TOWN OF WINDSOR

Code of Safe Work Practices

10/21/2014

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TOWN OF WINDSOR – CODE OF SAFE WORK PRACTICES

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TOWN OF WINDSOR – CODE OF SAFE WORK PRACTICES

1. PURPOSE OF CODE OF SAFE WORK PRACTICES

The Town of Windsor provides the following Code of Safe Work Practices to prevent employee injuries and illnesses in the Town workplace. Most codes of safe practices are merely common sense and good judgment while some are specific and address the appropriate way to avoid working unsafe. Others result from Federal and State regulatory standards and are subject to significant penalties including fines and in some instances, incarceration or both.

Every Town of Windsor employee is responsible to know, understand, practice, follow and apply these safety guidelines to his or her job so as not to endanger him/her, fellow employees or the general public. Additionally, employees shall caution co-workers about unsafe practices that are observed.

2. GENERAL SAFETY RULES

2.1. General

Every employee is accountable for being able to safely operate tools and equipment, use approved work procedures, and follow established work rules and practices. Every employee shall take reasonable care in performing his or her job and act in a professional manner that ensures maximum safety to him/her, co-workers, and the public. Employees shall not engage in clowning, practical jokes, roughhousing, or inspiring others to take unnecessary chances that could cause injury or property loss.

Supervisors and managers are accountable to ensure that employees under their direction can perform assigned work tasks and operate equipment and tools in a safe manner. Every supervisor and manager is responsible to ensure that all work done by employees under his or her direction complies with the applicable safety rule that applies to the job in progress. Work methods that violate, wholly or in part, any established safety rules shall not be tolerated. Supervisors and managers shall conduct scheduled and periodic inspections of all tools and equipment under his or her control. During these inspections, should defective tools or equipment be discovered, the employee in charge shall remove the items from service and have it repaired or replaced.

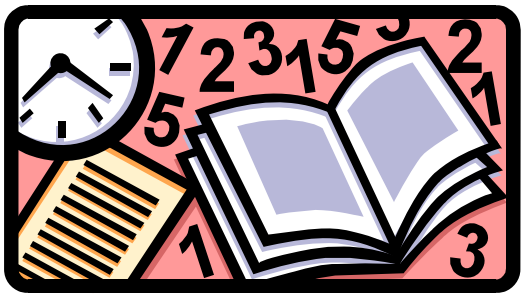
These codes of safe practices shall take precedence over any conflicting instructions and every employee shall interpret these rules to ensure maximized safety and compliance. Should a difference of opinion arise in the application or interpretation of these rules, the decision of the employee in charge shall be followed in conformance with the Town of Windsor's established policies.

Not all of the safety procedures discussed in the Code will pertain to all Town operations at all times. When employees encounter job tasks that they do not routinely perform but are included in the Code of Safe Practices, they are encouraged to use the safe practices as guidelines to working safely in any work environment.

TOWN OF WINDSOR – CODE OF SAFE WORK PRACTICES

Safety means efficient performance. Safety must, therefore, be a part of the planning for every job, equal in importance to all other operational considerations. Observing the safety procedures contained in the Code will make Town operations safer. Every employee must be alert to the possibility of improvement. People are constantly finding new ways to do things. However, the new ways are not always safer, or even an improvement in any sense perhaps, but it is possible to find safer ways to do things that are improvements upon established methods. Employee suggestions for improvements of work conditions and work procedures are welcomed, in fact, invited. Changes must not be made, however, until suggestions have been evaluated and the Town has approved revision of the current procedure.

Unsafe conditions and unsafe procedures must be identified before they can be corrected. Damage to property and injury to employees and to the general public can occur as a result of hazardous conditions at public facilities and in public rights-of-way. Damage and injury from such conditions can become the basis for claims and lawsuits against the Town and represents significant expense to the Town in administration and in settlements. To minimize the losses the Town suffers, it is extremely important that all employees report hazardous conditions through their supervisors so that appropriate corrective action will be taken at the earliest possible time. Reporting forms [IIPP Form 7A] Forms are in I:/SAFETY FIRST. All incidents shall 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.



The following general safety procedures are established for all Town employees:

1. Report all personal injuries, no matter how minor, to your immediate supervisor as soon as possible. Prompt reporting of accidents is a requirement under Federal and CAL-OSHA laws and the Workers' Compensation law. Failure to do so may result in a delay or denial of a claim for benefits.

2. The Town does not expect you to take any unnecessary chances to work under hazardous conditions. Learn the right way to do your job. That will be the safe way. If you are not sure that you thoroughly understand the job, ask you 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 under the Town's Personnel Policies and Procedures.

4. Drinking of alcoholic beverages on the job is prohibited. Any employee reporting to work under the influence of alcoholic beverages during working hours shall be subject to disciplinary action.

5. If you are taking prescription medications, inform your supervisor of you condition.

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 the handrails on stairs or on elevated places.

8. Jumping from an elevation such as a table, bench, vehicle bumper or platform can 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 and equipment that are defective to an unsafe degree.

10. Remove splinters from workbenches, tables, bins, shelves or 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 point out hazards.

14. Operate only the machinery or equipment you have been authorized and trained to operate safely.

15. Remove jewelry such as rings and identification bracelets in work involving climbing, materials handling or operating mechanical equipment.



16. Never reach over moving parts of machinery or equipment.

17. Never operate machinery or equipment with 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. Wear protective equipment as required. Its use will be enforced.

20. Common sense, health and sanitation rules must be observed for the welfare and consideration of other employees.

2.2. Office Safety

Office work is more dangerous than is commonly supposed and many accidents occur during ordinary office routines. Follow these simple safety procedures:

1. Every employee shall be responsible to see that their own desk and work area is clean and orderly. Pick up items such as pencils or paper clips and wipe up any spilled liquids. Good housekeeping is the key to a safe office environment.

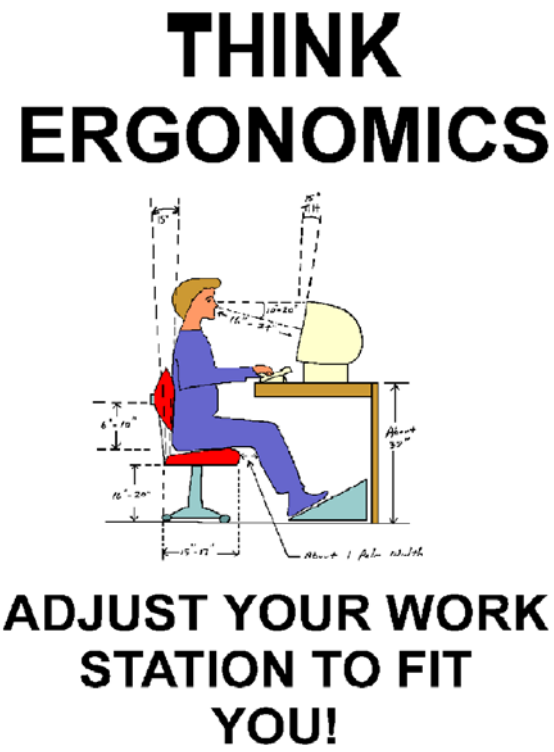
2. Keep an eye open for loose or rough floor covering.

3. Be extra cautious when you come up to a door that can be pushed toward you. Take it easy when pushing one open and slow down when coming to a blind corner.

4. Haste when walking between desks results in bruises and falls. Watch out for electrical cords and keep them out of aisle ways.

5. All file, desk and table drawers shall be kept closed when not in use. As soon as you have used them, close them. Never open more than one file drawer at a time.

6. Overloading the top drawer of unsecured file cabinets can cause injury and damage. If unfamiliar with the file cabinet, test the drawers and be careful not to pull them out too far if there is no locking device on them.



7. Furniture such as tables, desks and chairs must be maintained in good condition and free from sharp corners, projecting edges, wobbly legs, etc.

8. Tilting chairs can be a hazard when improperly used and care should be taken to assure that they are in good condition. Learn the limits. Be sure your chair is behind you before you sit down.

9. Never use chairs, desks or other office furniture as a makeshift ladder. Use a stepladder. Don't overreach and lose your balance.

10. Keep the blade of a paper cutter closed when not in use. Be especially careful when using the paper cutter.

11. Pencils and pens are safest when carried point down in pockets.

12. Scissors, paper cutters, glass, and razor blades can cause painful injuries. Report such injuries at once to protect yourself from infection.

13. Paper can cut and it hurts. Use a sponge or other wetting device for envelopes. Use rubber finger guards when working with stacks of paper.

14. Keep paper clips, thumb tacks and push pins in a place where they can't bite, such as in a drawer organizer, and keep razor blades covered. Even a little scratch can get infected.

15. Chairs, wastebaskets, cords and other articles shall not be left in aisles or anywhere that creates a hazard.

16. Pens, pencils, paper clips, etc., shall not be placed in the mouth.

17. Only staples or other appropriate clips shall be used to fasten papers together.

18. Broken glass or other sharp-edged objects shall not be placed in wastebaskets unless properly protected.

19. Should mechanical office equipment become inoperable, when feasible to do so, its power source shall be disconnected before maintenance work is attempted, with the exception of photocopiers, printers and fax machines. Employees shall only work on areas that the manufacture precisely designated for *customer maintenance*.



21. Be sure equipment is UL-approved and/or grounded and that electrical cords are in good condition. If a machine gives you a shock or starts smoking, unplug it, tag it appropriately and report it.

22. An employee wishing to have his or her workstation evaluated can secure that evaluation from his or her supervisor. Employees should minimize the following work activities:

- Excessive repetition of tasks
- Extended duration of tasks without alternative work related activities
- Awkward postures or positions
- Forceful physical exertion
- Body contact with sharp objects

20. Good posture helps reduce the stress of sitting in one position for extended periods. Occasionally an office set-up may not promote good posture. A few simple modifications such as these can improve that condition:

- Position yourself so that your weight is shifted forward (off your spine). A seat wedge, a lumbar roll designed to support your lower back, or a folded towel two or three inches thick may help when placed in the small of your back for support.



- Adjust your chair so that your arms are at desk level and your feet are on the floor. If your feet don't touch the floor, use a footrest.
- Take short breaks at least once an hour to stretch your spine.
- Avoid crossing your legs. This interferes with the circulation to your legs and throws your spine out of balance.

Office employees shall observe the above to reduce their risk of injury or illness. Good ergonomics practices also include taking regularly scheduled breaks, performing varied work tasks, keying with wrists in a straight position, typing with minimal force, and avoiding contact with sharp work surfaces.

2.3 Trips and Falls

Some of the most common causes of trips and falls occur by tripping over an open desk or file drawer, bending while seated from an unstable chair, tripping over electrical cords or wires, using makeshift "ladders" (such as a chair or a stack of boxes) to get or place material in an elevated location, and by slipping on wet floors (such as a spill from a sink, water cooler or coffee machine). Loose or threadbare carpeting, objects stored in halls or walkways, and inadequate lighting are just a few of an array of other hazards that invite falls. All fall hazards are preventable, and the following information can help:

- Be sure your pathway is clear
- Close drawers completely after every use
- Avoid excessive bending, twisting and leaning backward while seated
- Secure electrical cords and wires away from walkways
- Always use an appropriate ladder designed for the intended purpose
- Clean up spills immediately
- Pick up objects that co-workers may have left on the floor
- Report loose carpeting or damaged flooring to your supervisor immediately
- Make sure walkways are well-lit
- Never carry anything that obscures your vision
- Wear stable shoes with non-slip soles

2.4. Safe Field Operations

Employees working in field operations can minimize their exposure to equipment and tool vibrations by limiting the duration of work, by using anti-vibration gloves provided by the Town, and using appropriate grips on tools. When lifting material, employees shall use a firm grip, secure good footing and place their feet at a comfortable distance apart, bend the knees, hold the material close to the torso, keep the back straight, lift the leg muscles, and avoid twisting the torso. Employees shall not lift and carry material heavier than their ability to manage the load, and in such a manner that does not obstruct their vision. When needed, employees shall get help.

2.5. Housekeeping

Painful and sometimes disabling injuries are caused when workers are struck by falling objects they did not see. Many injuries and much property damage stems from fires caused by poor housekeeping practices and improper storage of flammable materials. The best protection against these hazards is good housekeeping.

Good housekeeping conditions shall be maintained at all work locations and in all vehicles to preserve a safe and healthful work environment. Floors, aisles and stairways shall be kept free of debris. To eliminate trip and fall hazards, store material and supplies in an orderly manner to prevent items from falling and spreading.

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

Aside from 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 easier to inspect for damage and wear.

The following housekeeping 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, boxes or other moveable containers at a height where they are not visible from the floor.



"I want you to stop leaving things just laying around on the factory 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 them.

5. When storage materials are suspended from racks or hooks, secure them from falling and route walkways a safe distance from the surface beneath.

6. When storing materials overhead on balconies, provide adequate toe boards to prevent objects from rolling over the edge.

7. Do not let soft drink bottles, soiled clothes, etc. accumulate in lockers and workplaces.

8. Tools, equipment, machinery and work areas are to be maintained in a clean and safe manner. Defects and unsafe conditions shall be reported immediately 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 eliminate 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, signed or roped off.



12. Nail points, ends of loops or tie wires must not be left exposed when packing and unpacking boxes, crates or barrels. Nails are to be removed as soon as lumber is disassembled.

13. Sharp or pointed articles should be stored 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 baskets are to be emptied into approved containers.

16. Oily and greasy rags shall be stored or discarded in the appropriate containers for that purpose.

17. Adequate lighting in obscure areas shall be secured for the protection of both employees and the public.

18. Employees should not handle food, tobacco, etc. with gasoline on their hands.

19. All switches or drives on machinery shall be shut down and locked in an off position before cleaning, greasing, oiling or making adjustments or repairs. See lock out / tag out procedures for details.

20. Electrical panel should be kept closed at all times and clear of clothing.

21. Extension cords should not be run across aisles or through oil or water. Cords should be inspected for kinks, worn insulation and exposed strands of wire before use.

22. When fuses blow continually, it is an indication of an electrical overload or short. This condition should be reported immediately to your supervisor.

23. Keep electrical equipment properly stored, free of grease and dirt.

24. Fire inspections and prevention measures shall be maintained.

2.6 Accident Investigation and Near-miss Procedures

Accident Investigation

Employee injury, illness or property damage shall be investigated immediately and the findings documented by the department or committee responsible. The following specific procedure is followed:

1. The employee shall complete an Employee's Report of Injury/Illness (IIPP Form 8A) and give it to their supervisor immediately for all injuries and illnesses. In the case of an accident, a copy should be given to the supervisor to forward to the Safety Committee for review.

2. The supervisor shall be responsible for investigating the incident and completing the Supervisor's Report of Employee Injury (IIPP Form 8B). The supervisor will attempt to determine the root cause(s) of the incident from the information gathered and take corrective action immediately, if necessary.

3. Witnesses shall be interviewed and reports will be documented.

4. The Reports shall be forwarded immediately to the appropriate manager.

5. The manager will process the Reports through Administrative Services and REMIF. Documentation of corrective actions will also be kept available for review.

Near Miss Procedures

Employees shall identify and report unsafe conditions and acts that have the potential to result in accidents, injuries, illnesses or property damage so that correction can be taken.

1. A properly completed near-miss report, Form 7A Employee Report of Unsafe Condition or Hazard, shall be made by the employee when:
   - He or she are involved in or a witness to a close-call resulting in no damage or personal injury, but where there was potential for both to occur, or;
   - When an employee has identified an unsafe condition or hazard.

The employee, when possible, shall fill out what corrective action was taken.

2. The near-miss report shall be given to the appropriate supervisor for investigation. The supervisor shall attempt to determine the cause of the incident or hazard and take corrective action immediately, if necessary.

3. HAZARD COMMUNICATION

3.1. General



Hazard communications within the Town have a strong focus on disclosing hazardous substance data to any requesting Town employee, relevant to any hazardous substance he or she may encounter while performing his or her work. Certain chemicals pose substantial safety and health risks to individuals and Town employees shall not use any chemicals until he or she receives training in at least the following areas:

- Informing employees of operations in his or her work environment where hazardous chemicals are present or could be present.
- Explaining what a Material Safety Data Sheet (MSDS) is and how it is obtained.
- How to detect the presence of hazardous chemicals in his or her work environment.
- The physical and health hazards of chemicals he or she may encounter.
- How he or she can protect themselves from chemical hazards.

When Town of Windsor employees are exposed to workplace hazards, such as noise, chemicals, and other conditions that create an unsafe environment, the Town of Windsor shall use feasible engineering and/or administrative controls to eliminate or minimize the hazards or exposure by controlling the source. When it is not practical to control the hazards to a safe level by changing the process, affected employees shall be trained on how to perform the work safely. Should the use of approved personal protective equipment (PPE) be required, employees shall be provided the PPE, trained in its use and required to use it. Required signs have been posted at Public Works and approved by County Fire, the Town's Safety Committee and Safety Consultant.

3.2. Material Safety Data Sheets (MSDS) and Product Labels

The Material Safety Data Sheet (MSDS) is factual chemical information that includes physical and health hazards. MSDS's are made available to all employees.

All chemical containers must be labeled. A chemical container includes a spray bottle, aerosol or non-aerosol can, cartridges such as for toner, and small bottles such as for correction fluid.

Standard label information shall contain at least the following specifics:

- Chemical identity.
- Hazard warning.
- Name and address of chemical manufacturer, importer or other responsible party.

