provided by stairs or ladders not exceeding a ten-foot descent. If the descent by ladder exceeds ten feet, a lifeline should be used until the employee reaches the bottom.
 - b. The safety procedures outlined in the proceeding rules shall be followed in all cases involving entry into wet wells.

SECTION XI - LADDERS AND SCAFFOLDING

Electrocution and free falls are the two most critical types of injuries on ladders and scaffolding. Other hazards include: splinters, slivers, and slips resulting in sprains and strains, bruises and abrasions.

The following safety procedures are established to prevent accidents and possible injury.

Ladders:

1. Metal ladders shall not be used in the vicinity of electrical circuits.
2. Periodically inspect wooden ladders. Wooden ladders shrink over a period of time. In a stepladder, this may cause steps or back bar members to become loose. Hold the rods beneath the steps with pliers and tighten the nut at the end with a wrench to maintain strength and steadiness.
3. Wooden ladders or scaffold planks should not be painted as defects may be covered by paint. Use a good grade of spar varnish or a mixture of linseed oil and turpentine to preserve the wood.
4. Nonskid feet shall be used on all straight and extension ladders.
5. Straight ladders form a triangle when placed against the wall or objects for climbing. When properly placed, the bottom side of the triangle should be about one-fourth as long as the vertical (i.e., if the ladder is leaned against a wall eight feet high, the feet should be set two feet from the wall). Ladders shall never be placed against window sash.
6. When using a straight ladder, it should be long enough to extend at least three rungs above the level to which the user is climbing. Step ladders must not be used as straight ladders; they are not designed for this purpose.
7. If the bottom of a ladder is placed on an unsecure surface, secure the ladder in a position by the use of hooks, ropes, spikes, cleats, or other antislip devices or by stationing an employee at the base of the ladder to hold it in position during use.
8. Never stand on the top step of the step ladder to work.
9. Only one person shall be on a ladder at a time.
10. Never carry articles in hand while climbing. Use a hand line to raise and lower tools and materials, or suspend them suitably in a tool belt.
11. Always face a ladder when ascending or descending it and have free use of both hands.
12. Clean muddy or slippery shoes before climbing.
13. Keep rungs clean and free of grease and oil.
14. If it is necessary to place a ladder near a door or where there is potential traffic, set up warning signals or take other precautions to prevent accidental contact that might upset the ladder.

Scaffolding:

1. Proper supervision is required to erect scaffolding.
2. Planks and other materials used in building scaffolding must be sound and free from knots. Keep planks in good condition with a spar varnish (never paint the planks).
3. Planking shall be adequately cleated; the scaffolding over ten feet should have toe boards, mid-rails, and handrails.
4. Tools on top of the scaffolding are liable to fall and injure someone. Keep tools in a bucket or box lashed on the scaffolding.

SECTION XII - MOTOR VEHICLES AND MOBILE EQUIPMENT

County vehicles are easily identified as such and thus constitute a traveling advertisement seen by many citizens. They have high exposure. In our relationship with other motorists and pedestrians while operating vehicles, we control an important influence upon good or bad public relations. By courteous, considerate driving habits, we will build favorable public relations if we apply the principles of defensive driving.

The following safety procedures are established:

1. All employees shall be responsible for a daily safety check of any vehicle or mobile equipment they are assigned to drive.

2. Safety checks shall include:

Lights	Power steering and fluid reservoir
Horns	Windshield washers and wipers
Directional signals	Tires
Brakes	Clutch travel
Motor oil	Hydraulic systems

(Brakes shall be tested by putting the vehicle in gear and applying the brakes to bring it to a stop.) This should be done before leaving the shop area or yard.

3. Position all adjustments for safe driving before putting the vehicle into gear such as seat, inside and outside mirrors, and sitting positions.

4. Drivers of County vehicles must possess a valid Florida driver's license, and they must be thoroughly familiar with the State and local regulations governing motor vehicle operation. The fact that an employee is operating an emergency vehicle does not absolve the employee from civil or criminal liability for the consequences of negligent driving. The driver must be in the position to satisfy a jury that reasonable care and prudence was used in operating the emergency vehicle. Even though emergency equipment has warning devices, the drivers are expected to **PROCEED WITH ALL CAUTION.**

5. All slow-moving equipment operated in public rights-of-way shall be equipped with a triangle-shaped reflecting sign on the rear of the vehicle.

6. Load security:

a. Supplies transported in motor vehicles shall be secured in such a manner that they will not be dislodged or fall out or forward during transit or sudden stops.

b. Drawers in trucks shall always be secured before the truck is driven.

c. All tower equipment (ladder trucks, aerial buckets, etc.) will be checked and secured prior to the movement of the vehicle.

d. Only materials and equipment necessary to carry on County work will be transported in or on County vehicles.

7. Never take drugs or strong medication before operating a vehicle. Remember that drugs, illness, or extreme fatigue may affect your ability to judge distances, speed, and driving conditions.
8. All persons who drive or ride in County vehicles will, in all cases, wear the installed seat belts.
9. Supervisors are responsible for ensuring that all their employees are utilizing the installed seat belts.
10. Not more than three persons shall be permitted to ride in the front or driver's seat of any vehicle. Persons shall not be transported in any vehicle unless safe and secure seating is provided for each person.
11. Only County employees may be permitted to drive or ride in a County vehicle. Specific approval must be obtained from the Personnel Director or County Administrator for non-County employees to ride in a County vehicle.
12. Parking vehicles:
 - a. Except when working conditions require otherwise, parked vehicles must have the motor stopped, the key removed, and the emergency brakes set and be left in gear or park.
 - b. If on a downgrade, turn front wheels toward the curb. If on an upgrade, turn away from curb. Set the brakes and leave transmission in "park" before leaving the driver's seat.
 - c. Vehicles will not be parked on the wrong side of the street facing traffic except in case of an emergency.
 - d. When trucks or vehicles must be stopped on streets or highways, adequate warning signals must be used and also a flagger if traffic warrants.
 - e. Turn signals will not be used as a parking warning.
 - f. Before leaving the curb, look to see that no cars are approaching from either direction and signal your intention.
13. When backing up a vehicle, be sure the way is clear. Get out of the vehicle when necessary and inspect the area to be backed into. Back up slowly. Sound the horn while backing when necessary. If there is another employee along, they should get out and direct the backing.
14. Never leave the vehicle with the engine running. It is illegal, as well as an unsafe practice to leave any vehicle unattended with the motor running. Remove the keys from ignition. This does not apply to emergency vehicles.
15. Drivers must be particularly alert while driving near children. Children must be kept from playing in or about County-owned vehicles. While working in areas such as schools, parks, playgrounds, swimming pools, or community centers,

drivers will be especially watchful for children and will drive carefully and slowly at all times.

16. Stay within posted speed limits. Slow down when conditions warrant.
17. Do not assume the right-of-way. The driver who has the last chance to avoid an accident may be the driver in the legal right. **DON'T BE PUSHY; YIELD OR STOP.**
18. Keep a three-second following distance behind other vehicles so as to avoid tailgating. Do not allow others to tailgate. Slow down, pull over to the side, let the tailgater pass.
19. Signal intentions at least 100 feet in advance, including a change in lanes and actual change in directions. Avoid sudden braking.
20. Turn on low beam headlights during dark periods of the day, such as during rainstorms and fog. Headlights should be "on" one-half hour before sunset until one-half hour after sunrise when driving at night. Parking lights designate a vehicle is parked. Never drive with parking lights on.
21. Filling tanks:
 - a. Shut off the motor of the equipment.
 - b. Shut off all portable electronic devices; i.e., cell phone, radio, etc.
 - c. Do not smoke near gasoline pumps.
 - d. Keep the hose nozzle against the edge of filler pipe.
 - e. To avoid spilling gasoline, do not fill tank too fast or too full.
22. In the event of an accident involving County-owned vehicles, the following procedures will be followed:
 - a. Secure the accident scene to avoid another accident occurrence.
 - b. Do all that is possible to aid any victims.
 - c. Arrange for medical aid, if necessary.
 - d. Contact Emergency Communications immediately by County radio or otherwise, after having followed Procedures a through c. Give Emergency Communications all pertinent information as to type of accident, location, equipment needed to remove County property from the scene. Convey to Emergency Communications that you want the local or concerned law enforcement agency notified of the accident requesting an investigator. The dispatcher will have the responsibility to notify the interested Assistant County Administrator's office, the County Insurance office, as well as the Fleet Management Department if their services are needed.

- e. **OFFER NO RESPONSIBILITY INFORMATION** regarding the accident. **DO NOT** discuss what should have been done to avoid the accident. Answer **ONLY** the questions put forth by law enforcement personnel investigating the specific accident.
 - f. Obtain the names and addresses of any witnesses as soon as possible.
23. Florida law requires drivers of licensed motor vehicles to have proof of ownership and insurance. A copy of the vehicle registration and insurance information will be provided for each County vehicle. The driver will be responsible for keeping them in the vehicle. If upon daily inspection of the County vehicle by the assigned County driver it is discovered that there is no copy of vehicle registration and/or no blank motor vehicle accident report form, the County Fleet Management Director is to be informed at once. Do not operate a County vehicle without these documents.

24. Driver license:

Your Florida driver's license is an important document. It can be used for primary identification. Contact the Florida Department of Highway Safety and Motor Vehicles (can be accessible via the internet at gorenew.com (and Personnel) if you have the following changes:

- a. Name Change: You must bring a court order or marriage certificate to prove your name change. Documents must be original or certified copy.
 - b. Change of Address: You must obtain a new license showing your new address within 10 days of the change.
 - c. Lost, Stolen or Destroyed License: Apply for a duplicate license immediately. At the driver licenses office you will need to:
 - (1) Sign a statement that you have lost your license.
 - (2) Show identification.
 - (3) Pay the duplicate license fee.
25. Driver's Safety Review Board:

No other form of transportation makes such heavy and continuous demands upon the skill and alertness of the operator as that of the motor vehicle. Few other human activities cause so much economic loss and so much human suffering. Statisticians have determined that one out of every two persons alive today either has been involved in a motor vehicle accident in which that person suffered a disabling injury, or will be involved in a motor vehicle accident, which will result in disability or death. The Pasco County Board of County Commissioners values its employees and places great emphasis on their safety as well as the safety of the public.

In March 2001, a Countywide Drivers' Safety Review Board was formed. A major component of the program is to meet the tremendous challenge posed by vehicle safety and to ensure accurate reporting of accidents and consistency in disciplinary action for accidents. The Pasco County Drivers' Safety Review Board reviews motor vehicle and equipment accidents involving County employees operating County vehicles/equipment and a recommendation as to discipline is rendered.