Employees shall use this information and follow established Town of Windsor hazardous communication work procedures. Employees who have a question about chemicals they encounter shall ask their supervisor for assistance.

3.3. Tailgate Meetings

Tailgate meetings are not restricted to subjects on safety; they can focus on the issues of procedure or work production, too. The usual purpose of a tailgate meeting is to discuss the pre-work at the job site where the job will be done. The tailgate meeting shall describe obvious, as well as potential, job site hazards and provide employees a plan for eliminating or controlling them. The employee in charge shall conduct the tailgate meeting:

- At the start of the job
- When job site conditions change, i.e., when scope of work, crewmembers, or new equipment is introduced.

The tailgate meeting is given in a positive manner and encourages employee participation so that all employees involved understand:

- The work methods, procedures, and job sequence
- What each employee is expected to do
- What to do in an emergency
- Known or potential hazards and how to control or eliminate them

4. FIRST AID AND LIFE-THREATENING EMERGENCIES

4.1. General

First aid is immediate care to an injured person. This includes self-help and the ability to sustain life in life-threatening situations until professional medical services are available.

The purpose of first aid training is to educate employees about what to do and what not to do; to determine without delay the nature and extent of the injury or illness; to activate Emergency Medical Services (EMS) (see note below) where needed; to render necessary assistance, being careful not to cause additional injury; and to provide appropriate transportation when necessary.

> NOTE: EMS refers to the use of 911 to summon paramedics, fire or police to provide qualified medical assistance or emergency transportation to a medical facility.

Follow these steps immediately after a life-threatening injury:

1. Have someone call 911 immediately.

2. Keep the injured person lying down and the head level with the body until the extent of the injury is determined.

3. If the injured person is not breathing and there is no pulse, cardiopulmonary resuscitation (CPR) should be administered.

4. If no fractures or head injuries are apparent, lower the person's head or elevate the victim's feet slightly.

5. Keep the victim warm to help maintain body temperature.

6. Do not move a seriously injured person unless it is necessary to avoid additional injury.

7. Do not give water or other liquids to an unconscious or semi-unconscious person.

8. Make the injured person(s) as comfortable as possible and minimize any discussion of the injury severities.

9. Infectious disease safety shall be observed to prevent contact with blood or other potentially infectious materials (OPIM) when rendering first aid or cleaning up after an incident involving significant loss of blood or tissue.

4.2. Choking

Choking is a breathing emergency and can lead to death. Applying back blows and abdominal thrusts can greatly assist the evacuation of a foreign body in an airway.

1. Have someone call 911.
2. Obtain consent to help.
3. Encourage the person to keep coughing.
4. Lean the person forward and give 5 back blows with the heel of your hand.
5. Stand behind the choking person and wrap your arms around his/her waist.
6. Make a fist with one hand and place it slightly above the person's navel.
7. Grasp your fist with the other hand and press hard into the abdomen with a quick "J" motion. Thrust 5 times.
8. Continue back blows and abdominal thrusts until the object is forced out person can breathe or cough forcefully, or person becomes unconscious.

If you must perform this maneuver on yourself, position your own fist slightly above your navel. Grasp your fist with your other hand and thrust upward into your abdomen until the object is expelled.

When and How to Use Back Blows and Abdominal Thrusts

Remember; do not interfere with a person who is coughing forcefully because coughing may be all that is necessary to dislodge the blockage. But if the person looks alarmed, grasps his/her throat, can't cough, talk or breathe, begin back blows and abdominal thrusts. Also ask a female victim if they are pregnant. If so, or if the victim pushes your hands away, or they are too large to reach around, immediately do 5 chest compressions from behind.

Necessary Action if a Choking Person is Unconscious

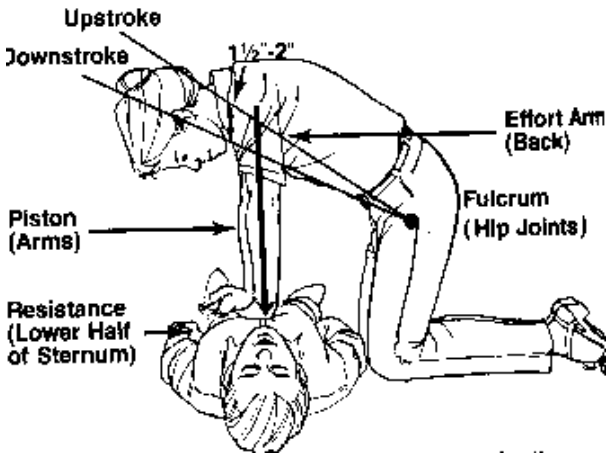


Figure 1

1. Place the **unconscious choking person** on his/her back and begin 30 chest compressions. **(Figure 1)**



Figure 2



Figure 3

2. After 30 compressions, inspect the mouth for any foreign body and remove what is found with a hooked finger. **(Figure 2)** Be careful not to force the object deeper into the airway.

3. Test for a clear airway by giving 2 clear-the-airway breaths. **(Figure 3)** If the airway remains blocked, give 30 compressions and again inspect the mouth.

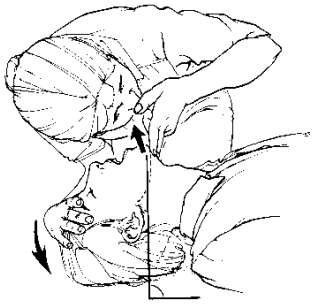
Other Necessary Actions

Choking victims may feel embarrassed and try to leave the room. If they do, they may black out without anybody around to help them. If the back blows and **abdominal thrusts** maneuver is necessary, it is important to perform the maneuver as soon as it is determined that the person is choking. In only four minutes, choking can cut off enough oxygen to the brain to cause permanent damage even if the victim survives the incident. Since the abdominal thrusts can damage internal organs, a physician should immediately examine a choking victim after the maneuver is performed.

Mouth-to-Mouth (MMR) Resuscitation and Cardiopulmonary Resuscitation (CPR)

The following are basic instructions for handling situations when mouth-to-mouth resuscitation (MMR) and cardiopulmonary resuscitation (CPR) are given. When a person is unconscious and shows no signs of life, do the following:

Step 1



Immediately open airway.

Step 2



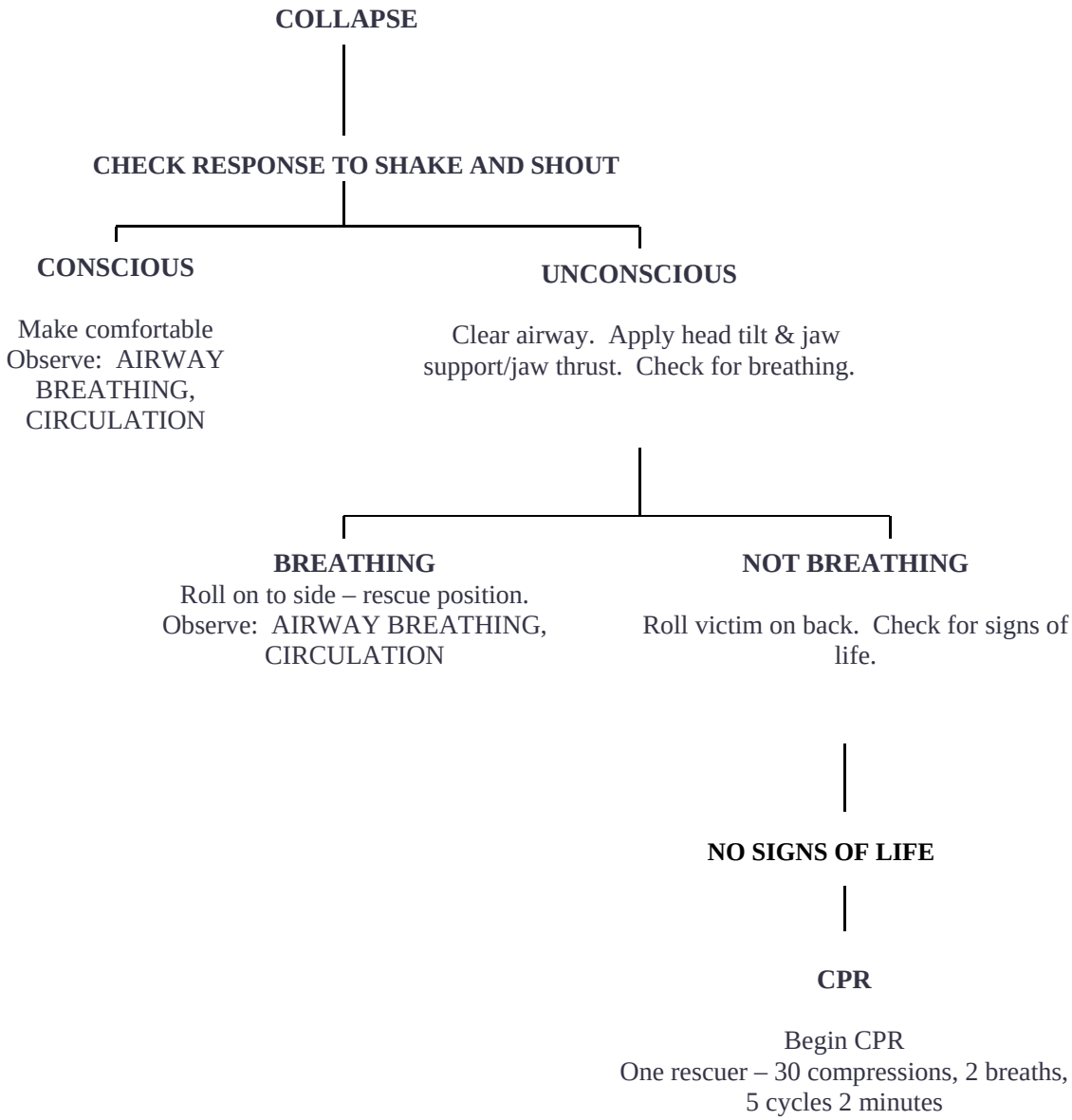
If not breathing and no signs of life, using your face shield, **give 2 clear-the-airway breaths** and check for signs of life for no more than 10 seconds.

Step 3



If you continue to find no signs of life, begin 30 chest compressions and 2 breaths for 5 cycles over 20 minutes. Depress the sternum about 1-1/2 to 2 inches. Perform 30 compressions (rate: 100 per minute) to every 2 full breaths.

BASIC LIFE SUPPORT FLOW CHART



4.3. Heart Attack

The following are early warning signs and symptoms of a heart attack:

- Chest pain that may affect left arm, shoulder or jaw.
- Pale bluish discoloration of skin, lips or fingernails.
- Heavy perspiration.
- Shortness of breath, nausea, weakness or anxiety.

First aid until help arrives:

- Have someone call 911 immediately.
- Help individual to the least painful position, usually sitting with legs up, bent knees.
- Loosen constrictive clothing around neck and midriff.
- Check for breathing.
- If no signs of life, begin CPR.
- Do not allow victim to assist in moving himself/herself.

4.4. Not Breathing

When a person cannot breathe on his/her own due to electric shock, heart attack, drowning, or asphyxiation, the first four minutes are critical!

1. Have someone call 911 immediately.

2. Open airway:
   - Tilt head back with one hand.
   - Place fingertips of other hand under chin to lift jaw.
   - Listen for breathing for 10 seconds.

3. If not breathing:
   - Maintain open airway with head tilted back.
   - Pinch off nostrils.
   - Seal your mouth around victim's mouth. Use a pocket mask or some type of protection, if available.
   - Give 2 **clear-the-airway breaths**.

4. If there is no pulse, perform CPR if trained (30 compressions, 2 breaths, 5 cycles, 2 minutes).

4.5. Fainting

To treat a fainted person:

- Lay the person flat or have him/her sit in a chair with the head lower than the knees. Loosen constrictive clothing.

- Keep the person warm and try to determine if any injury has occurred from falling.

- A person who has fainted should not be sent away without further evaluation and assistance even though he/she may appear to have responded immediately.

4.6. Unconsciousness

To treat an unconscious person:

- If unconsciousness is prolonged and assistance is not available, call 911.
- Keep the person flat and maintain an open airway.
- Check for signs of life. Administer CPR as needed, if trained.
- Do not move or leave the person unattended.
- Send or call for assistance.

4.7. Head Injuries

To treat a head injury:

- Call 911 immediately.
- If unconsciousness, convulsions or the discharge of blood or fluid from the ears occur, do not move the person.
- If the person has a severe headache, nausea or vomiting, incoherence or a dazed appearance, do not move the person and do not give fluids.

For minor blows to the head:

- Allow the person to rest and apply ice to the affected area.
- Observe the person for symptoms as above.
- Caution against over-activity.

4.8. Diabetic Emergencies

Diabetics are usually well-informed about their illness and understand both the complications that can arise, and the preventive measures and helpful interventions. Many diabetics carry or wear a Medic-Alert card or bracelet.

Signs and Symptoms of **Diabetic Emergencies:**

- Extremely ill appearance (drunken appearance)
- Poor muscle coordination
- Weakness
- Moist, pale skin
- Weak, rapid pulse
- Drowsiness

- Irregular respiration
- Dull and sleepy
- Headache
- Dry, flushed skin
- Intense hunger
- Excessive thirst
- Irritability
- Acetone odor to breath

Treatment for **Diabetic Emergencies:**
:

- The patient needs sugar immediately and medical attention!
- Call 911.
- If conscious, give some form of sugar.
- If unconscious, do not give anything by mouth and respond to what you see.

4.9. Seizures

To treat a person suffering from a seizure:

- Protect the person from their environment. Remove chairs, desks or other nearby hazards that the person my hit.
- Call 911.
- Do not restrain person's movement.
- Protect head from injury. Place a blanket, jacket, or soft material under the head.
- Do not place any objects between his/her teeth.
- If there is fluid in the person's mouth, roll him/her on one side so that the fluid drains from the mouth.
- Les the seizure progress. There is nothing you can do to hasten recovery.
- Respond to only what you see the person needs.
- Do not panic. Usually the seizure will subside and the person will recover.
- Check for a Medic-Alert bracelet, necklace or card.
- Reassure the person and treat the emotional stress.

Seizures are a life threatening condition under the following circumstances (Call 911.

- If the seizure has happened in water.
- If there is Medical ID and no way of knowing whether the seizure is caused by epilepsy.
- If the person is pregnant, injured or diabetic.
- If the seizure continues for more than five minutes.
- If a second seizure starts shortly after the first has ended.
- If consciousness does not start to return after the shaking has stopped.

If the ambulance arrives after consciousness has returned, the person should be asked whether the seizure was associated with epilepsy and whether emergency room care is wanted. After a seizure the person may be drowsy, slow to respond and require observation.

4.10 Poisoning

Poisoning can be inhaled, swallowed, absorbed or injected.

Possible symptoms of poisoning include:

- Vomiting and heavy, labored breathing.
- Deep sleep from which the person cannot be aroused.
- Eye pupils are very small or very large.
- Strong smell to breath, like gasoline.
- Burns around the mouth.

First aid response to poisoning:

- Have someone call 911 immediately.
- Do not give fluids to an unconscious person.
- Identify the poison if possible.
- Call 911**.** They can connect you to the Poison Center (800) 876-4766 and follow their instructions.
- Do not induce vomiting unless instructed to do so by the Poison Center.
- Do not use IPECAC unless told to do so. It may interfere with the antidote.
- Can use activated charcoal (aqueous) if told to do so.

4.11. Animal Bites/Snakebites

Animal Bites: Be aware that animal bites that break the skin may transmit rabies. The general first aid treatment for animal bites is:

1. Control bleeding if wound is bleeding seriously and call 911.
2. Do not clean serious wounds. That will be done at a medical facility.
3. For minor bite, wash the affected area with clean soapy water to remove saliva.
4. Apply an antiseptic and sterile dressing over the wound.
5. Medical attention may not be necessary if:

    - The animal bite does not break the skin.
    - Need-to-know authorities are notified.
    - After careful observation by a qualified animal control officer or licensed veterinarian, the offending animal shows no sign of rabies.
    - The injured employee has received tetanus immunization within the previous 10 years.

6. If medical attention is necessary, the injured employee shall be sent to an approved Town of Windsor physician, unless the employee has appropriately processed a written request designating his/her personal physician in advance of the injury.

Employee shall immediately report any animal bites to his/her supervisor and the designated public authority, and shall give the following information:

- Name and address of the owner of the animal, if known.

- General description of the animal.
- Address and extent of the injury.

Snakebites

Common symptoms of snakebite are:

- Swelling or discoloration and slight to average level of pain at the bite location with a tingling sensation.
- Rapid pulse, weakness, dimness of vision, nausea, vomiting, and shortness of breath.
- Severe symptoms include rapid swelling and numbness, severe pain at the bite location, pinpoint pupils, twitching, slurred speech, shock, convulsions, paralysis, unconsciousness, and no breathing or pulse.

Individuals bitten by a snake must get immediate medical attention. The general first aid treatment for snakebites is:

- Take the injured to the closest hospital immediately while observing the following general first aid measures:
- Keep the injured calm (lying down if possible) and prevent him/her from moving about.
- Immobilize the area bitten, keeping it at or below heart level.

Additional factors to consider:

- Treat for shock.
- If breathing stops give cardiopulmonary resuscitation (CPR).
- If the snake can be killed without risk to employees or delay of medical treatment, retain the dead snake in case it is needed for identification purposes.