Please note that damage (other than vandalism) to any vehicle/equipment on/off the road or any motor vehicle accident occurring on the road is to be considered an ACCIDENT.

RULES FOR SAFE DRIVING

A motor vehicle is an incomplete mechanism until the driver has been added; then, it becomes either an instrument of service and pleasure, or one of destruction and death. The car of today has all the automatic and safety devices that engineers can think of, but very often lacks the most important safety feature—**THE SAFE DRIVER**.

How safe and efficient the car will be on the highway depends on the person behind the wheel. There is a distinct difference in being a **GOOD DRIVER** and a **SAFE DRIVER**. A safe driver must have these qualifications: proper attitude, knowledge of the rules of the road, driving skill, and a good physical condition. If the driver lacks any one of these qualifications, they become a hazard to themselves and every other person who uses the highways.

It is with these thoughts in mind that the following rules for safe driving are suggested and recommended for your use. There is no attempt to cover everything in this field, but rather a miscellaneous collection of suggestions aimed at making your driving more pleasant, easier, and safer.

1. Driver's attitudes:

It has been said many times that a chain is no stronger than its weakest link and, in driving, this weak link is the driver's attitude. This fact has been proven from accident analysis to be the cause of a great percentage of our motor vehicle accidents. Therefore, we, as drivers, must develop in ourselves this proper attitude towards others if we are to reduce the needless waste of life and money on our highways.

Attitude in driving is the consideration shown by one driver for the other drivers and pedestrians who use the highways. Courtesy is an attitude that many drivers lack on the highway; yet, at home or work, they would never commit such acts of discourtesy.

Finally, if an accident could be analyzed to determine the deep-rooted cause, we would see that most unsafe driving acts can be traced directly to the driver's attitude.

2. Driving privilege:

The Florida Drivers Handbook states, "Driving a motor vehicle in Florida is a privilege you earn. Every driver who obtains a license must drive safely to keep it. If you break the traffic laws or become an unsafe driver, your license can be taken away."

If your driving privilege has been taken away, you must contact your supervisor immediately. Any County employee who is arrested for a misdemeanor, felony and/or DUI whether on or off duty must tell their supervisor prior to/or immediately upon returning to work. The division/department head must immediately inform the Personnel Director. If the Personnel Director is not in, contact either the Personnel Manager or Risk Manager. Under no circumstances

should the employee perform work until the Personnel Director releases them. When your driving privilege has been reinstated, copies must be provided to the Personnel Department.

3. Knowledge of the rules of the road—traffic laws:

Most new drivers have very little knowledge of the rules of the road. They depend on the driving experience they will acquire as time goes on for gaining this much needed knowledge.

Although our highways are better engineered to speed traffic an its way, we still find drivers who disregard the traffic laws, thus undermining all this good work and money that was spent for their safety and protection.

Traffic laws are made for the driver's protection and safety, not to limit their freedom of action or movement. A violation of the rules of the road can mean much more than a fine or suspension of your driving privileges. Quite often the cost is much higher and cannot be determined in values of dollars and cents.

4. Physical condition of the driver:

Another important factor in the make-up of a safe driver is their physical condition. The National Safety Council reported that one out of 14 drivers involved in fatal accidents had a physical condition that could have contributed to the accident.

As we advance in years, our physical condition changes. We slow down, our reflexes and reactions become slower, thus necessitating a compensation in our working habits and playing habits; this also includes our driving habits.

Our eyes, the most important tool used in driving, change and become dulled, the same as any tool used over and over again. By having our eyes examined as we grow older and by getting the eyeglasses we may need, we then keep this tool as sharp as possible so that we can do a safer and more efficient job of driving.

5. Electronic devices:

Avoid distractions from cell phones, radios, and other electronic devices while operating a motor vehicle. More and more people are using cell phones/radios while driving. A study performed by the Insurance Institute for Highway Safety showed motorists who use cell phones are four times as likely to be involved in crashes serious enough to cause injury. The study also found the risk did not vary between handheld and hands-free phones.

Keep in mind a driver's first responsibility is the safe operation of the vehicle. Drivers should concentrate on safe and defensive driving and not let themselves be distracted by electronic devices.

6. Driving skill:

Unfortunately, all drivers do not possess the same driving ability. Most drivers feel that they are good or expert drivers, but this does not mean that they are safe drivers. It is for this reason we have accidents, and these accidents are caused by skilled drivers committing unsafe driving acts.

Having the ability to handle a vehicle proficiently and judging distances correctly does not guarantee a driver that they will not have an accident. The driver must add to this their ability to size up traffic situations in advance so as to avoid "tight spots" and narrow escapes while driving.

There are numerous unsafe driving acts committed by drivers that lead them into accidents or near misses. If the following unsafe driving acts are kept in mind while driving and each one of us whole heartily avoids committing these acts, then we will compensate for a lack of skill in handling a motor vehicle.

a. Intersections:

- (1) Driving too fast through intersections.
- (2) Failure to slow down and look over cross traffic.
- (3) Running through changing traffic lights.
- (4) Failure to come to a complete stop for stop signs and flashing red traffic signals.
- (5) Attempting to pass other vehicles at intersections.
- (6) Making a left turn directly across the path of an approaching vehicle.
- (7) Making turns too wide or too short.
- (8) Making turns from an improper lane.
- (9) Failure to use proper signal and at the proper time.

b. Poor backing procedures:

- (1) Failure to maintain proper clearance when backing.
- (2) Failure to use proper caution when backing.
- (3) Failure to observe conditions before moving vehicle.
- (4) Failure to use proper caution when backing from alleys or driveways.

- c. Collisions with vehicles ahead:
 - (1) Following too close to other vehicles.
 - (2) Driving too fast on slippery highways (rain, ice, snow, etc.).
 - (3) Driving with faulty brakes.
 - (4) Driving with bald tires.
 - (5) Driving too fast with poor visibility (rain, fog, night driving, etc.).

- d. Avoid being struck in rear by other vehicles:
 - (1) Failure to give signal in time to vehicle behind.
 - (2) Sudden stops, especially when unnecessary.
 - (3) Letting vehicle drift back on hills and grades.
 - (4) Failure to slow down gradually and signal an intended change in pace.

- e. Poor passing procedures:
 - (1) Attempting to pass when approaching vehicle is too close.
 - (2) Cutting back too soon after passing.
 - (3) Failure to use sufficient caution and not giving signal.
 - (4) Failure to slow down when other vehicle is passing you.
 - (5) Failure to watch traffic behind when passing or changing lanes.

- f. Pulling out from curb and alighting from vehicle:
 - (1) Failure to look before pulling out from the curb.
 - (2) Opening door on street side without looking for traffic.

- g. Poor parking procedures:
 - (1) Double parking—a definite traffic hazard.
 - (2) Parking with one end of the vehicle protruding out in roadway.
 - (3) Failure to turn wheels properly into curb while parking on hills or grades.

h. Head-on collisions:

- (1) Failure to stay on own side of road.
- (2) Attempting to pass when the approaching vehicle was too close.
- (3) Attempting to pass on hills and curves.
- (4) Driving too fast around curves.
- (5) Driving too fast on slippery roads.

i. Pedestrians:

- (1) Passing too close and too fast to pedestrians in the street.
- (2) Speeding through congested areas.
- (3) Failure to slow down in school and play zones.
- (4) Failure to observe pedestrians when backing or parking.
- (5) Driving too fast in adverse weather conditions.
- (6) Failure to slow down and watch out for persons alighting from buses.

7. Summary:

Safety is a full-time job that each and every one of us must practice when driving if we are to be a safe driver. Safe driving is no accident. We have endeavored to bring to you what constitutes safe driving. It is up to you to apply these rules and become a safe driver. Analyze your driving habits and evaluate yourself as a driver. If you find you have faults, then correct them, thereby doing yourself a favor, as well as the rest of the motoring public.

SECTION XIII - FIRST AID

While emphasis is placed on the prevention of accidents and injuries that often result, accidents do occur. Prompt, knowledgeable treatment of wounds or other results of accidents will, in many cases, prevent minor injuries from becoming major injuries and sometimes save lives.

The Following First-Aid Rules are Established:

1. Each employee should receive first-aid training.
2. First-aid cabinets or kits shall be maintained in County buildings.
3. Supervisors are to check first-aid supplies on a periodic basis. Minimum amounts of each item are to be maintained.
4. Minor medical treatment for cuts, scratches, etc., should be given by the supervisor or crew leader. Always be sure that open wounds are thoroughly cleansed with soap and water to prevent infection.
5. There may be cases in which an injured employee, while needing professional attention, could be transported to the hospital by automobile. There may be cases, however, in which it is important that the injured employee be transferred by the Rescue Division as a stretcher case with a qualified attendant available. But if there is any doubt in the mind of the supervisor or lead worker in charge, it should be resolved by calling for the Rescue Division. As an example, the following conditions would definitely indicate Rescue Division service:
 - a. Employees unconscious or apparently in shock.
 - b. Any apparent fracture.
 - c. Any hemorrhaging.
 - d. Severe abdominal cramps and/or vomiting.
 - e. Other symptoms of internal injury.
 - f. Heart attack and stroke.
6. All animal bites, because of the possibility of rabies, should receive prompt medical attention by a physician. If someone is bitten, an attempt should be made to confine the animal for examination.
7. All injuries, no matter how minor, are to be reported.

SECTION XIV - TOXIC SUBSTANCES - RIGHT TO KNOW

Chapter 1013 of the Florida Statutes establishes the right of employees to know certain things about toxic substances encountered in the course of their employment.

The Florida Right-to-Know Law imposes on employers an obligation to inform their employees of the toxic substances to which they are exposed in the work place, and to provide training in safe handling practices and emergency procedures. It also requires notification to local fire departments of the location and characteristics of all toxic substances regularly present in the work place.

The employees' rights under this law are:

1. The right to know of the listed toxic substances present in the work place.
2. The right to obtain a copy of the material safety data sheet for each listed toxic substance present.
3. The right to refuse to work under specified circumstances, with a listed toxic substance, if not provided a copy of the material safety data sheet for that substance within five of the requesting employee's working days after submitting a written request to the employee's employer.
4. The right to instruction, within 30 days of employment. and at least annually thereafter, on the adverse health effects of each listed toxic substance with which they work in the workplace, how to use each substance safely, and what to do in case of an emergency.
5. The right to obtain further information on the properties and hazards of listed toxic substances from the toxic substances information center.
6. The right to protection against discharge, discipline, or discrimination for having exercised any of these rights.

Employers must furnish employees with instructions on the nature and effects of those listed toxic substances with which they work in the work place, either in written form, on in-training programs, as may be appropriate and related to the job. It must include:

1. The chemical and common names of the substance (unless claimed as a trade secret by the manufacturer).
2. The location of the substance in the work place.
3. Proper and safe handling practices.
4. First-aid treatment and antidotes in case of over exposure.
5. The adverse health effects of the substance.
6. Appropriate emergency procedures.
7. Proper procedures for clean up of leaks or spills.

8. Potential for flammability, explosion, and reactivity.
9. The rights of employees under the right-to-know law.

"Toxic Substance" means any chemical substance or mixture in a gas form, liquid, or solid state, which substance or mixture causes a significant risk to safety or health during, or as approximate result of any customary or reasonably foreseeable handling or use, which is listed in the Florida Substance List and which is manufactured, produced, used, applied, or stored in the work place.

A material safety data sheet (MSDS) is a document containing standardized information about the properties and hazards of listed toxic substances. Manufacturers, importers, and distributors of listed toxic substances are required to prepare and provide MSDSs to their direct purchasers.

"Florida Substance List" means a compilation of toxic substances which are to be subject to the provision of § 1013.30-1013.54. Substances that are not present on the Florida Substance List established pursuant to this section are not subject to the provisions of § 1013.30-1013.54.

APPENDIX "A-2"

PASCO COUNTY ACCIDENT PREVENTION MANUAL

EMPLOYEE CERTIFICATION PAGE

Detach and return this page to your supervisor after you have read and understood this booklet.

I have read, or have had read to me, and agree to follow the safety rules set forth in this booklet. I understand that deliberate violations of these rules is sufficient cause for disciplinary action.

Please Print Last, First Name

Signature

Department

Date

Return certification page to the Safety Officer, Personnel Department, within 30 days of employment.

PASCO COUNTY
SUPERVISORY SAFETY MANUAL

MANAGEMENT LEADERSHIP AND RESPONSIBILITY

While the ultimate success of any safety program depends on the full cooperation of each individual employee, we believe it is Management's responsibility to see that there is a safe working environment at all times, and when we talk of environment, we are talking about things that require management decisions and actions—expenditures for better and safer equipment, for correcting a newly discovered hazard, for making available protective apparel where it is required. It is, likewise, Management's responsibility to see that safety rules and procedures are adequate and enforced—to ensure that effective training and education programs are developed and used to best advantage.

These are responsibilities of Management, and they cannot be delegated to nonmanagers any more than we can delegate final responsibility for such other elements of business or product development, research, or our financial soundness. If safety is to have stature to the same degree as quality and efficiency and low costs, then every manager along the line must be held accountable for the safety performance turned in by the people they supervise.

MANAGEMENT LEADERSHIP ASSUMPTION OF RESPONSIBILITY AND DECLARATION OF POLICY

The elimination of occupational injuries and illnesses is in the public interest and vital not only to employees, but also to employers. Occupational injuries and illnesses produce economic and social loss, impair individual and group productivity, cause inefficiency, and retard the advancement of standards of living. Failure to try to prevent such injuries and illnesses to employees is indefensible.

The prevention of accidents and injuries to the general public, customers, and employees must be integrated into all aspects of every work activity.

It is the responsibility of all levels of management to maintain a safe and healthy environment for all employees, and to insure that all safety precautions and practices are followed.

Every employee is responsible for following all rules and regulations for his/her own safety and that of fellow employees.

SAFETY POLICY

PURPOSE: To state and clarify the County's policy with regard to internal safety.

POLICY: It is the County's policy to support safety programs as established by departments through a systematic process of support, including assumption of responsibilities at all levels. This is to be accomplished by a continuous maintaining of safe working conditions, a formal inspection program, and continuing education in the areas of safety; i.e., preventive maintenance.

RESPONSIBILITIES: Assistant County Administrators shall be responsible for overall administration of safety programs within the respective departments/divisions.

Supervisors shall notify their superiors of all safety matters, provide technical support when required and, when necessary, recommend appropriate corrective action to minimize risks, provide on-the-job training to established and new personnel, and conduct safety inspections at various work sites with the assistance of the County Safety Officer if needed.

In order to maintain interest in County and departmental safety programs, there must be a means of communicating with all employees. Management must communicate with supervisory personnel and supervisors with the workers.

The best way for a supervisor to encourage interest in safety is to set an example through promoting safety within the supervisor's jurisdiction.

COUNTY SAFETY OFFICER

Although every department and division has the primary responsibility for its own safety program, the County Safety Officer is available to counsel and help. The Safety Officer may be of great assistance during phases of your safety program by offering services to supervisors by:

1. Advising on general planning and guidance of safety programs.
2. Counseling and advising supervision on employee safety to ensure safe working conditions.
3. Conducting safety education programs to publicize safe work practices and accident prevention measures.
4. Developing instructional safety manuals, booklets, brochures, and data sheets.
5. Establishing a system of accident reporting and supplying informational materials as gathered.
6. Making periodic field surveys and suggesting precautions necessary to minimize or eliminate hazardous conditions or practices.

SUPERVISOR'S JOB/SAFETY OBLIGATIONS

1. Supervisors shall provide adequate basic job training and safety instructions to all employees.
2. Supervisors shall provide continuing safety instruction while issuing daily work assignments to focus attention upon potential hazards, changes in work conditions, or procedures.
3. Supervisors shall actively support safety procedures and measures.
4. Supervisors shall continually observe and evaluate work conditions and work procedures to detect and correct unsafe conditions and practices.
5. Supervisors shall promptly investigate and report on-the-job injuries and all types of accidents that may occur.
6. Supervisors shall be receptive to and encourage employees to report unsafe practices and conditions and to submit practical suggestions for correction.
7. Supervisors shall participate in training courses designed to increase their professional knowledge of safety, supervision, principles, and techniques.
8. Supervisors shall maintain high standards in housekeeping, personal, and environmental sanitation work activities.
9. Supervisors shall ensure that tool, equipment, and protective devices are properly utilized.
10. Supervisors shall become thoroughly familiar with and actively enforce all safety procedures applicable to the work they supervise.

The Supervisor's Ability to Instill Job Satisfaction

1. The "Treat 'em rough and tell 'em nothing" approach is the easiest way to get the job done—at the expense of skilled people. Are you guilty of this practice?
2. Do you give your people goals? A sense of direction? Something to strive for and to achieve? Attitude counts! A person's attitude may even be more important than ability. Stress winning attitudes—they are free.
3. Do you periodically emphasize the importance of each individual's job irrespective of skill required to accomplish same?
4. Do you give employees a chance to take part in decisions, particularly those which affect them?
5. If an employee's safety idea is not adopted, do you tell the employee why?
6. Do you exhibit confidence in your people?

7. Are you always willing to help your people solve work problems?
8. When you are wrong or make a mistake, are you willing to admit it?
9. Are you aware that what you say and how you say it can determine how the job is done?
10. Are you a pro? The real heroes in life are the people you can depend upon, 24-hours a day, day-in and day-out. Think about this definition of a pro—"I won't let you down."

REMEMBER EFFECTIVE LOSS CONTROL AND
SAFETY IS RELATED TO GOOD EMPLOYEE RELATIONSHIPS.

A SUPERVISOR'S SELF EXAMINATION

1. Do I set the example? Do I make certain that I always do all jobs the safe way? (Do I practice what I preach?)
2. Do I study my department's operations and try to think of better and safer ways of doing things?
3. Am I on the lookout for unsafe acts and unsafe conditions? Do I get them corrected when I find them?
4. Do I try to discover and correct the real causes of unsafe acts and unsafe conditions, or do I accept the causes like "just one of those things," "couldn't be helped," "darn fool carelessness," "another department's fault," etc.?
5. Do I regularly stress the importance of working safely with all people? Do I stress that working safely is part of the routine here and that we have no jobs which cannot be done safely?
6. Am I thorough in giving job training, and do I include all necessary safe practices during the instructions?
7. Do I follow up my instructions with good supervision to determine if my instructions are being properly carried out?
8. Do I thoroughly indoctrinate new people into my department so that they understand what is expected of them, including safety rules?
9. Do I plan as much safety as I can into every job my department undertakes? Do I ask myself, "could this be done safer"?
10. Do I remind my people of the need of reporting all accidents to me and the value of prompt first aid treatment?
11. Do I investigate all accidents in my department and discover the true causes, and then do I work toward correcting these causes?
12. Do I maintain an interesting bulletin board and make a sincere effort to sell safety?
13. Am I doing all I can to promote safety in my department?

ALWAYS HAVE A SAFE DAY

MAINTENANCE OF SAFE WORKING CONDITIONS

INSPECTIONS

A way to collect safety information is through inspections. You should conduct inspections for the following reasons:

1. Detect dangerous conditions which may cause accidents.
2. Detect unsafe activities in the handling of materials (lifting, carrying, and storage). Observe and inspect use of machinery and materials such as motor vehicles, office equipment, and shop machinery. Be aware of nonusage of provided and/or required safety equipment as related to work assignments.
3. Determine if all Federal, State, and local standards are being followed.
4. Make use of County fire inspectors by requesting a fire inspection at least once a year. Require a report in writing as to conditions found, whether favorable or not. Immediately institute measures to rectify unsafe reported conditions.
5. Request an electrical inspection at least once a year. This may be accomplished through the County Building Inspections Division. Request a written report regarding findings; then, if violations of safety are found, rectify same as soon as possible.
6. At least once a year submit a written report on safety inspection findings to your respective department director and to the County Safety Officer.
7. The County Purchasing Director and all staff members play an important role in safety. A major concern is the development of specifications for new equipment and tools.
8. The line supervisor plays an important role in the safety program:
 - a. They are where the action is.
 - b. They must enforce all the safety rules and regulations.
 - c. They must ensure that their charges are in compliance with safety standards in their respective work assignments.
9. All safety rules and regulations, protective equipment, and training programs are of little or no value if they are not adhered to by personnel or not enforced by supervisory people.
10. A job done right is a job done safely. The accident rate within a department is shared by all personnel within that department.

THE UNSAFE CONDITION/ACT

Improperly Guarded

- Unguarded.
- Inadequately guarded.
- Lack of, or improper shoring in excavating or construction, etc.