DO NOT

- Apply ice
- Cut the wound
- Apply suction.
- Apply a tourniquet.
- Use electric shock.

4.12. Spider Bites/Tick Bites/Insect Stings/Scorpion Stings



Black widow spider: The adult *female* is glossy black with dark reddish brown color. On the underside of the abdomen is a crimson marking that resembles an hourglass. The adult *male* is grayish-black in color with the similar hourglass as the female and marked with grayish stripes across the back. The male spider is smaller than the female, is timid, and harmless.

Common Symptoms of a black widow spider bite:

- Shock.
- Intense pain at bite area, including swelling and redness.

- Pain could develop in the back, shoulders, chest and limbs.
- Nausea, exhaustion and sweating may occur.
- Abdominal cramps.
- Difficulty breathing and speaking.

Brown Recluse Spider: The adult brown recluse spiders have a leg span about the size of a quarter. Their body is about 3/8 inches long and about 3/16 inches wide. Males are slightly smaller in body length than females, but males have proportionally longer legs. Box sexes are venomous. The abdomen is uniformly colored, although the coloration can range from light tan to dark brown, and is covered with numerous fine hairs that provide a velvety appearance. The long, thin, brown legs also are covered with fine hairs, but not spines.

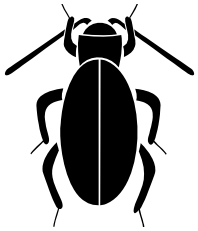
Common Symptoms of a brown recluse spider bite:

- Bite may feel like a pinprick.
- A little red mark that heals without event.
- A stinging sensation may be followed by intense pain.
- Restlessness, generalized itching, fever, chills, nausea, vomiting or shock.

The general first aid treatment for black widow or brown recluse spider bites is:

- Keep injured quiet and treat for shock, apply medicated insect swab and/or antiseptic from first aid kit.
- Immediately apply clean cold water or ice to bite location and have injured seen by a medical provider immediately.
- Monitor the bite for any worsening of the wound.

Tick Bites/Other Insect Bites/Bee Stings:



Besides spiders, large assortments of insects have biting or stinging capability, some with the ability to inject venom. Although these events may cause temporary discomfort, infection is always a possibility when the bite area is left unattended. Among these biting insects are ticks.
Should a circular skin eruption occur after being in an area of trees, underbrush or tall grass, it could be the result of a tick bite carrying an infectious microorganism.

Symptoms of a tick bite may include:

- Irritated skin
- Pain
- Bruising of the skin

Care for Tick Bites:

With a gloved hand, grasp the tick with fine-tipped, pointed, non-etched, non-rasped tweezers as close to the skin as possible and pull slowly.

- DO NOT try to burn the tick off.
- DO NOT apply petroleum jelly or nail polish remover to the tick.

- Place the tick in a sealable container for analysis (Lyme disease) and take it to Kaiser Permanente Occupational Health for testing.
- Wash the bite area with soap and warm water.
- Apply antiseptic or triple antibiotic ointment.
- Wash your hands thoroughly.
- If rash, flu-like symptoms or joint pain appear, seek medical attentions.
- If you cannot remove the tick or if its mouth-parts remain embedded, get medical help.

Contact Kaiser Occupational Health Center (571-3000) should any difficulty from the bite occur.

The general first aid treatment for other insect bites/stings is:

- Remove stinger from bite, swab with medicated insect swab from the first aid kit, then apply antiseptic.
- Do not scratch the bite.
- Apply cold compresses to site.
- Cover the bite with a Band-Aid.
- A physician must medically evaluate an allergic employee immediately

If hives (red welts on skin away from the site of the bite), rapid swelling about the eyes and mouth, or difficulty in breathing occurs, then:

- Have someone call 911 immediately.
- Administer mouth-to-mouth resuscitation if needed.
- Keep the affected part down below the level of the victim's heart.
- Ask the person if he/she has medication for allergic reactions and assist him/her to self-administer, if necessary.

4.13. Burns

Heat, electricity, chemicals or radiation can cause burns. How serious any burn is depends on how many layers of skin are burned.

- First degree burn: Painful; damaged outer layers of skin become red, slightly swollen, and heals within a week.
- Second degree burn: Severe Pain; the "under skin" and top layer of skin are burned, and blistering and swelling. The skin may be wet and shiny, and clear fluid may ooze. Usually heals in 3 -4 weeks.
- Third degree burn: Most Serious; victim may not feel pain. The skin and nerve endings are destroyed. The burn area may be white, gray, or charred with deep tissue and possible bone, being destroyed.

The first aid treatment for burns is:

- Immediately treat all burn victims for shock.
- Call 911 as needed.

1. Minor Burn:
   - Treat for shock.
   - Immediately apply, or immerse burned area in clean, cold water for pain relief.
   - Gently dry the burned area and place a sterile dressing over the burn. Do not break blisters should blistering occur.
   - Bandage burned area.

   NOTE:
   - Thermal burn: Rinse the area without scrubbing or immerse in cool running water. Then pat dry with sterile gauze or bandage and keep covered to prevent infection.

   - Chemical burn: Extremely vital to follow directions on the container label. Immediately wash area with large amounts of clean running water to flush chemicals from clothing. Remove contaminated clothing as needed. Obtain medical treatment if needed. To secure the correct medical treatment, tell medical personnel what chemicals were involved. Call 911 and report hazardous material as needed.

   - Electrical burn: Eliminate electrical source before removing the injured. Ensure that the injured is breathing and his/her heartbeat is regular. Treat for shock and obtain emergency medical attention if necessary. Check for electrical entry and exit wounds.

2. Major Burns:
   - Major burns require immediate medical treatment from a licensed physician.
   - Call 911.
   - Treat for shock.
   - Immediately apply or immerse burned area in clean, cold running water for pain.
   - Do not remove clothing from burned area.
   - If necessary, apply sterile dressing. **Do not** apply any ointment or medication to burned area.

4.14. Cuts

The first aid treatment for cuts is as follows:
- Clean superficial cuts with soap and water and apply bandage.
- For deep cuts, call 911.
- Apply pressure over wound with clean cloth or sterile gauze.
- Apply a pressure bandage snugly if bleeding continues.
- Elevate the injured area, if possible, while checking hands and feet for circulation and do not remove the dressing.

4.15. Nosebleeds

The first aid treatment for nosebleeds is as follows:
- Keep person quiet and sitting slightly forward. Do not lean the head back.
- Assist the person to pinch nostrils and maintain pressure until the bleeding stops.

- Cold compresses may be applied to the face or neck.
- Look for bruising under the eyes or behind the ears. If found, this may indicate head trauma.
- Instruct the person to avoid nose blowing for at least one hour.
- Refer to Kaiser Occupational Health Center (571-3000) if bleeding is severe, lasts longer than 10 minutes or is injury-related.

4.16. Puncture Wounds

Serious puncture wounds will bleed and the potential of infection needs to be considered. Loss of blood is serious. Arterial and venous bleeding requires immediate attention and control. Call 911.

1. Arterial bleeding comes in bright red spurts, but when the cut is deep within body tissue, the release flows in a steady stream.

    - Apply pressure with a compress over the wound to control severe bleeding, and elevate the bleeding limb to help except in the case of a fracture.

2. In venous bleeding, a cut vein releases dark red blood in a steady flow. Venous bleeding is controllable with applied pressure by a sterile gauze pad placed directly over the wound.

    - Where bleeding is not severe, infection is the danger. Apply direct pressure. Clean the wound and apply an antiseptic, sterile dressing and bandage firmly.

    - In some cases of severe bleeding, shock may develop and will need immediate attention as soon as the bleeding is controlled.

Tourniquets are never to be used. However, they can be reserved as a last resort whenever severe bleeding in the arms or legs cannot be controlled by direct or digital pressure, and when obtaining emergency medical services will take considerable time. Makeshift tourniquets of flat material (i.e. flat bandage, necktie, sock or belt) will work. However, rope, wire, sash-cord, etc., can damage underlying tissue.

- Place the tourniquet as close to the wound as possible and tighten it just enough to stop bleeding. Do not make it tighter than absolutely necessary.

- Once a tourniquet is put in place, do not cover or loosen it unless directed by a doctor. A mark shall be made on the tourniquet area that gives the tourniquet location and the time the tourniquet was applied.

4.17. Eye Injuries

Only necessary first aid shall be given to eye injuries.

A properly maintained Emergency Eyewash station shall be provided for employees at work areas where they may come in contact with harmful substance that could cause severe irritation or permanent tissue damage to the eyes of an employee. All eyewash stations are to be inspected monthly for pressure regulation and filtration.

1. Portable eyewash stations (self-contained, gravity-fed):
   - An ANSI approved portable eyewash station, containing purified, preserved, buffered saline solution, prepared by the manufacturer and factory sealed to resist contamination, shall be provided employees whenever working conditions warrant it.

   - System maintenance: Follow the manufacturer's recommendations.

2. Self-contained, pressurized eyewash stations:
   - Approved, pressurized eyewash stations, containing purified, preserved, buffered saline solution, prepared by the manufacturer and factory sealed to resist contamination, shall be provided employees whenever working conditions warrant it.

   - System maintenance: Follow the manufacturer's recommendations.

3. Plumbed eyewash station:
   - Where workplace conditions warrant, plumbed emergency eyewash stations shall be provided to employees to irrigate offending chemical(s) from the affected eye(s). Plumbed eyewash stations must deliver flushing to both eyes at a minimum flow rate of 0.4 gallons per minute for 15 minutes. Water flushed into the eye at the station must be in the temperature range of 60F to 95F and needs to be clean and free of contamination to reduce the potential of causing additional damage to the cornea of the eye from chlorine, solids (rust particles), irritants, and microbial contaminates inherent to plumbed water.

   - To ensure water quality, the eyewash station should be filtered and flushed at least weekly. Note: A plumbed station lacks critical turbulent flow that furthers the growth of nutrients in the water to advance microorganism and deliver contaminated water into the emergency station. When contamination fluid enters an injured eye, toxins attack eye tissues that can lead to temporary and even permanent vision loss.

Dangerous eye flushing methods:

- The cornea has limited resistance to infection and any use of contaminated fluid containing chlorine, solids, irritants, bacteria and other microorganisms such as that on the walls of water pipes, water hoses, sink facets, showers, etc., shall not be used to flush eyes when injured. Because the use of any of these contaminated delivery systems can compound an eye injury, result in a serious eye infection, temporary or permanent loss of sight, contaminated or potentially contaminated eye-flushing systems shall not be used for the purpose of flushing injured eyes.

Foreign matter in the eyes:

- Eyes will water naturally in an attempt to rinse dust, dirt, sand, or fine pieces of metal from the eye. This, however, will not remove particles. Foreign matter in the eye must

be removed by flushing with clean "sterile" water. When flushing eyes does not remove particles, a sterile dressing placed over the affected eyes will help reduce irritation. A physician should immediately see the injured employee.

Thermal or chemical burns to the eyes:

- Immediately contact emergency medical assistance. Should chemicals enter the eyes, immediately flush with large amounts of sterile water. Should the injured be wearing contact lenses, remove them immediately. If the chemical is an *acid*, rinse the affected eyes for a minimum of 15-20 minutes. Keep the injured eye lower than the other one to avoid chemicals from entering the uninjured eye. Do not apply neutralizers, ointments, eye drops, etc., to the injured eyes as this may worsen the situation.

The first aid treatment for eye lacerations and cuts is:

- Apply a sterile dressing.
- Immediately obtain medical treatment.

4.18. Splinters

Thoroughly clean the area around the splinter with soap and warm water and rinse well. If the end of the splinter is sticking out of the skin, grasp it with a pair of tweezers and pull it out at the same angle it entered the skin. Go slowly and avoid breaking off a bit of the splinter under the skin. If the splinter is embedded in the skin and cannot be pulled out with tweezers, seek medical assistance. Apply antibiotic ointment or swab the wound with rubbing alcohol. Cover the wound with a bandage.

NOTE: Seek medical help if the splinter is buried too deep for removal, if infection develops (indicated by redness, pain, tenderness, pus, or fever), or if the splinter is embedded deep and you have not had a tetanus shot in the last five years.

4.19. Shock

Shock means there is not enough blood going to all parts of the body. To prevent damage to organs and body systems, treatment is critical even for mild cases. When performing first aid for shock, consider the whole body, not just one injury.

1. Causes and Symptoms
   - Shock can be caused by many sources, including burns, electric shock, or severe injuries. Victims of shock have cool, moist skin. Their pulse is weak and rapid, and breathing is shallow. Their skin is pale and their eyes are dull; pupils may be dilated.
   - Other symptoms may include nausea, vomiting, or trembling. Victims may have difficulty thinking or speaking clearly, and they may be frightened. They may also be unconscious.

2. Allergic Shock

- Certain individuals are sensitive to common substances that can cause serious reactions including death. These substances are:
  - Penicillin
  - Berries
  - Pollen

- Some individuals may show a few of the following symptoms:
  - Hives
  - Skin that itches or burns
  - Tongue or face may swell
  - Trouble breathing
  - Tightened chest
  - Unconsciousness

- Some individuals with special allergies carry life-saving medication with them and if you are providing first aid in this situation give them their medication immediately.

3. To treat for shock:

- Call 911 for emergency medical assistance.

- Check for breathing. If victim is not breathing, begin mouth-to-mouth resuscitation immediately.

- If the injured has vomited, check for neck or spine injury. If there is none, turn the injured to his/her side, and clear his/her mouth.

- Control bleeding.

- For electric shock, and if it can be done safely, stop the flow of current, and if no obvious source of current can be seen, use a rope or waist-belt to pull the injured away from the electric source.

- Keep the person lying flat. Determine if the individual sustained any injury, chiefly to the head, neck, or chest.

- Cover the injured and keep the individual warm to help conserve body temperature.

- Do not give the injured food or liquids.

4.20. Broken and Dislocated Bones

Bones can break or "fracture" in many ways. When a bone breaks, the individual must be medically treated immediately to prevent more serious damage. There are 2 types of fractures: Basic: No open wound, and; compound: An open wound where bone sticks out past the skin.

1. Symptoms of fractures:
   - Broken bones cause slight to severe pain. Unless the situation is life threatening, never move the area that's broken – leave this to a medical professional. The area will swell to an odd shape, and may turn a dark color. Suspect a possible fracture if the following symptoms are present:
     - Differences in shape and length of corresponding bones.
     - Obvious deformities, crookedness or rotation.
     - Swelling and pain.
     - Loss of sensation.

2. First aid treatment for broken bones:
   - Control bleeding with direct pressure to the wound and treat for shock by keeping the injured lying down.
   - Call 911 for emergency medical treatment.
   - Never move the injured unless you are certain that movement will not worsen the injuries.
   - If the injured must be moved, splint the injured area.
   - If a bone is exposed, do not attempt to put it back.

3. Splinting
   - No attempt should be made to straighten or align the broken bone. Apply splints in the line of the extremity broken to accommodate the deformity. Without moving the injured, make a splint.
   - Place soft material around the injury. Use board, cardboard, or newspaper as a splint.
   - Place splints on both sides of the break. Fasten the splint with wide strips of cloth or bandage in at least three places at the bone break, above the nearest joint, and below the bottom of the nearest joint.
   - Secure the strips firmly, but never so tight that will make swelling worse, or stop circulation.

4.21. Sprains and Strains

You are exiting your vehicle and you step on a pebble that causes your foot to slip and you fall in pain. What happened? If the ligament that links the anklebones together is stretched or torn, it's a sprain. However, should a muscle or tendon be affected, it's a strain.

1. Symptoms
   - The joint swells quickly and may turn black/blue. Until an X-ray is taken, many feel as if they have a broken bone.

2. First aid treatment:
   - Sprain: Treat as if a broken bone. Obtain medical evaluation. Splint the affected area and apply ice or cold compresses.

- Strain: Stop using the injured area. If possible, raise the injured area above the heart, letting it rest on pillows or blankets. Apply ice or cold compresses to the injured area. Obtain medical evaluation as necessary.

4.22. Heat Illness

When your body becomes overheated, it's a very serious condition. Knowing what to do in the event of becoming overheated will prevent complete body breakdown. However, when the body overheats it may not necessarily result from sun exposure. It can result from exposure to an environment where the body is unable to cool itself that results in a serious rise in body temperature. Whenever a body is subjected to this medical state, it is a medical emergency.

1. Symptoms:
   - When the body overheats it may go into crisis. Usually, individuals sweat, but when someone has a heat stroke, there is no sweat and the skin becomes very dry and hot. Other symptoms are:
     - Strong fast pulse.
     - Very high body temperature.
     - Confusion.
     - Pale face, cool, clammy skin, usually with perspiration around the nose, mouth and forehead.
     - Muscle weakness, sometimes producing leg cramps, and cramps in their arms or stomach.
     - Anger.
     - Chilled.
     - Nauseated.
     - Dizzy.
     - Become unconscious.

2. First aid treatment for heat illness:
   - Treat for shock. Immediately contact emergency medical services. If the individual has stopped breathing, use CPR. Move the injured to a cool location, keep him/her comfortable, and keep the individual lying down with feet raised.
   - **Cal/OSHA UPDATE - Heat Advisory (See C – 154)**

4.23. Poison Oak

An employee who is knowingly exposed to poison oak shall take appropriate hygienic measures to minimize exposure to others. This may include clothing change and washing exposed skin.