Defective

- Rough.
- Slippery.
- Sharp-edged.
- Poorly designed.
- Low material strength.
- Poorly constructed.
- Inferior composition.
- Decayed, aged, worn, frayed, cracked, etc.

Hazardous Arrangement, Procedure, Etc.

- Unsafely stored or piled tools, materials, etc.
- Congestion of working areas or spaces.
- Inadequate aisle space, exits, etc.
- Unsafe planning and/or layout of traffic or process areas of operation.
- Unsafe processes.
- Overloading.
- Misaligning.
- Inadequate draining.

Improper Illumination

- Insufficient light.
- Glare.
- Unsuitable location or arrangement (producing shadows or contrasts).
- No light.

Improper Ventilation

- Insufficient air changes.
- Unsuitable capacity, location, or arrangement of system.
- Impure air source.
- Abnormal temperature and humidity (confined area).

Operating or Working at Unsafe Speed

- Running.
- Feeding or supplying too rapidly.
- Driving too rapidly.
- Throwing material instead of passing or carrying same.

- Jumping from vehicles, platforms, etc.
- Walking backwards.
- Working too fast or too slow, endangering self and others.

Making Safety Devices Inoperable

- Removing safety devices.
- Blocking, plugging, tying, etc., of safety devices.
- Replacing safety devices with those of improper capacity (higher amperage electric fuses, low capacity safety valves, etc.).
- Improperly adjusting safety devices.
- Failure to secure safety devices.

Using Unsafe Equipment, Hands Instead of Equipment or Equipment Unsafely

- Using defective equipment (mushroom head chisels, etc.)
- Unsafe use of equipment (e.g., operating pressure valves at unsafe pressures, volume, etc.).
- Use of shovels with cracked handles.
- Using a push broom with the wooden handle pointed directly to the middle of the torso and not to the side.

Unsafe Loading, Placing, Mixing, Combining, etc.

- Overloading.
- Crowding or unsafe piling.
- Lifting or carrying loads that are too heavy.
- Arranging or placing objects or material unsafely (parking, placing, stopping, or parking vehicles in unsafe positions for loading or unloading).
- Injecting, mixing, or combining one substance with another so that explosion, fire, or other hazard is created (pouring water into acid, etc.).
- Introducing objects or materials unsafely (portable electric lights inside spaces containing flammable liquids or solids; smoking in prohibited areas where flammable or explosive materials are kept, etc.)
- Placing or leaving of work tools on surfaces and not securing same after use.
- Unsafe working area such as oil, grease, paint, etc., left on surfaces. All areas are to be kept free of these aforementioned substances.

Taking Unsafe Position or Posture

- Exposure under suspended loads (fixed or moving).
- Putting body or its parts into shaft ways or openings; standing too close to openings; walking on girders, beams, or edges of working surfaces when not necessary; not using proper methods of ascending or descending.
- Entering vessel or enclosure when unsafe because of temperature, gases, electric, or other exposures.
- Lifting with back bent or other awkward position.
- Riding in unsafe position (on tailboards, running boards of vehicles, tailing on or "stealing" rides, riding on apparatus designed only to carry materials, etc.).
- Exposure on vehicular right-of-way.
- Passing on grades and curves, cutting in and out, road hogging, etc.
- Exposure to falling or sliding objects.

Working on Moving or Dangerous Equipment

- Getting on or off vehicles or equipment that is moving.
- Cleaning, oiling, adjusting, etc., of moving equipment.
- Caulking or packing of equipment that is under pressure (pressure vessels, valves, joints, pipes, fittings, etc.).
- Working on electrically-charged equipment (motors, generators, lines, and other electrical equipment).
- Welding, repairing, etc., of equipment containing dangerous chemical substance.

Distracting, Teasing, Abusing, Startling, Etc. (HORSEPLAY)

- Calling, talking, or making unnecessary noise.
- Throwing materials.
- Joking, abusing, startling, or horseplay.
- Practical joking has no place while on the job.
- Quarrelling or fighting.

Failure to Use Safe Attire or Personal Protective Devices

- Failing to wear goggles or gloves, masks aprons, protective hats, etc.
- Wearing high heels, loose hair, long sleeves too loosely, or wearing of loose clothing in general.
- Failure to report defects in safety equipment.

PART I SAFETY AND THE SUPERVISOR

THE SUPERVISOR'S RESPONSIBILITIES

Production—getting the job done

Safety—doing the job with care

Quality—achieving a high standard

Cost Control—performing economically

To succeed in meeting the above-listed responsibilities, the supervisor must control: people, machines, and the environment. When the control is properly exercised, the supervisor and the work group are awarded with high morale, safe working conditions, high-quality standards, and economical performance. Full-time control is necessary to achieve these results; that is why the supervisor is the key to any successful safety program. The supervisor is in daily contact with people, machines, and the work environment. It is this daily contact, along with his/her responsibility for the job at the actual performance level that enables him/her to exercise the control which is necessary for a successful operation. Accident prevention is part of this control and, thus, becomes one of the major supervisory responsibilities.

Safety - An Investment and Return

The time and effort a supervisor invests in safety is repaid in many ways. Personally, to fellow workers, and to Pasco County. As a responsible and trained person, a supervisor will easily recognize the advantages of investing in safety because the returns are just too good to pass up. Let us examine a few.

1. Operating More Efficiently

Any accident signals a malfunction in the operation. Some of these faults may be in design, equipment, organization, training, operating procedures, personnel, or a combination of these. Let us make no mistake about it—if any of these faults are present, they will be exposed sooner or later by an accident. Employing sound accident prevention principles to detect and correct these faults before they result in an accident is the supervisor's business. If the supervisor succeeds, the operations will be more efficient.

2. Reduced Costs

Accidents cost money. Nonproductive operating costs increase to cover such items as medical care, overtime replacements for the injured, and damaged equipment repairs. This simple fact is reason enough for supervisors to stress accident prevention as one of his/her major duties. Accident costs reflect unfavorably on the economical performance of their operations. County government planned accident prevention can and will result in reduced accident costs, the benefits of which will be shared by all.

3. Good Organization

Supervisory safety programs will show tangible results through good organization of operations. Good organization pays dividends in healthy work conditions, in the elimination of fire hazards, in reduced costs, and in higher morale. The idea that good organization and increased production are conflicting goals is a very serious error. In fact, it is just the opposite. Good organization permits an orderly flow of activities in all work operations. But even more important is the fact that an orderly, well kept work environment reduces the possibility of an accident.

4. Improved Group Relations and Morale

When accident rates are high, group relations and morale are low. Reduced accident rates usually result in improved group relations and employee morale. This reaction, soon made known by work quality, reflects on the supervisor's ability. The supervisor's interest or disinterest in safety is one indication of his/her ability to properly carry out supervisory duties and responsibilities.

5. Human Aspects

Much is said about accidents and accident rates, but the injuries and accidents that were prevented by good accident prevention techniques receive little publicity. Not many employees will tell their supervisor, "Thank you for preventing those accidents and perhaps saving my life." But a supervisor must know that a good accident record is positive proof of his/her efforts toward accident prevention, and it indicates that many painful hours were avoided and perhaps a life was saved. Families were spared hours of sorrow, worry, and fear. Does this sound dramatic? A quick look at Workers' Compensation injury records will tell otherwise. All of us are exposed to injuries, including the supervisor.

Supervisors are expected to look out for others, as well as for themselves and to gain satisfaction in realizing that, without them, a safety program could never succeed no matter how well organized it may be.

PART II PLANNING THE SAFETY PROGRAM

BASIC PLANNING STEPS

To achieve a high level of safety performance, supervisors must first plan a safety program and then take the proper steps to implement it. This approach is fundamental to the solution of any operating problem. The principles of accident prevention—how to determine and remove accident causes—and the planning and promotional resources available to the supervisor should all be reviewed.

THREE MAIN STEPS FOR PLANNING

Planning the safety program for any work group involves these three main steps:

1. Creating and maintaining interest in safety.
2. Determining accident causes.
3. Removing accident causes.

The supervisor is responsible for planning, developing, and implementing a sound safety program. The following details of these steps will assist supervisors in successfully meeting their responsibilities for safety.

Creating and Maintaining Safety Interest

Creating the initial interest in safety is an important step in developing a safety program. Once interest is established, it is important to maintain it through safety promotion and other aspects of accident prevention. Some of the basic motives for operating and maintaining interest in safety are discussed in this section.

A motive is an inner drive, impulse, incentive, or intention that causes a person to do something or act in a certain way.

Motivation is a two-sided coin. One side is internal—motivation by self, stimulated by duty, ambition, altruism, boredom, necessity, fear, hope, or desire. Self-motivation is directed toward accomplishment of the individual's own perceived goals.

Motivation's second side is external—provided by an outside stimulus such as a gift or reward.

Internal motivation is generally long-term, and may last a lifetime. External motivation is always short-term and is directed toward a clearly defined, specific goal.

If the goals of safety management were seen by employees to be the same as their own internal goals, no additional stimulus would be needed. However, incentives for safety such as gifts and awards can provide the stimulus for safety in the absence of internal motivation.

1. Self-Preservation

This is the strongest incentive—the desire to live. Supervisors can point out the serious consequences of accidents. They can cite similar accidents that have occurred to County employees, indicating their results and how they could have been avoided. Perhaps an employee did not wear the required safety equipment required for that specific job. Supervisors are to remind employees of the safety equipment available to them and require wearing of same.

2. Morale - Personal and Group

Individual and group morale are adversely affected by accidents. Low morale resulting from accidents is a breeding ground for more accidents. It is not only the injured who suffer; but, through their negligence or disinterest, they can destroy the achievements of others. Employee morale can be kept high by reducing the number of accidents through a good safety program. A supervisor will be rewarded with a more effective work force when employee morale is kept high.

3. Responsibility - Part of the Job

While the ultimate responsibility for safety lies with the organization unit head, each supervisor is responsible for the safety of his/her group. Employees are expected to perform their duties in a safe manner for their own safety and well being, as well as for that of their fellow employees. It is, however, the responsibility of the supervisor to insure that all employees are not only aware of safe operating procedures and practices, but also follow these rules in their daily routines.

The supervisors, themselves, must display the correct attitude if they are to succeed in building safe attitudes among the workers. They must practice what they preach. A supervisor should let his/her presence be a constant example that safety is his/her policy, and that it is expected of the work force, as well.

4. Logic

Generally, people who understand why they should work safely will cooperate in a safety program. A supervisor should inform his/her coworkers of the personal benefits of safety and the procedures to follow to attain these benefits. Common sense is important in presenting ideas.