About 15% of the U.S. population is allergic to poison oak, poison ivy, and poison sumac, break out in a rash, and may experience swelling in 4 to 12 hours instead of the normal 24 to 48. Their eyes may swell shut and blisters may erupt on their skin. This condition can be an emergency.

1. Symptoms

Most people develop symptoms 24 to 48 hours after contact. The interval varies considerably because of individual sensitivity and the amount of sap contacting the skin. Healed areas can remain supersensitive to further contact for several months. The first symptom of poisoning is a severe itching of the skin. Later, a red inflammation and a blistering of the skin may occur. In severe cases, oozing sores develop. Although extremely irritating, most cases disappear in a week or 10 days. In the meantime, relief may be found through the application of over-the-counter medication available in most drugstores.

However, a physician should examine severe rashes, especially those covering large areas of skin or accompanied by above-normal body temperatures. Medical treatment is most effective if applied before the oozing sores appear. Wash infected skin as soon as possible with cold water to minimize the severity of the rash and prevent the spread of sap to uninfected parts of the body. Unfortunately, skin absorbs the active compounds in the sap within the first 3 minutes. Clean water and soap are effective in removing the sap.

2. Possible Skin Reaction

The most common result of plant contact is a red, bumpy skin rash, usually on arms, shins and face where the skin is thinnest. The rash may appear as early as a few hours or as late as 2 weeks after exposure. What determines how soon a person reacts after exposure is how sensitive he or she is to the plant and the number of previous times the person has been exposed to these types of plants.
The rash peaks about 5 days after it begins and blisters break open releasing a watery liquid. Healing usually takes 1 to 2 weeks. Most cases of poison ivy, oak or sumac can be cared for at home and don't require a trip to a doctor. However, a small percentage of people are highly allergic. If you break out in a rash within 4 hours of exposure and your eyes swell shut and blisters form, seek medical attention immediately.

3. General First Aid Treatment for Poison Oak

Wash the area thoroughly with lots of clean water. If the skin is washed immediately after exposure to the poisonous plant, a rash may not develop. To relieve the itching and discomfort, apply cotton cloths soaked in clean water to the area, or sponge the skin with rubbing alcohol. Also, soaking the affected area in a slightly warm bath with baking soda can assist healing. Apply approved medicated ointment or a paste of baking soda and water over the rash. Pregnant women should consult their physician prior to taking any over-the-counter medication. If the rash becomes extremely severe and painful, making normal activity difficult, or if any of the following symptoms appear, consult Kaiser Occupational Health Center (571-3000):

- Blisters continue to ooze longer than 2 weeks
- A fever develops
- Lymph nodes in the neck, under arms or in the groin area become swollen and sore

If any one or more of the above symptoms occur, it could signal a condition that may require medical attention.

4. Cleaning of Affected Garments

Affected clothing can be decontaminated by laundering with general detergent. Wear protective gloves. Poison ivy, poison oak, and poison sumac plants can cause a severe skin reaction when their leaves come in contact with human skin. Shoes or clothing that can't be washed should be kept isolated in a well-ventilated area for approximately three weeks.

5. EMERGENCY PROCEDURES

5.1. Reporting Emergencies – Until Help Arrives

Town of Windsor employees shall immediately report any work-related injury or illness he/she sustained to his/her supervisor. Should an employee on-duty require emergency medical attention, the first employee having knowledge shall obtain medical care for the injured employee by calling 911 (dial 9 for outside line) or Windsor Police Department Dispatch at 565-2121 if calling from a cell phone.

When requesting emergency medical services, give accurate information so emergency medical personnel responding to the call are informed of the situation and the exact location of the injured employee.

Injured employees not requiring emergency medical care should be sent to Kaiser Occupational Health Center (571-3000), unless the employee has appropriately processed a written request designating his or her personal physician in advance of the injury or illness. Supervisors or designated employees should accompany the injured employee to the doctor or hospital.

NOTE: Should an emergency arise, the employee in charge may temporarily modify or suspend any rule as essential to allow necessary handling of the emergency.

5.2. Shop Emergencies

In order to be prepared for shop emergencies at any point in time, the following activities are carried out:

- Plumbed eye wash stations must be flushed and documented monthly on the walk through inspection checklist. They are to be kept free of debris.
- Portable eye wash stations must be filled and have conditioner added to the water every six months.
- First aid supplies must be checked and maintained monthly.
- "Bodily Fluid Disposal Kits" must be maintained and be available for use at any time.
- Emergency phone numbers shall be posted by all phones in the shop.
- Emergency lighting must be tested monthly and documented on the walk-through inspection checklist. Any problems must be fixed immediately.

- Evacuation maps for the facility need to be current and posted in conspicuous locations.

5.3. Evacuation Procedures

Please refer to Town Evacuation Procedures.

5.4. Earthquake

In preparation for an earthquake, have the following items readily available:

- Flashlight and portable radio.
- Properly stocked first aid kit
- An adequate supply of your prescription medications.
- A separate set of eyeglasses.
- Appropriate shoes to walk outside in after the quake.

In addition to the above, consider the following ideas during an earthquake:

- Stay indoors and be prepared for aftershocks.
- Take cover under a desk, table or bench.
- Avoid windows, light fixtures, etc., and anything that could fall on you.
- Due to potential ignition from natural gas leakage or seepage, do not use candles, lighters, matches or open flames immediately after an earthquake.
- Remain calm.

5.5. Crime in Progress / Violent Behavior

For life-threatening violent situations:

- Activate alarm, if available. Employees at Civic Center shall also refer to the Panic Alarm Policy.
- Call 911 immediately. Describe circumstances, number of persons involved and if any weapons are involved.
- Avoid verbally engaging the suspects. Get a good description of the suspects. Take cover in the event of gunfire.
- Report all other non-emergency suspicious situations or persons to Windsor Police Dispatch at 565-2121.
- When police officers arrive, direct them to the scene.

5.6. Civil Disturbance

Most demonstrations are peaceful. Carry on business as normally as possible. Do not provoke or obstruct demonstrators. Take no action unless one of the following conditions exists:

- The demonstration interferes with normal operations.
- The demonstration prevents access to facilities.
- The demonstration threatens physical harm to persons or damages to facilities.

If any of these conditions exist, contact the Sheriff Dispatch at 565-2121. Describe circumstances, location and number of demonstrators. Note any weapons used by demonstrators.

5.7. Hazardous Chemical Spill

Always evaluate the risk of the conditions first. Only authorized, qualified and trained Town personnel shall clean up small quantity spills. Town management shall outsource cleaning of large quantity spills or small quantity highly toxic chemical spills that require special equipment and/or specialized training. Certain types of chemical spills may require notification of the incident to certain regulatory agencies. Management will carry out this activity.

If the spill presents a fire or toxic vapor hazard, call 911. When reporting the spill, provide:

- Location
- Name of material
- Injuries
- Your name, department and phone extension.

Clear the affected area at once. Seal it off to prevent further contamination. If you are contaminated by the spill, avoid contaminating others. Remain in the vicinity at a safe distance. Obtain first aid and cleanup by specialized authorities at once. Remember to get up-wind, uphill, or upstream from any liquids or vapors.

5.8. Bomb Threat

Bomb threats usually occur by telephone. Remain calm and get as much information as you can. Carefully note caller's accent, background noises and any timelines (see "Bomb Threat Checklist" on the First Aid and Emergency Procedures Flip-Chart).

1. Tips to consider:
   - Take every bomb threat seriously.
   - If you are the employee who receives the threat, get as much information as possible such as time, date, voice description, etc.
   - The employee on-duty with the first knowledge shall immediately notify his/her supervisor.
   - Evacuate the premises in a calm and orderly manner. Do not search for foreign or suspicious objects unless instructed by police, fire or other emergency authorities.
   - Should you discover a suspicious object, do not touch or move it. Immediately notify your supervisor of the discovery.

2. Guidelines to searches and evaluations:
   - The decision as to whether a building search will be made rests with the on-scene supervisor or police personnel.
   - If a search is to be made, persons familiar with the premises and its contents may need to accompany officers.

- Search teams should consist of two people, one officer and an employee or other person familiar with the premises and its contents.
- A minimum of two search teams should be employed. The teams will operate independently from each other.
- The decision to evacuate the threatened premises rests with the employer unless a suspected explosive device has been discovered.

3. Discovery of suspected explosive device:
   - If a suspected explosive device is discovered, do not touch, move or attempt to disarm the device.
   - Isolate the item by blocking access to its location.
   - Immediately notify the supervisor or on-scene police officers of the discovery.
   - Evacuate the building or area within 300 feet if highly suspicious devices are found.
   - To notify police, call Windsor Police Department Dispatch at 565-2121**.**

5.9. Anthrax Threat

Report suspicious letters and packages or powder related to possible anthrax exposure to Windsor Police Department Dispatch at 565-2121.

1. The following criteria should be used to assess an anthrax threat:
   - Is there a reason for the Town to be a target for terrorist threats?
   - Does the package received have any indicators of being suspicious, such as origin from outside the USA?
     - Common words misspelled?
     - No return address or return address that cannot be verified?
     - Excessive weight for the size of the envelope/package?
     - Excessive sealing such as flaps sealed with tape?
     - Marked with restrictive endorsements such as “personal” or “confidential”?
     - City or state in the postmark does not match return address?
     - Envelope arrived in mail but does not have postmark?
     - Is there a packing or routing slip with the package/letter?
     - Are there any unusual stains on the item? Are any powders detectable and do they match anthrax descriptors?

2. When reporting a suspicious letter, package or powder related to possible anthrax exposure, the following information can assist in assessing the nature of the possible threat. If the letter/package/powder does not meet any of these criteria, it probably does not warrant a police response. Dispose of the letter if you are uncomfortable with it. If in doubt contact a police officer for direction. Place the letter in a clear plastic bag, seal it or zip it closed, and contact the Windsor Police Department Dispatch at 565-2121.

3. In the event the letter is opened and a threat exists, do the following:
   - Call the Windsor Police Department Dispatch at 565-2121 for an officer response to make further assessment. At any point that a field responder learns that a scene may

contain anthrax or a credible threat associated with anthrax, the officer will request fire personnel who will request County Fire Hazmat personnel if necessary.

- Ensure that the scene is secure. Doors and windows should be closed and ventilation should be shut off if it can be accomplished safely. Ensure that people are removed from the area and no entry is permitted.
- Sequester persons exposed in one area and assure them that they are not being quarantined; they are being isolated to prevent any spread of potential contamination. If practical, have exposed people wash their hands in hot soapy water for 60 seconds, wash their faces and then blow and wipe their noses.

NOTE: It is common practice for plastic wrapped magazines to be shipped with cornstarch in the packaging. This is done to keep the pages from sticking together due to the humidity factors in shipping.

5.10. Fire

In case of fire, employees shall follow the building evacuation procedures under Section 5.3.

Additional evacuation procedures in the event of a fire:

- If inside, and time and hazardous conditions allow, shut doors and windows to decrease the flow of oxygen; then exit the area immediately.
- If outside, get away from flames and smoke.
- If trapped in a building, get on your hands and knees and make your way to an exit. Because smoke and heat rise rapidly this is a critical position that can lessen the potential amount of smoke you may inhale.
- Avoid panic.
- Use a shield such as a heavy blanket or coat. If possible, place a wet cloth or handkerchief over your nose and mouth to help reduce smoke inhalation.

6. MOTOR VEHICLES

6.1. General

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

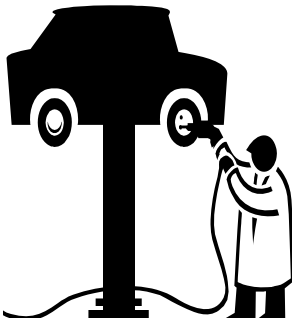
While on-duty Town employees shall know and obey all applicable California Vehicle Code(s) (CVC), local traffic orders, traffic signs, speed limits posted or implied, parking restriction, and

all applicable Town of Windsor established policies and procedures relating to motor vehicle operation.

Town of Windsor employees shall adhere to the rules in this section, including any like rules his/her department issues applicable to motor vehicle operation, while driving Town of Windsor vehicles, privately owned vehicles under contract to the Town of Windsor, or whenever an employee is compensated for use of his/her personal vehicle.

Additional safe operating procedures for motor vehicles are available in the California Driver Handbook, which is available at the office of the Department of Motor Vehicles or online at http://www.dmv.ca.gov/pubs/pubs.htm

6.2. Inspections



Town of Windsor employees shall perform a daily safety check of any vehicle they are will operate; a vehicle defect found during the inspection could prevent future problems. Defects can even be the cause of a crash. In addition, federal and state law(s) require drivers of motor vehicles to ensure the vehicle is safe to operate when placed on any public roadway.

Employees on duty shall not operate any unsafe vehicles on any roadway. The employee in charge shall ensure that any unsafe vehicle is reported to his/her supervisor immediately in writing.

The following safety procedures are established:

1. The Town shall maintain all vehicles in safe operating condition through preventative maintenance.

2. Employees shall verify the safe operating condition of any vehicle or mobile equipment they are assigned to drive. Employees shall report all operating defects or problems to their supervisor as soon as possible.

3. Prior to operating any Town vehicle, the driver shall ensure that the brakes of that vehicle are in safe operating condition.

4. To verify the safe operating condition of a vehicle or other piece of mobile equipment, employees shall perform a safety check each day on at least the following items:

   - Horn
   - Mirrors
   - Windshield washers and wipers
   - Seat belts
   - Lights and signals
   - Brakes – pedal check only

- Specialized equipment such as backup alarms, dump lights, light bars, hydraulic systems, wheel chocks, etc.

5. Position all adjustable elements for safe driving before putting the vehicle into gear, such as the seat and rear and side view mirrors.

6.3. Regular Operations

1. Drivers of Town vehicles must possess a valid California Driver's License and they must be thoroughly familiar with the state and local regulations governing motor vehicle operation. All Town employees shall obey the California Vehicle Code. The Town of Windsor will receive a DMV printout on an employee annually and will be notified of any activity to an employee's driving record. No Town employee shall operate a vehicle with a revoked or suspended license on Town time for Town business.

2. The driver of any Town of Windsor vehicle shall ensure that a safe distance exists between the vehicle they are driving and the vehicle they are following. When another driver makes a mistake, the necessary time needed to react safely is essential. Drivers should attempt to keep enough space between their car and vehicles around them to give themselves adequate reaction time. Keep a "space cushion" on all sides of the car for room to brake or maneuver if needed. The shaded area in the "Looking Ahead" illustration shown recommends the area around the car that should be empty whenever possible. Employees should keep enough space between their car and the car ahead so that they will have "a bigger picture" of what lies down the road.

   Following too closely causes most rear end accidents. To avoid this, use the three-second rule: When the vehicle ahead of you passes a certain point, such as a sign, count "one-thousand-one, one-thousand-two, one-thousand-three." This takes about three seconds. If you pass the same point before you finish counting, you are following too close.

   Looking Ahead



3. In order to avoid last minute reactive moves, employees should look down the road 10 to 15 seconds ahead of the vehicle. Employees need to look at least that far ahead to see hazards early on. A driver constantly staring at the road just in front of the car can be dangerous.

By looking ahead the driver will be able to see important conditions such as someone getting in or out of a parked car. Driving in a typical city, it takes 10 to 15 seconds to travel one block. When you drive in city traffic, look at least one block ahead. However, on the standard highway, 10 to 15 seconds is about a quarter of a mile. Take in the whole scene. Looking 10 to 15 seconds ahead does not mean looking only at the middle of the road; it means looking at the side of the road as well. Plus, visually scanning the roadside helps you to see:

- Cars and people that may be in the road by the time you reach them
- Signs warning of a problem ahead
- Signs giving you directions



3. When a driver comes upon a school bus that is stopped and flashing yellow lights, this is a warning to prepare to stop because children are getting ready to leave the bus. When you come upon a school bus stopped on either side of the road with flashing red lights, you must stop. The flashing red lights are located at the top front and top back of the bus. School children will be crossing the road to or from the school bus. Remain stopped as long as the red lights are flashing.



4. Do not drive through a safety zone, which is a space set aside for pedestrians and marked by raised buttons or markers on a roadway. When people are boarding or leaving public transit where there is no safety zone, stop behind the nearest door or vehicle platform and wait until the people have reached a safe place. When a bus, or other public transit is stopped at a safety zone or at an intersection where traffic is controlled by a police officer or traffic signal, you may pass as long as it is safe to do so and at no more than 10 mph.

5. Drivers and their passengers shall not throw any item from Town of Windsor vehicles.

6. 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. Always read warning labels on prescription drugs and over-the-counter medications, such as "may cause drowsiness" or "'avoid driving a motor vehicle."



7. All persons who drive or ride in Town vehicles will, in all cases, properly wear the installed seat belts.

8. Persons shall not be transported in any vehicle unless safe and secure seating is provided for every person.

9. Except when working conditions require otherwise, parked vehicles must have the motor stopped, the key removed, the emergency brakes set, and in gear.

10. If on a downgrade, turn front wheels towards the curb. If on an upgrade, turn away from the curb. Set brakes, and leave transmission in "park" before leaving the driver's seat.

11. Vehicles will not be parked on the wrong side of the street facing traffic except in case of emergency.

12. When trucks or vehicles must be stopped on streets or highways, adequate warning signals must be used and also a member of the flag crew, if traffic warrants.