5. Humanity

Some people will work more safely when they know the safety of others depends on it. The supervisor can inform his/her coworkers, using actual experience, that their safety practices do affect fellow workers.

Determining Accident Causes

Accidents can be prevented if the causes are eliminated. But before a supervisor can eliminate the causes of an accident, they must be identified. Determining accident causes involves three steps:

1. Becoming familiar with the types of unsafe acts, unsafe conditions, and personal habits of persons which lead to accidents.
2. Investigating all accidents.
3. Inspecting people, machines, and the work environment.

Basics of Accident Prevention

An accident is an unforeseen or unplanned event that may or may not result in personal injury or property damage. Accidents are caused by mistakes and these mistakes are either unsafe acts, or unsafe conditions, or a combination of the two. Although not every accident results in damage or injury, each is a warning that a danger exists. An accident may occur several times before an injury results, but the supervisor must not let a condition go unchecked. The supervisor must find out why it happened even though it may appear minor at the moment. It is the supervisor's responsibility to remedy hazardous acts or conditions before someone gets hurt.

Basic accident causes include: failure to understand instruction, failure to give adequate instructions, disregard of safety rules, and lack of concentration on the job. Knowing these basic causes, the supervisor should then determine the unsafe conditions and unsafe acts that caused the accident and then act promptly to prevent a recurrence. The supervisor should determine the problem area and correct it when the accident happens.

Accident Investigation

Supervisors are required to investigate and report accidents which result in an injury. However, investigating all accidents is of great value to the supervisor and to the safety program. Safety-minded supervisors will determine the causes of all accidents. During the investigation, it is essential to remain objective and to keep in mind that the purpose is to prevent recurrence, not to pin the blame. By conducting investigations with the purpose of determining cause instead of guilt, a supervisor is assured of employees' cooperation.

All the facts should be collected before reaching a conclusion as to the accident cause. No attempt should be made to solve the problem until it is completely understood. Promptness is a key part of accident investigation. Conditions change quickly and details are soon forgotten or distorted. Notes taken at the scene of the accident will retain the facts and document details even if they may seem insignificant at the time.

The formula is to ask the six key questions: Who? What? Where? When? How? Why?

Who was injured? Who installed the equipment? Who was responsible for it? The nature of the accident will determine the exact questions you should ask.

What happened? What did the people do? What equipment or facilities were involved? This line of questioning should lead you into actions, events, and physical objects.

Where was each worker located? Where was the truck? Where was the equipment? The "where" questions have a way of helping you determine what caused the accident and discover the conditions that brought it about.

When? The answers to the "when" questions should contain more information than a clock reading. Though time is important, relationships are often even more important. "When" questions often elicit information on relationships between pairs of activities or events.

How? This type of question should provide information on the interaction and relationship among the activities and events (going beyond their timing and into the functional relationships among them). "How" questions refer not only to the action of equipment but to action of the injured as well.

Why? Answers to "why" questions should give you some clues as to corrective measures, since the answers will focus on unsafe acts or hazardous conditions.

Accident Reports

Accident reports should be viewed as an informational tool rather than a mere administrative duty. The purpose of an accident report is to assist the supervisor in determining problem areas in work operations. The problem may be a particular piece of equipment, an unsafe procedure, or an individual in need of instruction. Whatever the problem, the accident report, along with a thorough accident investigation, will aid the supervisor in making the area a safe one.

Safety Inspections

A second method of detecting potential accident causes is the safety inspection. Safety inspections include observing work operations, material and equipment usage, and the working environment in general. These inspections are a continuous part of all supervisory duties; they are a daily requirement of supervisory responsibilities for planning, observing, and instructing. Meaningful safety inspections are the result of the supervisor's ability to recognize unsafe acts and conditions. This ability can be developed by applying common sense safety principles to the knowledge of work operations, and by knowing why past accidents happened. It can easily be seen why accident reports and investigations are essential to the accident prevention program. The mistakes of the past are the knowledge of the future. A recommended method to utilize in developing inspection skills is to choose one unsafe practice (such as use of defective tools) and make this the main inspection target for a particular period. In this way, the item becomes a permanent part of inspection information.

PART III

ACCIDENT PREVENTION REQUIREMENTS

Preventing accidents is the ideal application of safety techniques. To accomplish accident prevention, the supervisor must understand the fundamentals of safety planning, promotion, and procedures. There are two basic approaches to accident prevention that the supervisor should use to obtain the best results.

1. Immediate Approach. This approach is based on directly controlling individual performance and environment.
2. Long-Range Approach. This is based on training and educating employees by utilizing various techniques over a period of time.

Immediate Approach

Primary requirements for the immediate approach to accident prevention are as follows:

1. Providing Protection Against Existing Hazards.

This includes guards for machinery and equipment, stairway protection, and other similar features. It also includes temporary barriers during operations, such as roping-off work areas.

2. Checking Plans, Purchase Orders, and Contracts for Safety.

Reviewing plans for safety aspects during the planning stage for new installations and modifications of existing structures and equipment. Insure conformance to local, State, Federal codes, and the adequacy of safety features. Compliance should be evaluated with regard to safety requirements. Before equipment purchases are recommended, operational safety should be determined.

3. Properly Maintaining Equipment, Property, and Material.

Accident experience indicates the importance of proper maintenance of portable equipment such as ladders, scaffolds, hand tools, and power tools. Property should be maintained in safe condition by periodic inspection and repair, and materials should meet all safety specifications.

4. Determining Need for Safety Operational Tests.

Critical equipment which may not be used daily such as oil burners, pumps, elevators, motors, generators, etc., should have safety devices tested periodically as part of the system or individually to ensure proper and safe operation.

5. Examining Layout of All Operations for Safety.

Operational layouts are most important for safety and efficiency. It is safe and more economical to plan operational layouts properly before installation.

6. Providing Proper Illumination and Ventilation.

This is especially important for operations requiring work in dark or confined areas. Providing necessary temporary lighting if required; and if welding or burning is to be done, providing necessary ventilation.

7. Providing Personal Protective Equipment and Specifying its Use.

Some operations require safety equipment no matter how well accident prevention has been planned. This equipment could include safety glasses and face shields, hard hats or bump caps, special gloves, and wearing apparel. Operational hazards should be evaluated and the necessary protective equipment specified. Supervisors should be fully aware of these to explain their advantages to those affected.

8. Enforcing Safety Rules.

Enforcement of safety rules is best achieved by leadership and example. However, disciplinary action may be warranted if an employee demonstrates a continuous disregard of safety rules.

Long-Range Approach

Primary requirements for the long-range approach to accident prevention are as follows:

1. Preparation of Job Safety Instructions.

These instructions should be formulated and put into printed form. They should be as complete as possible. If special instructions are required, those best suited to the accomplishment of the job should be utilized; i.e., manufacturer of the equipment being used; an employee best suited by experience and proven job performance should be utilized.

2. Training Employees to Work Safely.

Supervisors should explain the safety program to new employees. Written instructions are valuable, but they are most effective when the employees are also given personal instructions demonstrating the correct methods and procedures. Making time available for training new employees in safety aspects of the job is necessary for a good safety program. Every new employee should be evaluated during his/her probationary period for safety performance.

3. Encouraging Safety and Suggestions.

Accident records can be used to encourage safety, and discourage a poor safety record. When suggestions are solicited from fellow workers, more employees are added to the team of daily safety inspectors. The supervisor cannot see everything that is going on and can always use good, constructive suggestions concerning safety.

4. Holding Safety Meetings.

A successful safety meeting depends on group participation. Employees should be encouraged to give their ideas freely. With the group's safety coordinator, a supervisor should plan the meeting to cover specific problem areas to resolve the problems or to delegate follow-up investigations. Problem areas should not be allowed to exist without remedy. Periodic meetings will stress the continuing importance of safe operations.

5. Discussing Accidents with Employees.

If an accident occurs, the supervisor should discuss it with the employees involved; or if it occurred in another group, get the facts and present them to his/her workers. The supervisor determines how to prevent recurrence, encourages suggestions, stresses the importance of preventive measures without being overbearing and approaches the matter with genuine concern. By learning from the experiences of another group, a supervisor may prevent a similar accident.

POINTS TO REMEMBER

Accident investigation can remove accident causes only after accidents have occurred. Safety inspections can prevent more accidents from happening by eliminating or reducing accident causes.

In addition to the safety value of inspections and investigations, there are operational rewards which also may be realized. Often as a result of safety inspections, operating difficulties are resolved and more efficient and economical procedures are implemented.

Elements of an Accident

There are five basic elements of an accident which should be detected during an investigation. These are:

1. Equipment or tools involved - hammer, drill, lathe, ladder, vehicle, machinery, etc.
2. Type of accident involved - fall; struck by object; caught in, on, or between objects; contact with dangerous object or substance, etc.
3. Unsafe condition, material, or equipment involved - broken tool, slippery surface, unguarded machinery, faulty brakes, etc.
4. Unsafe practice involved - improper use of safety equipment, leaning over dangerous moving machinery, touching live wires or hot material, and failure to wear safety eyeglasses, or other safety equipment.
5. Reason involved - lack of instruction, personal illness, haste, inattention, disregard of safety rules, and unsafe attitudes.

Looking for Danger Spots

Good supervisors are always on the alert for danger areas that may cause accidents. They get themselves accustomed to overseeing equipment, operations, and environment not only with an eye for production, but also with safety in mind; production and safety cannot be separated. Danger may exist unnoticed in a simple operation performed incorrectly or in a tool or machine used improperly.

Removing Accident Causes

Knowing the causes of accidents and the methods of removal will not alone prevent accidents. A supervisor's knowledge must be put to use by eliminating or reducing the known accident cause. The supervisor should select the most practical method of eliminating accident causes, apply the method selected, and check the results.

Selecting the Right Method

All methods should be examined to determine their applicability toward removing the cause of a particular accident, the most practical one being selected. For example, if an

electrician is injured by touching a live buss bar, it may not be practical to redesign the equipment; but instructions on proper procedures and necessary protective equipment can prevent recurrence.

A good safety program requires that interest be established and maintained, and causes of accidents be determined and removed. The supervisor is the key individual in this program but not the only one. Supervisors must also work with their group and cooperate with other groups and individuals in County government.

Management and supervisors have the responsibility for planning, developing, and organizing safety programs for people whose activities they direct. Leadership must be provided; and protective equipment, safe environment, training, and guidance must be made a part of the program. It cannot succeed without cooperation from all units and all employees. Weak links cannot be tolerated in a safety program because the consequences are too serious.