13. Turn signals will not be used as a parking warning.

14. Before leaving the curb look to see that no cars are approaching from either direction, and signal your intention.

15. 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 horn while backing when necessary. If there is another employee along, the other employee should get out and direct traffic.

16. Adopt the following practices to conserve fuel while driving:
    a. Accelerate moderately
    b. Drive at moderate speeds
    c. Anticipate hills and grades
    d. Warm up the vehicle's engine
    e. Avoid engine idling
    f. Maintain tire pressure
    g. Don't transport excess weight
    h. Avoid short trips
    i. Don't "ride" the brakes



17. Drivers must be particularly alert while driving near children. Children must be kept from playing in or about Town owned vehicles. While working in areas such as parks, playgrounds, swimming pools, or community centers, drivers will be especially watchful for children and will drive carefully and slowly at all times.

18. Stay within posted speed limits. Slow down when conditions warrant.

19. Do not assume the right-of-way. The driver who has the last chance to avoid an accident may be the driver with legal responsibility. Don't be pushy – yield or stop.

20. Do not tailgate. Do not allow others to tailgate your vehicle; slow down, pull over to the side, and let the tailgater pass.

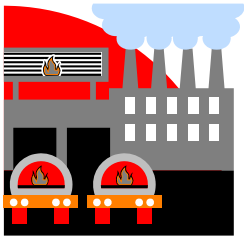
21. Signal intentions at least 100 feet in advance, including lane changes and actual change in directions. Avoid sudden braking.

22. 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 or dusk, never drive with only parking lights on. The Town encourages using headlights at all times. By law, lights must be turned on when driving in rain.

23. Special precautions must be taken when work is done in close proximity to traffic. Sometimes work interferes with the normal flow of traffic, posing an obstacle to motorists. Always attempt to park off the roadway rather than in traffic lanes. If your vehicle breaks down in traffic, alert oncoming traffic with emergency hazard lights.

24. When filling fuel tanks:
    a. Shut off the motor of the equipment.
    b. Do not smoke or use cell phones within 15' of gasoline pumps.
    c. Keep the hose nozzle against the edge of filler pipe.
    d. To avoid spilling fuel, do not fill tank too fast or too full.



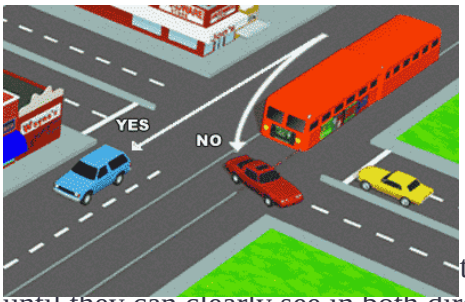
6.4. Emergency Driving Situations

Drivers must yield the right-of-way to a police, fire, ambulance, or other emergency vehicle using a siren and red light. Pull as close to the right edge of the road as possible and stop until the emergency vehicles have passed. However, don't stop in an intersection. Continue through the intersection and then pull to the right as soon as you can.



Sometimes the emergency vehicle will use the wrong side of the street to continue on their way. They sometimes use a loud speaker to talk to drivers blocking their path. Whatever the method used at the time, the driver must still yield the right-of-way.

Drivers shall not follow within 300 feet of any emergency vehicle that is responding to an emergency. Drivers shall obey any traffic direction, order, or signal by traffic or police officer or a fire fighter. Obey any order in emergency or special situations, even if it conflicts with existing signs, signals or laws. In addition, drivers shall obey instructions from school crossing guards and signal persons at road construction sites. For the crossing guard's safety, allow him/her to get safely to the side of the road before driving ahead.



Drivers shall comply with all railroad warning signs when approaching railroad tracks. Drivers shall look and listen for trains in both directions, stop when and where required, and always expect a train on a track at any time, day or night. Drivers shall never stop on a railroad track. By the time a train sees you; it will be too late for it to stop. track until it is safe to do so. Drivers shall not move ahead until they can clearly see in both directions because there may be a second train coming. Drivers

shall not go around or under any closed railroad gate unless directed to do so by a police officer or emergency personnel.

6.5. Tarping a Load

Often times, it is necessary to tarp a load. Although this is a common practice, it is a frequent cause of mishaps that lead to injury. One of the greatest risks of accidents occurs when lifting and moving tarps. Because most tarps are quite heavy and cumbersome, If you do need to lift the tarp alone, it is a good idea to partially unfold or unroll the tarp so you will only have to lift part of it at a time (such as one side and then the other). Always remember to keep your back straight and lift with your legs.

Another dangerous situation can be spreading or unrolling a tarp when it is windy. If there is even a moderate breeze, it is safer to ask for help rather than risk an injury by being blown off a trailer or tossed onto the side of a load. If no help is available, you may want to open a small amount of tarp and tie that part down before spreading or unrolling the tarp any further. Or better yet, wait until you reach an area with less wind or where help is available.

Unrolling a tarp while walking on your load or trailer can be extremely dangerous. Never walk backwards and pull the tarp towards you as you cannot see the edges of the load and it is very easy to step off the end or side of the trailer or load. Walk facing the direction in which you are unrolling the tarp so you can see where you are stepping at all times.

Frequently a tarp is equipped with rubber tie-downs that hold the tarp tight to the side rails or frame. It is a good idea to stand to the side when stretching these straps as they could snap and cause an injury, especially to the face and eyes.

In addition, the following precautions are taken to safely tarp a load:

- 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.
- Drawers in moveable trucks shall always be secured before the truck is driven.
- All tower equipment (ladder trucks, aerial buckets, etc.) will be checked and secured prior to the movement of the vehicle.
- Only materials and equipment necessary to carry on Town work will be transported in or on Town vehicles.

6.6. Safe Trailer Towing and Loading

Employees shall comply with all Vehicle Code(s), and established Town of Windsor policies and procedures governing the operation of commercial vehicles and heavy equipment such as maximum weights, widths, heights, mechanical condition, inspections, load securement, hazardous material transportation, etc.

Employees who operate a brake equipped trailed vehicle shall test the brakes of that tow vehicle each time the trailer is coupled or uncoupled and shall visually inspect brake hoses, couplings, and test all appropriate brake combinations.

Drivers shall comply with all applicable California Vehicle Code (CVC) requirements governing vehicular towing. It is the employee's responsibility to ensure that hitch or coupling devices used, as a means of attaching the towed and towing vehicles, shall be properly and securely mounted and be structurally adequate for the weight being towed. The mounting of the hitch or coupling device on the towing and towed vehicle shall include sufficient reinforcement or bracing of the frame to provide sufficient strength and rigidity to prevent undue distortion of the frame.

- The raised end of any motor vehicle being transported by another motor vehicle using a tow dolly shall be secured to the tow dolly by two separate chains, cables, or equivalent devices adequate to prevent shifting or separation of the towed vehicle and the tow dolly.

When loading a trailer, take the following precautions:

- Wear proper footwear that provides adequate ankle support and a slip resistant tread design.
- Use the three-point rule by keeping two hands and one foot or two feet and one hand in contact with something stationary at all times while moving about the trailer unit.
- Use the steps on the tractor to get down or lower yourself gently. Do not jump off trailers!
- Inspect chains, binders, and hooks for defects and assure hooks are properly attached before tensioning chains.
- Whenever possible, apply tension to binders from the ground; that way, if you do fall, you won't fall off the trailer.
- Make sure binders are of sufficient rating to support the load, are not cracked or damaged, and will not slip off. If you are unsure of the appropriate rating seek guidance from a Supervisor and/or the manufacturer.
- Pull on the wench bar whenever possible and avoid pushing. This will help maintain balance if something slips. Note: It also helps to widen your stance a bit.
- When chaining loads of pipe, use the deck of your tractor to stand on while feeding chains through the pipe racks. Do not climb on the pipe!
- Never place yourself or any part of your body under a suspended load or pinch point.
- If cranes are used to load a trailer, use tag lines to position the load.
- Always communicate with the person doing the loading. Know what the plan is and make sure you agree on that plan.

- Maintain eye contact with the person doing the loading, making sure he or she knows where you are.

- Slow down and pay attention. Never hurry yourself around loading operations.

6.7. Transportation of Hazardous Materials





Employees shall not transport hazardous materials unless licensed to do so.

Diamond shaped signs like these mean that the load on the vehicle is dangerous and identifies what the danger is. These placards aid police, fire or other designated agency officers in knowing what to do if the load is accidentally spilled onto the ground or roadway. Drivers of Town vehicles that display hazardous material placards shall always stop at railroad tracks before crossing.

6.8. Traffic accidents

During any incident involving Town of Windsor vehicles or an employee-owned vehicle driven on Town of Windsor business, the Town employee involved shall notify their supervisor and follow Town of Windsor established reporting procedures.

The first on-duty Town employee having knowledge of an incident that damages the property of others shall immediately report the event to his/her supervisor. The responsible supervisor will immediately conduct an appropriate preliminary investigation and report the incident in writing in accordance with established Town of Windsor incident reporting procedures.

In the event of an accident involving Town-owned vehicles, the following procedure will be followed:

1. In the event of personal injuries to another party, it is the employee's legal duty to see that the injured party receives "first aid." This is not an admission of liability. Call 911 if there are injuries as soon as possible. Any injury must be reported to the Administrative Services Director at 838-5354.



2. Report all accidents to the Town of Windsor Police Department as soon as possible. Police are to arrive on scene. All accidents should also be promptly reported to your supervisor.

3. Employees involved in vehicular incidents occurring outside the Town of Windsor limits shall:
    - Contact the appropriate law enforcement agency for that location.
    - Contact your supervisor who will notify the Administrative Services Director, who will immediately notify REMIF.

4. Obtain full information to assist the police in completing the accident report. Report carefully the position of the respective cars, the location and length of any skid marks, the distance traveled by each car after the collision and any unusual conditions of the roadway, the vicinity, or the respective cars involved. This information is important in placing responsibility for the accident.

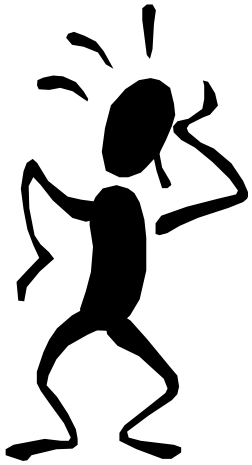
5. Make sure to get insurance information from the other driver(s) involved.

6. Record name, address, age and telephone number of all witnesses, including occupants of the other car. If a name or address is refused or cannot be obtained, get the house number if they live nearby, license number of their car.

7. Complete an Incident/Traffic Accident Report Form, found in the glove compartment of your vehicle.

8. Forward all accident related material, including injury information, to the Risk Management Division of Administrative Services within 24 hours of the accident.

9. Do not make admission as to negligence or fault for any accident, and under no circumstances assume any liability or authorize any repairs on the other party's automobile.



10. Do not take part in any altercation or argument with the other party.

11. Do not sign any statement or discuss the accident with any adjuster, attorney or representative of the injured or damaged party. Refer all claimants to the Administrative Services Department. If you are liable, the claim will be processed promptly.

7. PERSONAL PROTECTIVE EQUIPMENT (PPE)

7.1. General

When working conditions warrant, Town of Windsor employees shall wear personal protection equipment (PPE) consistent with applicable Cal/OSHA regulations that include, but are not limited to:

- Hard hat (head protection)
- Hearing protection
- Respiratory protection
- Gloves
- Foot protection
- Safety glasses, safety goggles, face protection, etc.

Supervisors shall ensure that employees under their direction who are required to wear PPE shall first receive effective PPE training that shall include, but not be limited to:



- PPE limitations
- PPE selection, use, care, maintenance and storage
- PPE inspection

Serious consideration must be given to comfort and fit. PPE that fits poorly will furnish the employee limited or no protection. Continued wearing of PPE is more likely if it fits comfortably. To ensure that Town of Windsor employees receive maximum PPE benefit, the Supervisor shall ensure that each employee is fitted correctly with PPE as required by Cal/OSHA, the PPE manufacturer, and wears the safety devices when required.

The variety of work operations performed by Town 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 hazard. 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 of guards 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 PPE such as hard hats, safety goggles, traffic vests, face shields, gloves, aprons, toe guards, respirators, etc. Supervisors shall ensure that all their employees are properly protected. Dress codes may be established within a particular department, division or work area, and each employee is expected to know and follow these codes where applicable.

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, however, 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 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 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

- For your safety and comfort, make sure your uniform fits well.
- The wearing of loose, flowing, or ragged clothing on or near moving machinery or equipment is prohibited.
- 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.
- Pant legs should be cut to ankle length and cuffs sewn up. Rolled up cuffs collect dirt and are likely to unroll and cause you to trip and fall.
- Steel-toe safety shoes or other appropriate foot protection must be worn when there is exposure to foot injuries from falling objects.
- Shoes with run down heels or torn soles are hard on the feet and can cause falls. Keep your shoes in good repair.
- The safe worker does not wear rings, necklaces or other jewelry. Jewelry increases the danger of electric shock and can cause fingers to be badly injured.
- Work clothes should be washed frequently as a safeguard against skin infections and irritation.
- Oil soaked clothes are a serious fire hazard. Keep your clothes free from oil.

7.2. Head Protection

The many construction and maintenance activities performed by Town employees involve working above or below ground levels, movement of material overhead, and working near construction machinery. In such operations, being struck by falling objects, machinery or loads being moved by machinery, is a constant hazard. Hard hats are provided to prevent head injuries from 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 1-1/2" clearance, plus or minus 1/8" between the skull and the inside of the hat when it is worn. When the harness becomes worn to the extent that it can no longer be adjusted to maintain the proper 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 employees. A hard hat is a personal item and shall be for the exclusive use of the person to whom it is issued.

Hard hats approved by the Town shall be worn in the following activities:

- Engineering office personnel while on the job site for any public service construction or maintenance project at which there exists potential risk of head injuries.
- All survey personnel while on the job site in the public right-of-way.
- All employees, while on the job site for street maintenance, curb and gutter construction, and storm drain maintenance or other public service maintenance projects where the risk of head injury exists.
- Personnel while on the job site for any tree trimming activity.
- Sewer line maintenance personnel when working below ground or below other employees.
- Inspection personnel when inspecting public works projects or private developments where the risk of head injury exists.
- Any personnel when working with or near construction equipment such as digging, hoisting or towing equipment.
- All personnel working with high voltage electrical hazards.
- All personnel engaged in climbing tasks or working from aerial lifts.
- Supervisors may designate additional areas where hard hat usage is required.

Employees exposed to debris, falling objects, aerial-devices, energized apparatus, etc., shall wear appropriate head protection (hard hat) as prescribed by Cal/OSHA and Town policy.



- Do not paint, drill holes, stamp marks, scratch, cut, or deface the hard hat shell.
- For purposes of identification, the employee's name may be placed on the front of the hard hat shell by use of vinyl tape labeling.
- Only decals approved by the Town of Windsor shall be allowed on the outside of the hard hat shell and then only placed on either side of the hardhat exterior unless otherwise approved by the Town of Windsor. No decals shall be applied on the inside of the hard hat shell.
- Only manufacturers of equivalent replacement items shall be applied to the hard hat shell.

- Each employee is responsible to visually inspect his/her hard hat shell, including its suspension, for signs of damage or wear that might reduce its intended capacity of safety. When damage is found that would reduce the shell's margin of safety, it shall immediately be reported to the employee in charge who shall determine the condition, and if required, authorize replacement. Any hard hat that requires replacement due to damage shall be removed from service and properly destroyed.

- Absent damage, most hard hat manufacturers require permanent removal of their product from use five years after its date of manufacture.

- Manufacturer's recommended replacement for hard hat suspension shall be followed.

Shells should be scrubbed with a mild detergent and rinsed in warm clean water. After rinsing, carefully inspect the shell for signs of damage. Use only the manufacturers' recommendations for safe removal of tars, paints, oils and other substances. Do not use solvents unless recommended by the manufacturer as solvents can degrade the shell's degree of protection.

Employees shall visually inspect their hard hat shell daily, including its suspension, for signs of dents, cracking, penetration and any other damage that might reduce the degree of safety originally provided by the manufacturer.

7.3. Face and Eye Protection

Face and eye protection shall comply with relevant ANSI standards and shall be worn where the potential of occupational exposure to chemicals splashing, flying particles, etc., exists. When employees are exposed to these and other similar hazards, the employee in charge shall take reasonable efforts to control or remove the hazards. In addition, whenever eye protection is necessary, and to protect your face, ANSI-approved face shields may also be worn in conjunction with ANSI-approved eye protection.

The Supervisor shall ensure that employees under his/her direction who wear eye and/or face protection understand the following information:

The correct way to wear the PPE:

- Correct methods for adjusting the PPE device for proper fit.

- Items to look for when inspecting the PPE device for damage, such as pitted or scratched lenses that reduce vision and protection.

- Manufacturers' recommended cleaning and maintenance procedures to follow, including storage.

- Types of hazards for which the safety device is designed, including its level of protection.

- The meaning of any significant markings on the protective device.

Employees shall visually inspect their PPE for damage prior to each use. Protective eye and/or face-wear that exhibit broken parts, heat distortion, or excessive lens scratches, are unsuitable, shall not be worn and shall be removed from service.

Employees shall take reasonable care and not subject PPE to abuse.

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.