Perhaps an employee is injured while operating equipment. The practicality of installing safeguards should be examined before condemning the equipment as unsafe. The logical, economical, and safe solution should be aimed for. It is not always easy—but it is always important.

Applying the Selected Method

Once the method is selected, it can be implemented in three ways.

1. Putting it into effect personally. This may involve instructing an employee, changing an operating method, or changing the equipment.
2. Recommending proper action to the responsible person or group. This may require a special study of the problem, a change in purchase specifications, or new operating standards. If the solution is available elsewhere, assistance should be solicited.
3. Keeping records and making reports. While a single accident may not warrant corrective action in an area, perhaps other groups have similar problems; and the combined problems will require action. For example, one minor accident not resulting in injury may not justify buying expensive protective equipment; but if the accident rate is high or danger potential is severe in another group, the equipment may be warranted. A study of supervisors' reports will indicate these important safety requirements.

Checking the Results

Once the method for removing the accident cause is effected, follow-up is required to check results. Were the recommended methods followed? What are the results of reports? Only by checking the results will a supervisor know. Follow-up indicates a supervisor's continued interest in safety. Without it, previous efforts could be wasted.

JOB HAZARD ANALYSIS

Job-related injuries occur every day in the work place. Often these injuries occur because employees are not trained in the proper job procedure.

One way to prevent work place injuries is to establish proper job procedures and train all employees in safer and more efficient work methods. Establishing proper job procedures is one of the benefits of conducting a JOB HAZARD ANALYSIS—carefully studying and recording each step of a job, identifying existing or potential job hazards (both safety and determining the best way to perform the job to reduce or eliminate these hazards). Improved job methods can reduce costs resulting from employee absenteeism and workers' compensation, and can often lead to increased productivity.

This chapter explains what a Job Hazard Analysis is and contains guidelines for conducting your own analysis on a step-by-step basis. A sample work sheet can be reviewed at the OSHA website: osha.gov/pls/publications/pubindex.list.

It is important to note that the job procedures in this booklet are for illustration only and do not necessarily include all steps, hazards, or protections for similar jobs in industry. In addition, standards issued by the Occupational Safety and Health Administration (OSHA) should be referred to as part of your overall Job Hazard Analysis.

SELECTING JOBS FOR ANALYSIS

A Job Hazard Analysis can be performed for all jobs in the work place, whether the job is "special" (nonroutine) or routine.

To determine which jobs should be analyzed first, review your job injury and illness reports. Obviously, a Job Hazard Analysis should be conducted first for jobs with the highest rates of accidents and disabling injuries. Also, jobs where "close calls" have occurred should be given priority. Analyses of new jobs and jobs where changes have been made in processes and procedures should follow.

INVOLVING THE EMPLOYEE

Once you have selected a job for analysis, discuss the procedure with the employee performing the job and explain its purpose. Point out that you are studying the job itself, not checking up on the employee's job performance. Involve the employee in all phases of the Analysis, from reviewing the job steps to discussing potential hazards and recommended solutions. You also should talk to other workers who have performed the job.

CONDUCTING THE JOB HAZARD ANALYSIS

Before actually beginning the Job Hazard Analysis, take a look at the general conditions under which the job is performed and develop a checklist. Below are some sample questions you might ask:

- * Are there materials on the floor that could trip a worker?

- * Is lighting adequate?
- * Are there any live electrical hazards at the job site?
- * Are there any explosive hazards associated with the job or likely to develop?
- * Are tools, including hand tools, machines, and equipment in need of repair?
- * Is there excessive noise in the work area, hindering worker communication?
- * Is fire protection equipment readily accessible and have employees been trained to use it?
- * Are emergency exits clearly marked?
- * Are trucks or motorized vehicles properly equipped with brakes, overhead guards, backup signals, horns, steering gear, and identification, as necessary?
- * Are all employees operating vehicles and equipment properly trained and authorized?
- * Are employees wearing proper personal protective equipment for the jobs they are performing?
- * Have any employees complained of headaches, breathing problems, dizziness, or strong odors?
- * Is ventilation adequate, especially in confined spaces?
- * Have tests been made for oxygen deficiency and toxic fumes?

Naturally, this list is by no means complete because each work site has its own requirements and environmental conditions. You should add your own questions to the list. You might also take photographs of the work place, if appropriate, for use in making a more detailed analysis of the work environment.

BREAKING DOWN THE JOB

Nearly every job can be broken down into steps. In the first part of the Job Hazard Analysis, list each step of the job in order of occurrences as you watch the employee performing the job. Be sure to record enough information to describe each job action, but do not make the breakdown too detailed. Later, go over the job steps with the employee.

IDENTIFYING HAZARDS

After you have recorded the job steps, next examine each step to determine the hazards that exist or that might occur. Ask yourself these kinds of questions:

- * Is the worker wearing protective clothing and equipment, including safety belts or harnesses that are appropriate for the job?

- * Are work positions, machinery, pits or holes, and hazardous operations adequately guarded?
- * Are lockout procedures used for machinery deactivation during maintenance procedures?
- * Is the worker wearing clothing or jewelry that could get caught in the machinery?
- * Are there fixed objects that may cause injury, such as sharp machine edges?
- * Is the flow of work improperly organized (e.g., is the worker required to make movements that are too rapid)?
- * Can the worker get caught in or between machine parts?
- * Can the worker be injured by reaching over moving machinery parts or materials?
- * Is the worker at any time in an off-balance position?
- * Is the worker positioned to the machine in a way that is potentially dangerous?
- * Is the worker required to make movements that could cause hand or foot injuries, or strain from lifting?
- * Can the worker be struck by an object or lean against or strike a machine part or object?
- * Can the worker fall from one level to another?
- * Can the worker be injured from lifting or pulling objects, or from carrying heavy objects?
- * Do environmental hazards—dust, chemicals, radiation, welding rays, heat, or excessive noise—result from the performance of the job?

Repeat the job observation as often as necessary until all hazards have been identified.

RECOMMENDING SAFE PROCEDURES AND PROTECTION

After you have listed each hazard or potential hazard and have reviewed them with the employee performing the job, determine whether the job could be performed in another way to eliminate the hazards, such as combining steps or changing the sequence, or whether safety equipment and precautions are needed to reduce the hazards. If safer and better job steps can be used, list each new step, such as describing a new method for disposing of material. List exactly what the worker needs to know in order to perform the job using a new method. Do not make general statements about the procedure, such as "Be careful." Be as specific as you can in your recommendations.

You may wish to set up a training program using the Job Hazard Analysis in order to train your employees in the new procedures, especially if they are working with highly

toxic substances or in dangerous situations (some OSHA standards require that formal training programs be established for employees).

If no new procedure can be developed, determine whether any physical changes, such as redesigning equipment, changing tools, adding machine guards, personal protective equipment, or ventilation will eliminate or reduce the danger.

If hazards are still present, try to reduce the necessity for performing the job or the frequency of performing it.

Go over the recommendations with all employees performing the job. Their ideas about the hazards and proposed recommendations may be valuable. Be sure that they understand what they are required to do and the reasons for the changes in the job procedure.

REVISING THE JOB HAZARD ANALYSIS

A Job Hazard Analysis can do much toward reducing accidents and injuries in the work place, but it is only effective if it is reviewed and updated periodically. Even if no changes have been made in a job, hazards that were missed in an earlier analysis could be detected.

If an accident or injury occurs on a specific job, the Job Hazard Analysis should be reviewed immediately to determine whether changes are needed in the job procedure. In addition, if an accident has resulted from an employee's failure to follow job procedures, this should be discussed with all employees performing the same job.

Any time a Job Hazard Analysis is revised, training in the new job methods or protective measures should be provided to all employees affected by the changes. A Job Hazard Analysis also can be used to train effectively new employees on job steps and job hazards.

To show how a Job Hazard Analysis form is prepared, a sample worksheet can be reviewed at the OSHA website: osha.gov/pls/publications/pubindex.list. Both safety and health hazards are noted, as well as recommendations for safer methods and protection.

SAMPLE JOB ANALYSIS OF HAZARDS CLEANING INSIDE SURFACE OF CHEMICAL TANK-TOP MANHOLE ENTRY

STEP	HAZARDS	NEW PROCEDURE OR PROTECTION
1. Select & train operators	Operator with respiratory or heart problem; other physical limitation. Untrained operator-failure to perform task.	* Examination by physician for suitability to work. * Train operators. * Dry run. Reference: National Institute for Occupational Safety and Health (NIOSH) Doc. #80-406.
2. Determine what is in the tank, what process is going on in the tank, and what hazards does this pose.	Explosive gas. Improper oxygen level. Chemical exposure - Gas, dust, vapor irritant toxic. Liquid: irritant toxic corrosive. Solid: irritant corrosive.	* Obtain work permit signed by supervisor(s). * Test air by qualified personnel. * Ventilate to 19-20% oxygen and less than 25% LEL of any flammable gas. Steaming inside of tank, flushing and draining, then ventilating as described may be required. * Provide appropriate respiratory equipment-SCBA or airline respirator. * Provide protective clothing for head, eyes, body, and feet. * Provide parachute harness and lifeline. Reference: OSHA standards 1910.106, 1926.21b6, NIOSH Doc. #80-406 * Tanks should be cleaned from outside if possible.
3. Set up equipment.	Hoses, cord, equipment - tripping hazards. Electrical - voltage too high, exposed conductors. Motors not locked out and tagged.	* Arrange hoses, cords, lines, and equipment in orderly fashion, with room to maneuver safely. * Use ground-fault circuit interrupter. * Lockout and tag mixing motor if present.
4. Install ladder in tank.	Ladder slipping.	* Secure to manhole top or rigid structure.
5. Prepare to enter tank.	Ladder-tripping hazard.	* Empty tank through existing piping. * Review emergency procedures. * Open tank. * Check of job site by industrial hygienist or safety professional. * Install blanks in flanges in piping to tank (isolate tank). * Test atmosphere in tank by qualified person (long probe).