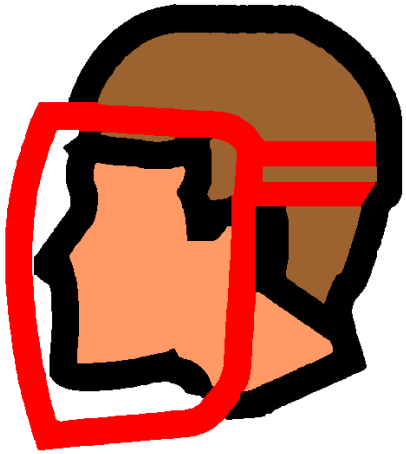
There are many types of safety glasses, goggles, shields, etc. made of glass or plastic to protect workers from these hazards.

Face and eye protection shall be provided for any task where there is any possibility that an injury may occur without such protection. Employees assigned to perform tasks which require eye protection shall wear the protector provided. The Town shall provide appropriate 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 vital protection. If sufficient care is not exercised to maintain them properly, dirty or scratched lenses may provide another hazard from reduced visibility. In the event that eye protection equipment provided by the Town is lost or damaged, and it is clearly evident that such loss or damage occurred as a result of an employee's negligence, employees shall be required to replace them at their own expense.

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

   - Grinding, cutting, milling or drilling with powered tools.
   - Using impact wrenches and air compressed tools.
   - Chipping, scraping or scaling paint, rust, carbon or other materials.
   - Using punches, chisels or other impact tools.
   - Cutting or breaking glass.
   - Chipping or breaking concrete.
   - Pipe cutting and pipe threading.
   - Using paint remover.
   - Using power activated tools.
   - 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 powered woodworking machinery, both fixed and portable.
   - Tree trimming, brush chipping or stump removal.
   - Using brush cutters.



- Steam cleaning.
- Cleaning vehicle parts with soaps or solvents.
- Working under vehicles.
- Using powered lawn cutting and trimming equipment.
- Performing any duty that can cause injury to your eyes.

2. A full plastic face shield shall be worn when handling acids, caustics, and other harmful dusts, liquids, or gases.

3. 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.

Eye protection may be required on other jobs not listed, if so designated by your supervisor or employee in charge. 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.

Prescription (Rx) glasses used as safety glasses, including frames, shall satisfy relevant impact and optical performance of ANSI standards including Z87.1-1989. Each lens shall be clearly marked in a permanent and legible manner with the manufacturer's monogram. In addition, if other than clear prescription (Rx) lenses, each lens shall be marked with the applicable shade designation. For example, a shade 2.5 fabricated by manufacturer "Y" would be marked "Y-2.5." All clear prescription safety lenses shall be marked with "S" following the manufacturer's trademark. For example, a safety lens fabricated by manufacturer "A" would be marked "A-S."

Each lens shall be distinctly marked in a permanent and legible manner with the manufacturer's monograms. All lenses shall be marked "Z87" to indicate ANSI compliance. If the prescription lens is a rectangular filter plate it shall be marked "G" to indicate suitability for goggle use. All marking shall be legible and permanently placed so that there is NO interference with the wearer's vision.

Safety glasses (with side shields) shall NOT be worn when employees are engaged in drilling, chipping, grinding, wire buffing, use of chemicals, welding, and fuel-gas burning operations *(see Safety Goggles for more information)*. Employees shall wear safety goggles when working on these and other similar tasks where the potential for eye injury from flying debris is possible.

Prescription (Rx) safety goggles shall comply with ANSI Z87.1-1989 requirements that includes lens marking of "Z87-S", or in the case of photo chromic lenses, "Z87-V."

Employees shall consider wearing safety goggles with "fogless" lenses to limit moisture accumulation on the inside of the lens that can distort the wearer's vision.

In addition to protecting the eyes, face shields protect portions of the face from flying particles. This secondary protection can be used with primary protection such as safety glasses, safety goggles or welding hoods.

A welding helmet protects the eyes and face from optical radiation and impact. However, helmet resistance to impact is limited and the wearer shall refer to data provided by the manufacturer to determine that level of protection. Welding helmets are secondary protection devices that can be used with primary protection such as safety glasses or safety goggles.

7.4. Hearing Protection



In the variety of activities conducted by Town work crews, there are some machines or equipment that may produce sound levels in the frequencies that cause hearing loss. When employees are subjected to excessive sound levels, attempts should be made to use engineering controls. If the sound level cannot be reduced within tolerable range, then personal protective equipment shall be provided and shall be worn by employees who are exposed. All employees who are exposed to occupational noise above the Cal-OSHA standards shall take part in the Town's hearing conservation program.

Ear protection may consist of earmuffs or earplugs. Only ANSI-approved hearing protection devices shall be used as earplugs.



Employees shall wear appropriate hearing protection as required by Cal/OSHA and Town policy when:

- Operating tools or equipment where decals are placed indicating that employees shall wear hearing protection.
- Operating tools or equipment that generates noise levels at or above 85 dBA.
- In work locations that have posted warning signs indicating that employees shall wear hearing protection.
- In any work area where town employees are subjected to noise at or above Cal/OSHA established action levels for noise.
- When the employee in charge instructs employees to wear hearing protection.

7.5. Hand Protection



One of the most dangerous human ornamentations to wear in occupational or industrial work is a ring. Rings should be removed or not worn to work if there is the slightest chance of getting the ring caught in any hook, tool or piece of machinery. Rings can cause loss of fingers or painful lacerations and frequently have to be cut off of fingers if bent in such a manner as to cut off circulation. Gloves with leather palms should be worn when handling rough edges or abrasive material or when the work subjects hands to possible lacerations,

puncturing or burns. Authorized persons may designate other hand protection. Washing with soap and water - not gasoline, should prevent skin irritation. Learn to recognize poison ivy and poison oak and avoid it. Rubberized gloves should be worn when handling irritating materials.

1. Employees working with skin irritants or performing welding or cutting tasks shall be furnished, and required to wear, approved gloves.

2. Consistent with the Town of Windsor IIPP, employees engaged in operations that require the use of anti-vibration gloves shall have them provided and wear them.

3. Employees shall not wear gloves when there is a danger of the glove being entangled in moving machinery or materials.

4. Jewelry shall not be worn while working with or around mechanical moving parts or energized apparatuses.

Latex Allergy

Latex allergy is a reaction to certain proteins in latex rubber. Latex is a natural substance that is made from the sap of rubber trees. Natural rubber latex is found in most latex gloves and in many medical, household and other consumer products. Synthetic rubber is made from different materials and does not cause latex allergy.

The amount of latex exposure needed to produce a reaction is unknown. Increasing the exposure increases the risk of becoming sensitized and developing allergic symptoms. Exposures at even very low levels can trigger allergic reactions in some individuals, even if they never had symptoms before.

Symptoms

There are three types of reactions that can occur in persons sensitive or allergic to latex products.

1. Irritant contact dermatitis

   NOT a true allergy. Irritant contact dermatitis is the most common reaction to latex products. Dry, itchy, irritated areas develop on the skin, usually the hands. It is caused by skin irritation from using the gloves and other chemicals. Frequent hand washing, incomplete drying of the skin, using cleaners and sanitizers, and powders in gloves can also cause this reaction.

2. Allergic contact dermatitis (Also called Type IV delayed hypersensitivity or chemical sensitivity dermatitis)

   This is a reaction to chemicals that are added to latex during the manufacturing process. The reaction to these chemicals is similar to reactions caused by poison ivy. The rash begins 24

to 48 hours after contact and may progress to oozing skin blisters that spread away from the area of the skin that has come in contact with latex.

3. Latex allergy (also called *immediate or Type I hypersensitivity*)

   Reactions usually being within minutes of exposure to latex, but can develop hours later. Mild symptoms include runny nose, sneezing, itchy eyes, wheezing, coughing, and life-threatening reaction similar to people allergic to bee stings.

Employee Protection

Use non-latex products where possible. Use non-latex gloves (e.g. nitrile rubber, neoprene, vinyl, butyle or vitrone) that prevent contact with hazards, including diseases spread by contact with blood or other body fluids. Non-latex gloves should also be used for food preparation, housekeeping and other tasks that do not involve contact with infectious materials.

Use good housekeeping practices to remove latex-containing dust from the workplace. Monitor workers who use latex products for signs of latex allergy and train workers to be aware of latex exposure and to recognize and report symptoms.

If latex gloves are used:
- They should be powder free and low protein. Powder spreads the proteins that cause the allergic reaction.
- Use cotton or synthetic glove liners to reduce contact with latex and other chemicals.
- Wash and dry hands thoroughly with mild soap (neutral pH) after removing gloves.

Individuals who are sensitive to latex should:
- Never wear latex gloves, and avoid any other exposures.
- Inform employers, physicians and co-workers of the need to avoid latex.
- Wear a medical alert bracelet.
- Carry prescribed auto-injectable epinephrine.

7.6. Foot Protection

Employees exposed to workplace conditions that have the potential to cause foot injuries from electrical hazards, hot, corrosive, falling objects, and exposure to possible crushing or penetrating conditions, shall wear foot protection meeting ANSI Z41-1991. Footwear shall also protect against puncture wounds to the sole of the shoe.

Employees, while on-duty, shall not wear inappropriate, worn, or defective footwear that creates the possibility of foot injury.

7.7. Respiratory Protection

Only respiratory protection approved by the National Institute for Occupational Safety and Health (NIOSH) and/or the Mine Safety and Health Administration (MSHA) shall be used to

protect affected Town employees against the contaminant of concern. A label or statement of certification should appear on the respirator or respirator packaging that states what that respirator is designed for and at what level of protection. Employees working where airborne levels of dust, mists, fumes, gases or vapors, etc., exceed or are anticipated to exceed Cal/OSHA Permissible Exposure Limits (PEL), engineering and/or administrative controls shall be implemented by the employee in charge to eliminate or control the airborne hazards. Should engineering or administrative controls not work, the employee in charge shall evaluate conditions to determine the correct level of respiratory protection to protect the health and safety of affected employees.

NOTE: NIOSH and MSHA approved respiratory equipment has an approval number that begins with the letters TC, followed by the scheduled number for which the respirator is approved, displayed prominently on the respirator, its container, or both. The last numbers in the sequence identifies the manufacturer-designation for that safety device. For example, NIOSH and MSHA approved respirator designed for protection against particles (dust) will have the number TC-21C-XX.

Should employees need to don respiratory protection, the Supervisor shall use the following criteria:

- Only employees certified by a licensed medical doctor to wear respiratory protection shall wear such a safety device.

- Only employees trained in accordance with Cal/OSHA Respiratory §5144 that includes selection, use, care, and limitations shall be allowed to wear respiratory protection.

Training

Prior to any Town employee using respiratory protection, the Supervisor shall ensure that affected Town employees are trained in accordance with Cal/OSHA §5144 training mandate that includes the following:

- Why and what PPE is necessary.
- How and when PPE shall be used.
- Ensure employees who wear PPE understand its designed use and limitations.
- Enforce PPE use.
- Prior to use, the employee in charge shall determine if affected Town employees are medically released to wear respiratory protection.

7.8. Other Protective Equipment

High-visibility safety vests 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 Town streets where there is moving traffic, or in any other area designated as a "safety vest" area by the supervisor or employee in charge.

Safety seat belts shall be properly fastened in a motor vehicle in motion.

8. FIRE PREVENTION

8.1. General

One of the most fearsome and damaging disasters that can occur in work activities is fire. In the variety of activities performed in Town operations, there are shops and job sites in which potential fire hazards exist. Fire 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.

Employees shall be familiar with instructions relating to fire prevention and suppression, and with the location and use of all fire suppression equipment in the location he/she is regularly employed.

- All fire apparatuses shall be maintained in serviceable condition and accessible at all times.

- Employees expected to use fire extinguishers or other similar devices shall be trained annually in that expected use.

8.2. Smoking

Employees shall not smoke near flammable liquids, explosives, gases, or where "No Smoking" signs are posted, either on Town of Windsor property, or on the premises of others.

- Matches, tobacco products, or other similar substances shall not be discarded while burning except when placed into a proper receptacle.

- Smoking shall not be permitted in places of employment inside buildings or other enclosed workplaces and as directed by local ordinances and/or federal/state laws, including regulations that disallow smoking within 20 feet of any door of a public building.

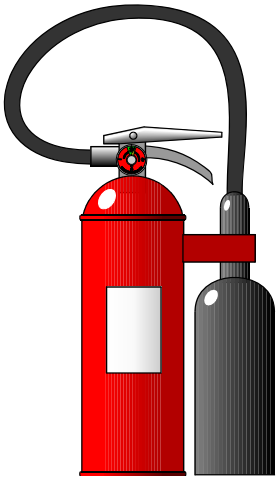
- No smoking is allowed in Town vehicles.

8.3. Flammable and Combustible Materials

Flammable liquids shall be stored, handled and transported only in approved containers. Employees shall take extreme care at all times to prevent ignition of these types of chemicals. In addition, employees shall comply with local ordinances and/or other applicable regulations concerning the handling, storage and transportation of hazardous chemicals.

The following safety procedures are established:

- Oily rags and combustible scrap should be stored in covered metal receptacles.
- All flammable liquids must be kept in closed containers when not in use.
- Be sure that bulk drums of flammable liquids are grounded and bonded to containers during dispensing.
- Become familiar with the type, use and location of the fire extinguishers in your building. Most extinguishers in the Town are ABC type and training on their use is available through Risk Management.
  - Class A: Ordinary combustible material fires.
  - Class B: Flammable liquid, gas or grease fires.
  - Class C: Energized electrical equipment fires.



- No smoking is permitted in Town buildings. Observe posted "No Smoking" signs in the yard areas.
- Fire equipment shall be prominently displayed, labeled for usage, and kept clear for easy access at all times.



- Know the location of fire extinguishers and how to use them. After use of an extinguisher, report such use immediately to your supervisor so a replacement may be obtained or the extinguisher recharged.
- Use of gasoline is prohibited for cleaning parts, floors, or any part of buildings.
- Gasoline utilized in small quantities in shops for fueling engines being repaired, tested, adjusted, etc. shall be handled and dispensed in the smaller (one, two and one-half or five gallon) OSHA approved safety containers having a spring-lift cap. Container must be labeled as to its contents.
- The fueling of any type of motorized equipment while the engine is running is prohibited. When transferring flammable liquids, make sure the filler nozzle touches the equipment or container being filled in order to guard against the build-up of static electrical charge.
- Never overfill a tank but rather under fill it to allow room for expansion of the liquid.
- No artificial light, except UL approved electrical flashlights, shall be used near escaping gasoline or other flammable vapors or when entering an enclosure suspected of containing gas.

- Dark places, basements or cellars must not be entered without proper light. The use of matches is strictly forbidden.

- "No Smoking" shall be enforced in all areas where hazardous substances are stored or used and any other area where posted.

- Maintain properly all exit signs and directional signs where they are required. Exit doors must be unlocked when the building is occupied and free passage to and through these exits must be maintained at all times. Know the exits from the building in which you work.

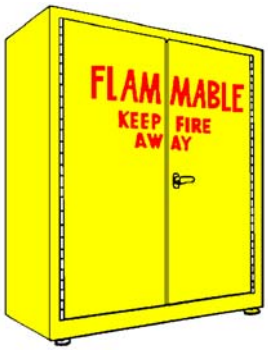
- Electrical extension cords are approved for <u>temporary</u> use only and they should never be a smaller gauge than the appliance cord connected to it.

- Employees shall report fires promptly by calling 911 or Sheriff Dispatch at 565-2121 if calling from a cell phone. Do not risk your life in trying to extinguish a fire that may get out of control.

- Dispense flammable liquids in an approved mixing and dispensing room or in the open and well away from open flames and other sources of ignition. All containers shall be grounded or bonded.

- Do not smoke or permit open flames in areas where flammable gases or liquids are stored or used.

- Do not smoke when working around gasoline, solvent, lacquer, thinner, insecticides, lab chemicals, or areas marked "NO SMOKING." Do not smoke within 100 feet of explosives.



- Properly locate and guard open flame heaters, including water heaters, and electric heaters.

- Do not store any clothing or combustible material in close proximity to any open flame or electric heater in such a manner as to permit ignition.

- Store oil and paint-soaked rags in approved safety containers. Disposal of such rags shall be only in safe receptacles placed outside the building daily, or in approved safety containers.

- Store all waste materials, other than minor amounts, in wastebaskets in areas of constant supervision, in covered metal or metal-lined receptacles or bins.

- Keep fire extinguishers of the CO-2, ABC multipurpose or dry chemical type in all areas where flammable liquids are stored, mixed, dispensed or handled.

- Do not use vaporizing liquid type fire extinguishers, such as pyrene, because the vapors from these liquids are highly toxic.

- In the event that circumstances require the use of CO-2 fire extinguishers in enclosed spaces, wastewater access covers, or storm drains exercise extreme caution to ensure that no one enters the enclosed space until the CO-2 has been expelled by ventilation.

- Use the CO-2, ABC multipurpose or dry chemical type fire extinguisher on electrical fires.

- Do not use foam, soda and acid and water type fire extinguishers to fight electrical fires as the stream conducts electricity.

- Be familiar with the maintenance program to insure periodic inspection and proper care of fire extinguishers; make arrangements for periodic checks of the equipment. Immediately report any extinguishers, which appear to be in doubtful condition to your supervisor.