STEP	HAZARDS	NEW PROCEDURE OR PROTECTION
6. Place equipment at tank entry position.	Trip or fall.	<ul style="list-style-type: none"> * Use mechanical handling equipment. * Provide guardrails around work positions at tank top.
7. Enter tank.	Ladder-tripping hazard.	<ul style="list-style-type: none"> * Provide personal protective equipment for conditions found. <p>Reference: NIOSH Doc. #80-406; OSHA CFR 1910.134.</p>
8. Cleaning tank.	Exposure to hazardous atmosphere.	<ul style="list-style-type: none"> * Provide outside helper to watch, instruct, and guide operator entering tank with capability to lift operator from tank in emergency.
8. Cleaning tank.	Reaction of chemicals, causing mist or expulsion of air contaminant.	<ul style="list-style-type: none"> * Provide protective clothing and equipment for all operators and helpers. * Provide lighting for tank (Class 1, Div. 1). * Provide exhaust ventilation. * Provide air supply to interior of tank. * Replace operator or provide rest periods. * Provide means of communication to get help if necessary. * Provide two-man standby for any emergency.
9. Cleaning up.	Handling of equipment causing injury.	<ul style="list-style-type: none"> * Dry run. * Use material-handling equipment.

WORK PLACE EYEWASH REQUIREMENTS

Employers with work places where exposure to injurious corrosives is a possibility are well aware of the fact that OSHA requires suitable facilities for quick drenching of the eyes and body. Not all employers, however, are aware of how to locate, select, install, and maintain these facilities.

Safety experts suggest that you learn to get the most out of emergency fixtures before an accident happens.

Survey your work area and determine where the eyewash/drench shower stations will be the most accessible. The NATIONAL SAFETY COUNCIL recommends that the stations require no more than ten seconds to reach and should be no greater than 100 feet from the potential hazard. They should be unobstructed and located a safe distance from electrical outlets or equipment.

Bradley Corporation, designer and manufacturer of emergency equipment, advises that you choose fixtures that are compatible with your operation's plumbing and emphasizes that improper water pressure or water supply lines, incompatibility with existing piping, improper drainage, poor water quality, or incorrect temperature may prevent your emergency fixtures from functioning properly.

What about maintenance? According to Bradley, regularly-scheduled maintenance and testing are a must because an emergency station that is not working properly could actually worsen injuries. To prevent this, the manufacturer recommends that you activate your emergency fixtures at least once a week. This procedure is necessary to help flush contaminants, test for pressure and volume, and check for malfunctions. In extremely caustic environments, Bradley advises that maintenance checks be made on a daily basis. A maintenance log is to be kept at each station.

No matter how good your emergency equipment, it will not do the job if you have not trained your employees to use the equipment properly. Be sure to post operating and first-aid instructions near each eyewash and shower station. Employees should be trained in the use and location of these stations at regularly-scheduled intervals.

Bradley further reminds employers that in work places where the installation of a fixed eyewash unit is not possible, self-contained units should be provided that flush with adequate amounts of water over a 15-minute period.

SUPERVISORY RECORD KEEPING AND ACCIDENT ANALYSIS

Keeping accident information all together, though time consuming, is vital for an understanding of what is happening in your safety program. It may seem there is an overwhelming amount of paperwork involved keeping safety records. However, for a safety system to be complete, ongoing procedures that place a premium on understanding and prevention must be developed. Some forms and paperwork are required by insurance companies and by State and Federal law. Beyond this record keeping, there are many ways your division can develop programs that are keyed to the analysis of safety programs and procedures. Of course, the major goal of any safety program is to reduce the number of accidents, not to create paperwork.

Records which should be maintained are:

1. Auto and property damage reported (Fleet, Risk Manager, Safety Officer).
2. General liability claims (related departments, Risk Manager, County Attorney's office).
3. First reports of on-the-job injuries (related departments, Risk Manager).

Review and analyze all accidents.

1. As a result of a motor vehicle accident, determine if the County operator is at fault or if this was a nonfault accident as the accident pertains to the County operator.
2. Ascertain whether the on-the-job accident was due to unsafe acts or no unsafe act.
3. Advise management on all safety matters.

MOTOR VEHICLES

CATEGORIES OF VEHICLE ACCIDENTS AND DEFINITIONS

1. **AT FAULT:** Driver error by negligence, carelessness, or uncontested traffic citation.
2. **DUE CARE:** Driver error but extenuating circumstances rules out driver being completely at fault.
3. **NONFAULT:** Driver was involved, however, circumstances rules this as being a nonpreventable accident.

A SUPERVISORY AID

HOW TO DETERMINE VEHICLE ACCIDENT PREVENTABILITY

This guide coincides with the National Safety Council's concept of preventability. It can be used to direct supervisory reviews, to explain the judging of vehicle accidents, and to indicate the need for further training. The rules for judging preventability are necessarily strict since they are not based on who was primarily at fault but, instead, follow the concepts of defensive driving.

Defensive drivers are careful to commit no driving errors. These drivers make allowances for the reactions of other drivers or pedestrians, and do not allow the lack of skill, improper attitudes of others, weather hazards, or road conditions to involve them in an accident. Defensive drivers stay constantly on the alert, making sure to have ample room to escape from accident-producing situations. They recognize hazardous situations/actions far enough in advance to avoid a collision, and make sure other drivers are aware of their presence. They yield the right-of-way whenever it is necessary to do so to avoid an accident. Defensive driving can be defined in three words: courtesy, concentration, and control.

Any accident involving a vehicle which results in injury or alleged injury to anyone, damage or alleged damage to any property must be reported. Accidents must be reported regardless of who was hurt, what property was damaged, how slight, where it occurred, or who was responsible.

PREVENTABLE OR NONPREVENTABLE

An accident is preventable when there is anything the driver could have done to avoid it. Drivers are expected to drive defensively. Which driver was primarily at fault, who received a traffic citation, or whether a claim was or was not paid has absolutely no bearing on preventability. If there was anything the driver could have done to avoid the collision, then the accident was preventable.

An accident is nonpreventable when the vehicle was legally and properly parked or when the vehicle was properly stopped because of a police officer, a traffic signal, or traffic condition.

It should be the objective of any person discussing, judging, or investigating motor vehicle accidents to obtain as many facts as possible and to consider all conceivable conditions. Adverse weather condition, actions of other drivers, or other such excuses must not influence the judgment of preventability.

Pasco County drivers are expected to drive in a manner which allows them to avoid conflicts when they arise. Whether a driver has a 25-year safe driving record or started driving the day before has no bearing on whether an accident is or is not preventable. Taking a fair attitude does not mean leniency. If an accident is judged nonpreventable and a driver knows the accident could have been avoided, the driver will lose respect for the program.

QUESTIONS TO CONSIDER - GENERAL

When judging or discussing preventable accidents, these are some questions to consider:

- Does the report indicate good judgment? Such phrases as "I did not see," "I didn't think," "I didn't expect," or "I thought" are signals indicating there is something wrong in the driver's thinking. An aware driver should think, expect, and see hazardous situations in time to avoid collisions.
- Was the driver under any physical handicap which would have been contributory? Did the accident happen near the end of the work day? Does the driver drink alcohol? Does the driver report to work in a fatigued condition due to alcohol consumption? Is the driver's vision faulty?
- Was the vehicle defective without the driver's knowledge? A gradual brake failure, vehicles which pull to the left or right upon brake application, faulty windshield wipers, and similar items are excuses and a driver using them is trying to shift the responsibility. Sudden brake failure, loss of steering, or a blowout may be considered defects beyond a driver's knowledge; however, the inspection and maintenance program should work to prevent these hazards.

QUESTIONS TO CONSIDER - SPECIFIC TYPES OF ACCIDENTS

- Intersection Collisions

1. Right turn.
2. Left turn.
3. Straight through.

Failure to yield the right-of-way, regardless of stop signs or lights, is preventable except when the driver is properly proceeding at an intersection protected by lights or stop signs and the vehicle is struck in the rear, side, or back.

Regardless of stop signs, stop lights, or rights-of-way, a driver should recognize that the right-of-way belongs to anyone who assumes it and should yield accordingly. In addition, a good driver is expected to know the turning radius of the vehicle and be able to avoid damaging others. These accidents are normally considered preventable.

1. Did the driver approach the intersection at a speed safe for conditions?
2. Was the driver prepared to stop prior to entering the intersection?
3. At a blind corner, did the driver pull out slowly, ready to apply the brake pedal?
4. Did the driver make sure the other driver would or was stopped for a traffic light or stop sign?
5. Did the driver obey all traffic signs?
6. Did the driver signal well in advance of the vehicle's change in direction?
7. Did the driver turn from the proper lane?
8. Was the driver alert for the turns of other operators?
9. Did the driver avoid overtaking and passing in the intersection?

10. Did the driver refrain from jumping the starting signal or riding through the caution light?

IF THE ANSWER TO ANY QUESTION IS NO, THE DRIVER WAS NOT DRIVING DEFENSIVELY AND IS AT FAULT.

- Rear-End Collisions

1. Following too closely.
2. Driving too fast for conditions.

Drivers have the responsibility to allow sufficient distance between their vehicles and the vehicles ahead in order to avoid this type of accident/collision. Darkness, fog, rain, mist, sleet, or glare cause reduced visibility. The burden of responsibility is placed on the drivers. Drivers should operate their vehicles within their ability to see ahead.

1. Was the driver maintaining a safe following distance between vehicles ahead? (At least one vehicle length for every 10 miles per hour of travel or a two-second interval between the vehicle ahead and the County vehicle being driven.) These distances should be doubled at night and doubled again in wet weather.
2. Was the driver keeping mind and eyes ahead of the vehicle in front?
3. Did the driver approach the green traffic light cautiously, expecting the driver ahead to stop suddenly on the signal change?
4. Did the driver operate the vehicle correctly so as to prevent the vehicle from going into a skid?

IF THE ANSWER TO ANY QUESTION IS NO, THE DRIVER WAS NOT DRIVING DEFENSIVELY AND IS AT FAULT.

- Sideswipes

1. Overtaking or overtaken.
2. Stationary objects.
3. Leaving parked positions.
4. Opposing vehicles.
5. Opening door of vehicle.
6. Opening door of another vehicle.

These are preventable since operators should not get into a position where they can be forced into trouble. A driver should not swerve, forcing others into an accident. Drivers are expected to gauge distances when backing or packing. It is the County driver's responsibility to use due care in these circumstances, also to enter traffic flow safely. The doors of a vehicle should never be open when it is in motion. Vehicle doors should not be opened on the traffic side, unless the operator has ascertained that the street is clear of traffic, when the vehicle has been parked.

People sitting inside a parked vehicle can be seen from a sufficient distance; therefore, the operator of an approaching unit should be prepared in case the

vehicle observed should have its doors open suddenly. This type of accident is preventable whenever the point of contact of the other vehicle's door is forward of the back wall of the cab.

1. Did the driver look to front and rear for approaching and overtaking traffic immediately before starting to pull away from the curb or parked area?
2. Did the driver signal before pulling out into traffic?
3. Did the driver look back rather than depend upon rear-view mirrors?
4. Did the driver start the maneuver only when the action would not require traffic to change its speed or direction in order to avoid the vehicle?

IF THE ANSWER TO ANY QUESTION IS NO, THE DRIVER WAS NOT DRIVING DEFENSIVELY AND IS AT FAULT.

- Head-On or Runaway Vehicle

1. Vehicle in the wrong lane.
2. Overhead obstruction.
3. Stationary object.
4. Rolled from a parked position.
5. Drove off the road.

Overhead obstructions or stationary objects can usually be avoided by using common sense. A head-on collision with a vehicle which is traveling in the wrong lane is preventable. Drivers should not allow themselves to be forced into a position where an accident like this can occur.

It is a driver's responsibility to park a vehicle so that it will be and remain stationary. This type of accident is preventable and blaming such a collision on defective parking brakes or other holding devices is an excuse. An accident in which a unit leaves the highway, including overturning or striking objects off the road, are preventable.

If a head-on collision occurs while a driver was properly positioned and proceeding in lane and could not have stopped the unit off the road or taken any other action to avoid collision, it may be considered nonpreventable.

1. Was the driver aware of the overall height or width of the vehicle being driven?
2. Did the driver perform a required and proper pretrip inspection of the vehicle?
3. Was the driver aware of the affects fatigue, alcohol, or drugs can have on the ability to drive and stay awake?

IF THE ANSWER TO ANY QUESTION IS NO, THE DRIVER WAS NOT DRIVING DEFENSIVELY AND IS AT FAULT.

- Skidding and Jackknife

Many skidding conditions are caused by weather. Rain, fog, and in some areas snow and sleet or perhaps a combination of these elements which all increase

the hazards of driving. Oily road film which builds up during periods of good weather causes an especially treacherous condition during the first minutes of a rainfall.

Loss of traction on a grade can be anticipated; these types of accidents are preventable.

Jackknife accidents are preventable. Accidents can occur during braking on both wet and dry surfaces of the road. Accidents also occur when a vehicle loses traction going uphill and begins to slide backwards downhill.

To prevent jackknife accidents which occur during braking, the properly balanced braking system of a tractor-trailer combination must be in good working condition. The driver must also know how to use the braking system and to use this system properly.

1. Was the driver operating at a safe speed for the existing conditions of road and weather?
2. During inclement weather was the driver keeping at least twice the safe following distance as for a dry roadway?
3. Were all actions gradual?
4. Was the driver alert for loose gravel, sand, ruts, etc.?

IF THE ANSWER TO ANY QUESTION IS NO, THE DRIVER WAS NOT DRIVING DEFENSIVELY AND IS AT FAULT.

- Pedestrian and Animal Collisions

All types of pedestrian accidents, including collision with children and persons coming from between parked cars, are usually considered to be preventable. There are few instances where the action of pedestrians is so unreasonable that the operator could not be expected to anticipate such an occurrence.

Collisions with animals are usually preventable, unless the movement on the part of the animal was unusual and unexpected. This is also taking into consideration the driver was aware that there were animals in the vicinity.

1. Did the driver go through congested sections expecting that pedestrians would step in front of the vehicle?
2. Was the driver prepared to stop?
3. Did the driver keep as much clearance between the County vehicle and parked vehicles as safety permitted?
4. Did the driver stop when other vehicles had stopped to allow pedestrians to cross?
5. Did the driver wait for the green light or stop for the caution light?
6. Was the driver aware of groups of children and prepared to stop if one ran into the street?
7. Did the driver give all pedestrians the right-of-way?
8. Did the driver stop for a school bus which was stopped and properly signaling that passengers were loading or unloading?

IF THE ANSWER TO ANY QUESTION IS NO, THE DRIVER WAS NOT DRIVING DEFENSIVELY AND IS AT FAULT.

- Parked or Stopped
 1. Improperly parked or stopped.
 2. Properly stopped when struck.
 3. Properly parked when struck.

Accidents occurring when a vehicle is properly and legally parked are considered nonpreventable. Accidents occurring while the vehicle was double parked or in a "No Parking" zone are preventable.

1. Was the driver parked on the proper side of the road?
2. Was it necessary to park near the intersection?
3. Did the driver have to park on the traveled part of the road, on the curve, or on the hill?
4. When required, did the driver warn traffic by emergency warning devices?
5. Did the driver park parallel to the curb?
6. Was it necessary to park so close to an alley or directly across from a driveway?

IF THE ANSWER TO ANY QUESTION IS NO, THE DRIVER WAS NOT DRIVING DEFENSIVELY AND IS AT FAULT.

- Mechanical Failure and Miscellaneous
 1. Dropped trailer.
 2. Damaged landing gear.
 3. Driver aware of or causing mechanical failure.
 4. Driver unaware of a mechanical failure.
 5. Miscellaneous.

Drivers are expected to crank the landing gear up, to make sure the king pin is in place and secure, to take other obvious steps to protect equipment. Whenever the action of a driver has caused accidental damage to equipment, the accident should be considered preventable.

The accident should be considered preventable if the investigation discloses a mechanical defect of which the driver was aware, should have been found by inspection of the vehicle prior to operation, or caused by rough and abusive handling.

When a mechanical failure is of a sudden and unexpected nature, not resulting from abuse or ordinary wear, it may be considered nonpreventable. Bad brakes should not be considered a mechanical failure unless the failure was sudden and the driver could have had no previous knowledge of the condition. However, this type of failure cannot excuse a driver simply because the operator did not know how to pretrip inspect the vehicle, or is not conscientious enough to do the required inspection correctly.

It is the driver's responsibility to be aware of the load being transported and how any sudden movement of the vehicle could affect that load. Driving off the highway is normally preventable. Drivers should not allow themselves to be placed in such a position. "U" turns are a monkey wrench in the smooth flow of traffic and accidents occurring while this maneuver is attempted are considered preventable.

1. Could the driver have done anything to avoid the accident?
2. Was the driver's speed safe for the existing conditions?
3. Did the driver obey all traffic signals?
4. Was the driver's vehicle under control?
5. If applicable, did the driver follow routing or other instructions of the supervisor?
6. Did the driver call in for help if help was needed?
7. Did the driver report the accident in a timely fashion?

IF THE ANSWER TO ANY QUESTION IS NO, THE DRIVER WAS NOT DRIVING DEFENSIVELY AND IS AT FAULT.

Any accident which does not fall into one of the above types should be impartially considered to determine if the driver could have done anything, within reason, to avoid the occurrence. Defensive drivers are expected to make allowances for the actions of others and to think far enough ahead to avoid hazardous situations and accidents.

DISCIPLINE AS A SAFETY DEVICE

Most line supervisors will routinely apply disciplinary actions to correct tardiness, absenteeism, insubordination, and other performance deficiencies relating to the unit and its reputation.

Many of these same supervisors hesitate to discipline their subordinates for safety infractions, even when it is required by organizational policy.

It is often the supervisor who contributes to the unit's accident rate by permitting or even encouraging the by-passing of safety devices, the operation of equipment beyond its safe capacity, or the circumvention of safety regulations—all in the name of getting the job done in a timely fashion.

It is difficult to understand this attitude when one considers that most supervisors know that the safety and well being of their charges is a managerial responsibility equal to importance to any others and that just one lost time accident can erase all time scheduled conclusion of work assignments.

Perhaps one explanation is that these supervisors are convinced that the enforcement of safety regulations is "MICKEY MOUSE STUFF." "I don't care how they work, just so long as the job gets done" may be an attitude. We must then wonder why then they do not also reason: "I don't care what time they come to work, just so they work when they get here."

Another answer may be the supervisor relies too heavily upon superiors to manage the safety program instituted by their division. These superiors can provide support by collecting data, keeping records, and disseminating information, policies, and procedures; but, the actual program management must be done in the work area, where the accidents occur.

It should not be costly to incorporate safety into the existing disciplinary program or vice versa, because the basic principles and procedures for discipline should be the same regardless of the type of violation.

- Disciplinary actions should be corrective in nature.
- Initiated promptly, as soon as possible after thorough investigation and consideration of all the pertinent data.
- Fair and consistent.
- Well documented, proving that the offender has been adequately trained or instructed so that the employee knows what is required.
- Management has not contributed, either passively or actively, to the violation.

Penalties for safety violations must be formulated in the same manner as for other violations/infractions—through consultation with appropriate organizational personnel. They must also cover the same range of progression, from simple reprimand to discharge, depending upon the facts in the individual case. They must be well publicized throughout the organization. This is accomplished by the publication of the Career Service Manual for Pasco County employees.

Since some infractions must be considered more serious in nature than others, the difference should be accomplished through complete job and task analysis. This procedure is done to determine which conditions or actions have the highest severity potential. A review of accident records will be of great assistance in performing these analysis procedures.

The final and most important step is the implementation of the safety discipline program. The supervisory personnel must make it clear that violations of safety will not be tolerated. The supervisor must be prepared to take any actions necessary to demonstrate this safety stand.

The three "T" method has proven highly effective: Train; Transfer when appropriate; and Terminate when necessary.

The reluctance to use fear as a safety motivator is unrealistic—if one cannot be motivated to fear the loss of life or limb, perhaps the employee can be motivated to fear job action.

The best safety device is whatever is most successful in preventing accidents.

CONCLUSION

A Final Word

Every supervisor is expected to utilize this guide in planning their safety program so that all aspects of safety planning are explored. Although this guide does not deal directly with other major safety fields—public safety and fire safety—safe employee work habits and attitudes required for a good safety program are also important to produce safe performance in these areas. Safe procedures in all areas must be planned and implemented. Safe performance will not result of its own accord. The time and effort of each supervisor is essential for the planning and development of a sound safety program. This guide is meant to outline the main aspects on which a supervisor must concentrate to accomplish their safety duties.

APPENDIX "A-1"

PASCO COUNTY ACCIDENT PREVENTION MANUAL

SUPERVISORY CERTIFICATION PAGE

Detach and return this page to the Safety Officer, Personnel Department, after you have read and understood this booklet.

I have read, or have had read to me, and agree to follow the safety rules set forth in this booklet. I understand that deliberate violations of these rules is sufficient cause for disciplinary action.

Please Print: Last, First Name

Signature

Department

Date

Return certification page to the Safety Officer, Personnel Department, within 30 days of employment.