- It is necessary that shops and fixed activities that contain potential fire hazards have a fire plan to combat fire if it should occur. The plan must include: adequate warning measures for alerting all persons in the area of the existence of a fire; rapid reporting to the Fire Department; evacuation of affected personnel from areas involved in a fire; procedures for containing the fire insofar as it is safe to do so and, particularly, only to the extent that it is possible to maintain safe exit for personnel so engaged; instruction of personnel who regularly work there in the duties they are to perform in given fire situations; and adequate fire extinguishing equipment that is regularly inspected by a responsible authority.



8.4. Portable Fire Extinguishers

Every employee during the course of his/her employment, who is expected to use a portable fire extinguisher or has a potential to use a portable fire extinguisher, shall receive appropriate fire extinguisher training prior to being exposed to conditions where fire extinguisher use could occur. In a nutshell, the instructions for using a portable fire extinguisher are as follows: Stand about six to eight feet from the fire

PASS TECHNIQUE:

- Pull the pin
- Aim the hose at the base of the fire
- Squeeze the trigger
- Sweep

Types of Fire Extinguishers:

- Class A - wood, paper, rags, cloth, or trash
  Contents: water, water base, foam, loaded stream or multipurpose dry chemical

- Class B - oil, gasoline, paint, solvents, and grease
  Contents: carbon dioxide, foam or dry chemicals

- Class C - electrical
  Contents: Carbon dioxide or dry chemical. Note: Never use water on an electrical fire.

Combination ABC or BC extinguishers shall be used when a fire combines two or more of the above mentioned class fires.

- Class D - combustible metals, including sodium, magnesium, zinc, potassium, powered aluminum, and titanium. *Note:* These types of extinguishers must be kept within 75 feet of any operation that generates combustible metal powders, flakes or shavings.

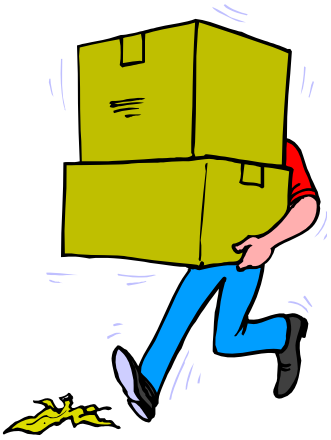
Some general requirements regarding the use of a portable fire extinguisher include:

- Mount, locate, and identify extinguishers so that they are readily accessible to employees.
- Only approved fire extinguishers shall be used.
- Maintain extinguishers in a fully charged and operable condition and keep in their designated places at all times except during use.
- Soldered or riveted shell inverting type extinguishes shall be permanently removed from service.
- Extinguishers shall be visually inspected monthly and maintained annually.

9. MATERIAL HANDLING

9.1. General

Analysis of accident records of Town of Windsor employees reveal that most injuries occur in the process of handling materials.



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

Accidents of this nature can be avoided by taking a little time to plan ahead, using mechanical equipment wherever possible and thinking about the proper way to do the task and the proper tool to use for performing it.

The single and most important preventative safety measure

employees should keep on their minds is the MULTI-STEP LIFTING PROCESS. The technique, putting aside considerations of 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 lifting process shown below:

9.2. Lifting

Do not try to lift or push an object that is too heavy for you. Ask your supervisor for help when you need it. Use care when lifting objects. Remember, when you lift the right way the most powerful muscles in the body--those in the legs--take the load. Always lift with the back straight, both legs bent and the weight close to the body.

Strains and Overexertion

An office job may not involve lifting large or heavy objects. However, employees shall follow the basic principles of lifting all material safely: small or light loads, stacks of files, water bottles, boxes of computer paper, books, etc. Employees must determine the following before lifting and carrying material:

- Is this too heavy for me to lift and carry alone?
- How high do I have to lift it?
- How far do I have to carry it?

If you feel that the lift is beyond your ability, contact your supervisor or ask another employee to assist you.

Safe Lifting Techniques

- Take a balanced stance; feet placed shoulder-width apart and when lifting something from the floor, crouch near the load.

- Keep your back in a neutral or straight position. Tuck in your chin so your head and neck continue the straight back line.

- Grip the object with your whole hand, rather than only with your fingers. Draw the object close to you; hold your elbows close to your body to keep the load and your body weight centered.

- Lift with your legs. Let your large leg muscles do the work. Tighten your stomach muscles to help support your back and maintain a neutral back position as you lift.

- Never twist when lifting. If you must turn with a load, turn your whole body, feet first.

- If material is lifted from floor level to, at or above shoulder height, plan to stop momentarily once you stand up, rest the load on something and change your grip. When lowering material to floor level, reverse the lifting technique just described.

- Never carry a load in a position that blocks your vision.

In lifting, remember your greatest source of strength is in the legs. This is the secret to protecting yourself from back injury or hernia while lifting objects.

  - Do not lift more than you can comfortably handle.
  - Get a firm footing with feet slightly apart.
  - Do not twist; shift your feet with the load. Make sure you know where the next step will take you.



- Pile or stack materials in such a way that the pile or stack is "tied in"--one level resting securely on the one below it. Use proper blocking when necessary and never exceed the height recommended by your department. Report any unsafe stacks to your supervisor.

- Stand on a firm work surface such as appropriate ladder or step stool. Boxes, chairs, pallets, tables, desks, etc., are unsafe work platforms and are NOT to be used to stand on.

How to Lift and Save Your Back

You can follow these techniques in any lifting situation. Whether you're lifting a carton, a water bottle, a drum, and a sack - anything - the following seven basic steps should be used:

1. Feet: Feet should be parted, with one foot alongside the object being lifted and one foot behind. Feet comfortably spread give greater stability and the rear foot is in position for the upward thrust of the lift.

2. Back: Use the sit-down position and keep the back straight--but remember that straight does not mean vertical. A straight back keeps the spine, back muscles, and organs of the body in correct alignment. It minimizes their compression, which could otherwise cause a hernia.

3. Chin: Tuck in the chin so the neck and head continue the straight back line. Tucking the chin helps keep the spine straight and firm.



4. Palm: The palm grip is one of the most important elements of correct lifting. The fingers and the hand are extended around the object you're going to lift--using the full palm. Fingers alone have very little power--you need the strength of your entire hand.

5. Arms and Elbows: The load should be drawn close, and the arms and elbows should be tucked into the side of the body. When the arms are held away from the body, they lose much of their strength and power. Keeping the arms tucked in also helps keep body weight centered.

6. Body Weight: The body should be positioned so that the weight of the body is centered over the feet. This provides a more powerful line of thrust and also ensures better balance. Start the lift with a thrust of the rear foot.

7. A Tip on Twisting: Twisting during a lift is one of the most common causes of back injury. By simply turning the forward foot out and pointing it in the direction of the eventual movement, the greatest danger of injury by twisting is avoided.

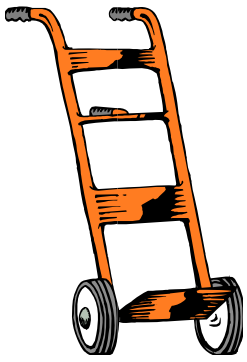
Lifting objects from your chair

Bending from a seated position and coming back up places tremendous strain on the back. Also, the chair could be unstable and slip out from under you. Instead, stand and move your chair out of the way and follow the safe lifting techniques described above.

9.3. Hand Trucks

Follow these procedures when using a hand truck:

- Four-wheel hand trucks with swivel axles and tongue are to be pulled; all other trucks are to be pushed.
- 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.
- Watch where you are going when pushing or pulling a hand truck, and slow down at corners.
- Allow clearance for your hands when moving through doorways or past other objects. Use truck handles.
- Secure help in getting hand trucks up or down inclines to prevent them from getting away from you.
- When using trucks, stop at all blind intersections before passing the area.
- Always park trucks at a spot where people will not stumble over them; leave handles in a vertical position.



- Report hand trucks with broken wheels, splintered handles, and other defects to your supervisor.

- When using hand trucks, be sure to watch the floor ahead to avoid bumps, cracks, uneven surfaces, etc.

- Pile loads evenly. An unbalanced load may shift, causing the hand truck to overturn.

9.4. Cranes, Hoists and Electrical Overhead Clearances

1. Cranes and hoists shall only be operated by qualified individuals authorized to perform his/her duties and where required, are properly licensed in accordance with federal, state, or local laws and regulations (re: 8-CCR §3207). A qualified individual is a person designated by the employer who, by reason of their training and experience, has demonstrated his/her ability.

2. When mobile cranes and other similar lifting devices are used near energized equipment, all individuals shall remain in the clear until the equipment is in a safe position. The employee in charge shall check to determine that all individuals remain in the clear while the equipment is being moved or the boom is being repositioned.

3. A sign shall be posted in the cab and in a location readily visible by the operator or construction vehicles that reads as follows:

   - "Unlawful to operate this equipment within 10-feet of high voltage lines of 50,000 volts or less. The clearances in the following table do not apply to authorized work by qualified electrical workers on or near energized high voltage conductors or apparatus."

4. Individuals not qualified to exercise the above exemption, or not under the immediate, direct supervision of a qualified electrical worker, shall maintain the distances from energized high voltage lines specified in the following table:

MINIMUM CLEARANCE DISTANCES
For Operators of Cranes and Hoists who are not Qualified
Electrical Workers or Under the Direct Supervision of a
Qualified Electrical Worker

Normal Voltage Phase-to-Phase	Minimum Required Clearance (feet)
600 – 50,000	10’
over 50,000 – 75,000	11’
over 75,000 – 125,000	13’
over 125,000 – 175,000	15’
over 175,000 – 250,000	17’
over 250,000 – 370,000	21’
over 370,000 – 550,000	27’

If the voltage of the power line involved is not known, consult the power company prior to starting work.

5. Operators shall not move loads over the heads of employees or others unless authorized to do so by the employee in charge. Equipment operators shall not leave equipment unattended while a load is suspended, unless authorized to do so by the employee in charge, or during repair or in an emergency situation.

6. No vehicle or equipment shall be overloaded in excess of its rated capacity.

7. Equipment operators engaged in work that requires signals shall only take signals from the person designated by the employee in charge.

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

9.5. Stacking Materials



1. Have a safe base. That means a solid, smooth and level surface. If the floor or ground is not level, use bearing strips or timber to make sure that piles will not shift. Barrels and other materials that may roll or slide should be cocked at the base.

2. Pile to a safe height: that means not so high the pile will be unsteady and that the floor load limit is not exceeded.

3. Lock the material by crisscrossing the layers so there are no unsteady stacks within the pile.

4. Maintain aisle space for workers and fire equipment. Materials should not protrude beyond the face of the pile.

9.6. Materials Storage

Office materials improperly stored can fall on workers, are poorly visible, and create a serious fire hazard. Effective housekeeping will reduce or eliminate fall hazards associated with improper storage of materials. Examples of improper storage include disorderly piling, heaping material too high and placing material that obstructs doors, aisles, fire exits and firefighting equipment.

Consider the following approach to material storage to avoid employee injury or illness from material handling:

- Avoid storing boxes and other material on top of lockers or file cabinets.

- Stack boxes and cartons uniformly so as not to fall over.

- Store heavy material at waist height to avoid lifting from floor level. Arrange shelves so that frequently used items are between shoulder and waist height and place rarely used items on the lowest shelves.

- When ordering supplies, request smaller boxes or containers. If this is not feasible, consider repackaging material in smaller containers when it's delivered.

- Get assistance when moving awkward, oversized or heavy loads.

- Store materials at designated locations such as in cabinets, in files, on shelves, etc.

- Do not place office equipment such as typewriters, index files, lights or calculators on the edges of a desk, filing cabinet, tables, etc.

- Keep aisles, corners and passageways unobstructed at all times.

- Storage areas should be designated and used only for that purpose. Store heavy materials so employees do not have to reach across other items to retrieve desired material.

- Keep fire equipment, extinguishers, fire door exits and sprinkler heads unobstructed.

The following principles for material storage/handling can reduce the potential for a problem:

- Minimize the weight of bulk material
- Minimize the vertical and horizontal lifting distances
- Provide sufficient time for tasks

9.7. Handling Gas Cylinders

Employees shall follow these procedures when handling gas cylinders:

- The protective cap over the valve should be kept on when the cylinder is being stored.

- Lifting cylinders is always a job for two people.

- Store cylinders away from salt, acids, films, or other corrosive substances.

- Employees shall keep cylinders of oxygen, when stored indoors, in areas separate from flammable gases and highly combustible materials, especially oil and grease.

- Do not store gas cylinders in direct sunlight or in any hot place.

- Keep cylinders in an upright position in racks or stands, and chained or cabled to prevent them from rolling or being knocked over, empty or full.



- Employees shall not use a cylinder of compressed gas without reducing the pressure through a regulator attached to the cylinder valve or manifold.

- Do not use oil or grease as a lubricant on valves or attachments of oxygen cylinders. Keep oxygen cylinders and fittings away from oil or grease, and do not handle such cylinders or apparatus with oily hands, gloves or clothing.

- Do not use oxygen as a substitute for compressed air in pneumatic tools, in fuel burners, to start internal combustion engines, or to dust clothing.

- Remove regulators and place caps over valves when transporting cylinders by other than regular cylinder trucks.

- Close the cylinder valve and release the gas from the regulator before a regulator is removed from a cylinder valve.

- Be certain that any pressure adjusting screws on regulators are fully released before the regulator is attached to a cylinder and the cylinder valve is opened.

- Do not use leather washers on gas cylinder valves; the regular fiber washer or gasket must be used.

- Do not use cylinders for other than their designated kind of gas.

- Use on cylinders only those gauges and other attachments that are approved for the type of gas used.

- Do not stand in front of gauges when opening the discharge valve. Open the valve slowly.

- Handle cylinders by cranes only when the proper racks or spreader bars and hooks are used. Rope or wire slings are forbidden.

- Do not drop cylinders or treat them roughly.

- Place leaky cylinders in the open immediately when noticing that they leak.

- Inspect hose lines frequently for leaks.

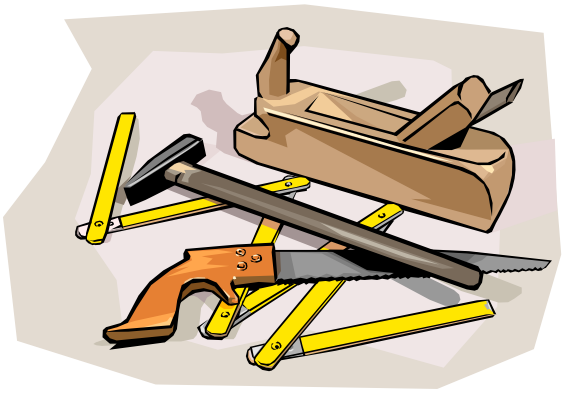
- When welding, be certain approved firefighting equipment is nearby before starting welding operations when working in the vicinity of flammable materials.

10. HAND TOOLS

Employees shall only use tools that are in good condition and suitable for the job in progress. They shall inspect each tool for safety and condition prior to using it and then periodically during the duration of the job. Defective tools shall immediately be removed from service and tagged.

It is important the proper hand tool be used for each job. Since hand tool requirements may vary greatly among departments, check with your supervisor to learn which ones are needed to do the job safely and effectively. Faulty equipment and tools must be reported to your supervisor immediately.

The following safety rules are established:



- Select the right tool for the job.
- Sharpen the cutting edges of the tool and carry the tool with the sharp edge down.
- Sand the wooden handles of a shovel, rake, awl, etc., thus preventing splinters and burns.
- Check the handle on each tool for tightness. Replace when split or loose at the head.
- Check the head of each tool, such as hammers, chisels, punches and malls for burrs and chipped edges. Repair or replace as needed.
- Wear shatter-proof goggles when using chisels, punches and wedges. Be sure no one is in the area before using such a tool.
- Use only properly insulated tools (screwdrivers, wire cutters, etc.) when working around energized electrical circuits or equipment.
- 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.
- Return tools to their proper place so that they do not fall from a ledge or are tripped on.
- Wrenches, pliers, etc. should be repaired or replaced when grip surfaces become worn.
- Hand knives are to be kept in knife sheaths when not in use. Many serious injuries have resulted from carrying open knives in the pockets.

- Banders, cutters, drills and similar tools should be checked frequently. Defective tools are to be repaired or reported to your supervisor.

- Frayed or defective electrical cords, unsafe welding-rod holders, trouble lights, etc. are to be repaired or replaced. They should be checked each time you use them.

- Tools should be cleaned and stored in a safe place after use, thus reducing the chance of loss or damage. Also, be sure to clean up any scrap or unused material left over from the job.

- Files and screwdrivers shall not be used as punches or pry bars.

- Adequate distance shall be maintained for safe operation between workers using picks, shovels, brush hooks, or knives.

11. POWER TOOLS

11.1. General

Power tools substantially increase the number and types of hazards to an employee. Hazards range from electrical shock of a short circuit to being struck by chips, shavings and other debris during operation.

Field employees can minimize their exposure to equipment/tool vibration in several manners such as: limited duration of work, anti-vibration gloves, appropriate grips on tools, etc. When lifting material, employees shall take a firm grip, secure good footing and place their feet a comfortable distance apart, bend the knees, hold the material close to the torso, keep the back straight, lift with the leg muscles, and avoid twisting the torso. Employees shall not lift/carry material heavier than their ability to manage the load, and in such a manner that does not obstruct their vision. When needed, employees shall get help.

11.2. Electrical Equipment



All electrical tools used in Town operations must be grounded by connecting a three-wire cord with polarized, three-prong plug, to a properly grounded three-hole receptacle (unless the power tool has UL approved dual insulation and two wire cords).

If extension cords are used, they must be of the three-conductor type with matching plug and receptacle.

Each electrical tool or machine shall be visually inspected for damage to cords and ground connections each time they are used. The most common defects occur at the points where the cord is attached to the tool or where the cord is attached to the plug. Be sure to check for a secure connection that allows for an insulation plate on the inside portion of the plug.

Where electrical equipment is used in a wet location, use only ground fault interruption (GFI) protection devices and wear rubber boots and rubber gloves.

Never operate power tools without the guards provided.

Only authorized persons shall make repairs to or work on electrical equipment.

Employees shall report immediately to their supervisor any steam, water or oil leaks near electrical equipment.

Shut off and lock out any electrical equipment, which is heating excessively or sparking and call an authorized person to correct the situation.

Only authorized persons shall work on live circuits.

Consider all electrical wires live until proven otherwise. Test all circuits to make sure of this.

Employees shall not touch high voltage electrically powered cables with any part of the body. These are to be handled only by the prescribed method. Do not drive across these cables unless crossing covers, adequate to protect the cable from mechanical injury, are used.

Do not close any switch without full knowledge as to why the circuit is open. The tag on a switch shall be removed only by the person who tagged the switch open or by the authorized relief person.

Keep all working surfaces dry when working with or near electrical apparatus.

Do not operate any equipment or machinery within ten feet of any high-tension power line.

Ground securely the frames of all portable and fixed electrical equipment before using. Double insulated portable tools and appliances protected by an approved system of double insulation, or its equivalent, need not be grounded.

Do not use any electrical equipment with frayed or otherwise deteriorated insulation.

Do not use makeshift or over-capacity fuses and circuit breakers.

Do not use metal ladders within six feet of any live circuit.

Maintain a clear space of at least three feet in front of all electrical panels and switch gear.

Fasten securely at both ends of the cord the green (ground) wire on all portable tools and extension cords.

Do not remove or bend aside the grounding prong on a cord plug to allow insertion in a two-prong receptacle.

11.3. Grinders



- Only those employees who are familiar with the mounting of grinding wheels 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.)
- Wheel must fit easily onto the spindle. Too loose or too tight is dangerous.
- When wheel is mounted, stand out of danger at one side while you allow it to develop full operating speed for at least one minute.
- Apply work gradually to a cold wheel at the beginning of each work period, as cold wheels are most subject to breakage.
- Never store a grinding wheel on damp or cement surfaces, nor put oily rags on the wheel.
- Every grinding tool must be securely fastened to the shaft before commencing work.
- 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.
- The work-rest must be securely adjusted on all stationary grinders to about 1/8 inch of the wheel. Never attempt this adjustment while machine is in motion.
- Avoid using the side of an energy wheel for grinding, unless it is especially designed for side grinding. Side grinding weakens the ordinary wheel and may cause it to burst.
- Use the cutting surface of a grinding wheel uniformly, as a grooved wheel has been dangerously weakened.
- Grinder bearings must be kept properly oiled and adjusted. This will help to prevent hot bearings and spindles, which are sometimes responsible for melted bushings.
- Do not abuse the wheel by applying excess pressure.
- Be particularly careful when grinding narrow tools or other objects as they are apt to catch between the rest and the wheel.



- The operator's eyes must be protected with goggles at all times when the machine is in use.

11.4. Drill Presses

- 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 drill bit into the table.
- 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.
- 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.
- Materials shall be clamped or otherwise fastened to the drill press bed, not held in the hand.
- Never run a drill faster than the rated speed as this may result in broken drills, damaged material and serious injury.
- It is dangerous to attempt the removal of broken drill pieces with a center punch and hammer. For further details, see your supervisor.
- Never leave key in chuck after tightening the drill. If set screws protrude, report it to your supervisor.
- Lower the spindle close to the table before removing the chuck, so that it may not cause any injury or damage to the material as it falls.
- 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.
- Safety stop must be set to keep the over arm of a radial drill from swinging out where it may cause an injury.
- The wearing of gloves and loose clothing while operating a drill press is prohibited.

11.5. Woodworking Machinery

- Machine guards are to be permanently attached.
- If you are running short or narrow stock, protect your fingers by using a block.
- 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.

- If the saw binds in a cut, the saw must be shut off before attempting to dislodge the lumber.



- A spreader and kickback fingers shall be required when using a table saw.
- Learn to stand out of the line of a possible "kickback" and to avoid the danger of being struck by the small pieces that are frequently thrown from a circular saw.
- 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.
- 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 at the start and finish.

11.6. Pneumatic and Hydraulic Tools



1. Cleaning with compressed air: The use of compressed air for cleaning dirt, chips or dust from clothing while it is being worn is prohibited.

2. Air hammers:

- 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.
- 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.
- Maintain your hold securely on the handle of an air motor to prevent it from flying around and striking you.
- 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.
- Hearing protection and the use of safety goggles are required.
- Compressed air and compressed air tools shall be used with care.
- Pneumatic tools shall never be pointed at another person.

- Pneumatic power tools shall be secured to the hose or whip by some positive means to prevent the tool from becoming accidentally disconnected.

- Safety clips or retainers shall be securely installed and maintained on pneumatic impact (percussion) tools to prevent attachments from being accidentally expelled.

- Compressed air shall not be used for cleaning purposes, except where reduced to less than 30 psi and then only with effective chip guarding and personal protective equipment.

- Compressed air shall not be used to blow dust or dirt from clothing.

- The manufacturers stated safe operating pressure for hoses, pipes, valves, filters and other fittings shall not be exceeded.

- The use of hoses for hoisting or lowering tools shall not be permitted.

- Before making adjustments or changing air tools, unless equipped with quick-change connectors, the air shall be shut off at the air supply valve ahead of the hose. The hose shall be bled at the tool before breaking the connection.

- Compressed air tools, while under pressure, must not be left unattended.

- All connections to air tools shall be made secure before turning on air pressure.

- Air at the tool shall not be turned on until the tool is properly controlled.

- All couplings and clamps on pressurized air hose shall be bridged with suitable fasteners.

- Use only approved end-fitting clamps. Screw type heater hose clamps are not acceptable.

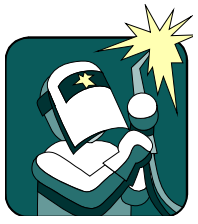
- While blowing down hose, do not point it toward people.

- Powered tools are to be operated only by competent persons who have been trained in their proper use.

- Conductive hose shall not be used near energized equipment.

- Foot protection shall be worn while operating paving breakers, tampers, rotary drills, clay spades, and similar impactor-type tools or at other times when instructed by supervision.

11.7. Welding



Gas Welding

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 cylinder.

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 tank, the cylinder must be securely chained.

Securely fasten the acetylene and oxygen tanks with a chain in an upright position where there is no danger of their falling or being bumped.

Use only standard green oxygen hose with right-hand couplings, together with red acetylene hose with left-hand thread.

Blow out the tank valve before attaching the regulator. Never use compressed air for blowing out equipment, as air may contain some oil and moisture. Use oxygen to blow out the oxygen hose and acetylene to blow out the acetylene hose.

When changing empty tanks for full ones:

- Shut off valve on empty tanks.
- Release thumb screw on regulator.
- Disconnect regulator, blow out tank valve and connect on full tank.
- 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.
- Adjust thumb screw on regulator to proper pressure, making sure that you do not have excess oxygen, which causes unnecessary sparks in operation.

Be sure that the end of your torch is cleaned before attempting to light. Use only friction lighters.

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.



At the completion of the work, the welder shall make a careful inspection of the job site to insure that hot articles have not been left smoldering, which might later develop into a serious fire.

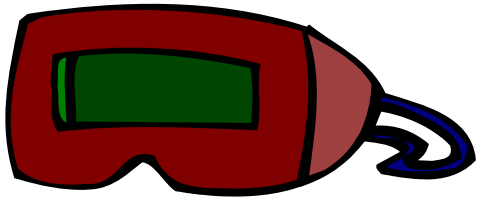
Proper goggles and gloves shall be worn at all times.

Electric Arc Welding

1. Welding operations should be carried on so that the arc shall be effectively screened to prevent eye injury to anyone present.

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 to also wear required eye protection.



4. The welding of galvanized material requires the operators to protect themselves with a specially designed airline respirator which fits under the operator's 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.

7. Prevent injury to yourself and others from short circuits by only using welding cables that are in good condition.

8. Only trained employees 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.

11.8. Cutting torches

Employees will be trained before attempting to do any work with or on any cutting torch.

Before igniting the flame of a torch:

- Open the oxygen valve on the torch.
- Wait until all air has been discharged from the oxygen hose and torch.
- Close the valve.
- Open the fuel gas valve on the torch handle.
- Wait until all air has been discharged from the fuel gas hose and torch.
- Then light the fuel gas and open the oxygen valve on the torch handle. Adjust the oxygen to produce the required flame for the job.

Light torches with friction lighters or other suitable lighters and not matches. Point the tip away from people.

Never put down a torch until the gases have been completely shut off.

Never open or turn the pressure adjusting screws on the regulators all the way out.

Always adjust flames at torch valves, not with regulator adjusting screws.

Always use fuel gases at safe pressures. Many gauges permit higher, unsafe pressures. If you find a gauge that permits unsafe pressures, take it out of service immediately.

- Oxygen is not a fuel and will not burn, but contact with it can cause combustible materials such as oil and grease to burn rapidly at room temperature. Therefore, keep oxygen away from grease or oil on surfaces such as gloves, clothes, cylinders, valves, couplings, regulators and hoses. Do not use oxygen instead of compressed air in pneumatic tools, in oil preheating burners, to start internal combustion, to blow out pipelines, to dust clothing or work, or to create pressure for ventilation.

- Oxygen and fuel gas hoses must be different in color (green for oxygen and red for fuel gas) or otherwise identified.

Inspect hoses and connections every day for leaks. Look for holes, cracks, and loose cylinder fittings or track connectors. To check for leaks: close the oxygen and fuel gas torch valves, then turn the regulator pressure adjusting screws clockwise to give normal working pressure on oxygen valves and about 10 PSIG on fuel gas valves. Use non-fat soapy water or approved leak test solution to test for leaks. At the same time, check regulators for creeping.

- If a torch backfires frequently, inspect it and clean the tip. If it continues to backfire or you find other problems, remove it from service immediately. Take it to a qualified technician for repair.

Do not use steel wire or similar materials to clean tip orifices.

- "Flashback" occurs when a flame bums back inside a torch, tip, hose, or regulator and can cause a fire or explosion if it reaches the cylinder. Flashbacks usually make high-pitched squealing or hissing sounds. Flashback arrestors at torch handles and check valves at gas sources help prevent flashbacks. In case of flashback:

    - Close the oxygen valve at once.
    - Close the fuel valve.
    - Let the torch cool off.
    - Have the torch repaired or replaced.

And remember; wear personal protective equipment as required including tinted eye protection, gloves, etc.

Oxy-Acetylene Cutting

The rules about personal protective equipment and fires and explosions that govern welding also apply to oxy-acetylene cutting. Eye protection is mandatory for all employees using the torch.

Do not use the torch in explosive atmospheres or around combustible materials. Do not cut into an empty drum that previously contained flammable gases or liquid unless it has been cleaned.

Other rules relating to the use of high-pressure gas bottles include:

- Before starting a torch project, the employee shall inspect the equipment. The hoses, valves, couplings and tip connections shall be checked for damage and leaks.
- During transportation, storage or when in use, a compressed gas cylinder must always be secured in an upright position. This is especially important for acetylene bottles, because the acetone in them can corrode the valve assembly if laid on its side.
- Full or empty gas cylinders not in use shall have their valves shut and the valve protection cap screwed on.
- Never use high-pressure compressed oxygen in a cylinder for ventilation, comfort cooling, blowing dust from clothing, or cleaning your work area. Pure oxygen greatly enhances the combustibility of any fuel and accelerates the burning process. Also, take extra caution with oxygen bottles to see that the valve assembly on top is not damaged by equipment or a fall. The very high-pressure of the escaping oxygen in the cylinder will propel it like a torpedo and destroy most anything in its path.
- When lifting cylinders with a rig, never wrap a choker or sling directly on the cylinder. Always secure them in a cart, cradle, sling board, etc. for hoisting. Also, do not use the valve protection cap for hoisting.
- Oxygen cylinders must have their valve opened all the way for use. Acetylene valves, however, must be opened not more than 11/2 turns so they can be quickly turned off in an emergency. Valves that utilize a T-wrench must have the T-wrench in place when in use.
- Strikers or friction lighters shall be used to light torches. Torches shall not be lit with matches, cigarettes, or from hot work.

11.9. Powder actuated tools

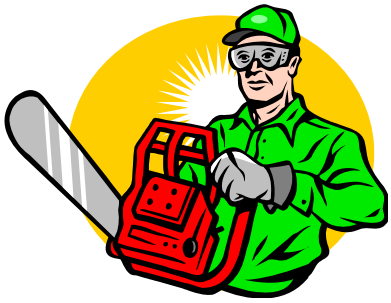
Powder actuated tools are tools actuated by an explosive charge, i.e., those used to install stud bolts in concrete, etc.

- Only those employees who have been certified in their use shall operate these tools.
- Explosive charges shall be carried and transported in approved containers.
- Operators and assistants using these tools shall be protected by means of eye, face, and hearing protection.
- Tools shall be maintained in good condition and serviced regularly by qualified persons. The material upon which these tools are to be used shall be examined before work is

started to determine its suitability and to eliminate the possibility of hazards to the operator and others.

- Prior to use, the operator shall insure that the protective shield is properly attached to the tool.

11.10 Chain Saw Safety



Prior to conducting any work involving a chain saw, the employee in charge shall conduct a tailgate briefing with all affected employees.

The Supervisor shall ensure that site employees are trained in CPR and first aid, and that a vehicle capable of promptly transporting an injured employee is on site, and that prompt medical attention is readily available if needed.

Preparing to Use the Saw

You should be well prepared before using a chain saw. Know how to operate the saw before you use it. Read and understand the operator's manual. Observe an experienced operator in action. Then use a saw for a period of time with supervision. Obtain the following personal protective equipment before starting to work and wear all protection while sawing.

- A hard hat to protect your head from falling limbs or branches. The best helmets have a face guard.
- Safety glasses or goggles to prevent injury from flying wood chips. Also wear these during wood splitting to preserve your eyesight.
- Ear muffs or ear plugs to protect ears from permanent injury. Noise from some gasoline-powered chain saws can exceed 100 decibels.
- Lightweight gloves, preferably leather, to protect hands from abrasions and cuts.
- Heavy work boots or shoes with high tops and steel toes.
- Trim-fitting clothing free of ragged edges. Loose clothing will readily snag on limbs or get caught in the saw. Woodcutter's chaps are recommended to give leg protection.



Make sure that your saw is in top operating condition. Keep the chain properly sharpened. Maintain proper chain tension; carefully observe it, especially during the first half-hour of cutting. The lower chain span should just touch the bottom bar rails. Rise up on the bar tip while tightening the bar fasteners. Follow manufacturer's recommendations for service and maintenance.

Fueling the Saw

Good fire safety practices are necessary when refueling the chain saw. Refuel the saw in an open area after it has cooled, at least 10 feet away from where you wish to restart the saw and resume cutting. Fuel the saw at least 20 feet away from fires and lighted cigarettes. Use proper funnels and spouts to prevent spills. Wipe the saw dry of any spilled fuel before cranking it.



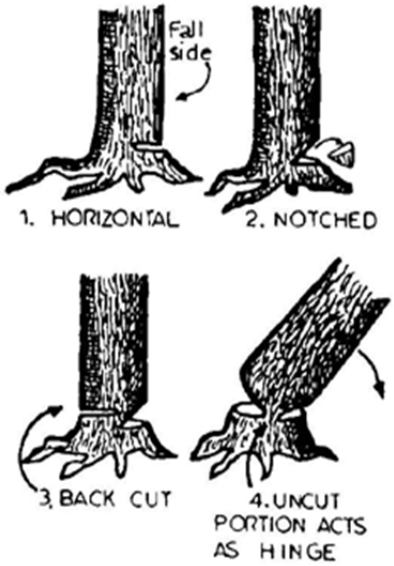
Starting the Saw

Place the saw on a clear, firm, flat surface as close to the work area as possible. Get a good footing. Follow the owner's manual recommendations for starting the chain saw. Place your foot in the handle to restrain the saw if designed with this intention. Never start the saw on your knee; too many experienced woodsmen have slipped and cut their legs.

Felling the Tree

Plan a safe approach to cutting the tree. Size up the tree. Note the wind direction and the way the tree is leaning. If the tree is leaning, try to fall the tree in that direction when the wind is not blowing against it. If you are inexperienced, try to fell only trees that will fall in a predictable, safe direction. Examine trees for loose, dead limbs before felling. Loose limbs that fall onto the tree cutter are a common cause of serious injuries and fatalities. Either remove the limb first or fell the tree from a position where the limb could not strike you if it was dislodged.

Clear a safe work area around the base of the tree. Remove limbs, underbrush and other obstructions. Be sure to have several open pathways away from the tree for an escape route when the trees begin to fall.



Be sure that clearance in the intended direction is adequate for the tree to fall completely to the ground. A lodged tree is very dangerous. Experienced loggers are often killed by trees that hang up or snag in adjacent trees. A tree springing back from the weight of a falling tree can whip a broken limb toward the cutter with tremendous speed.

After determining the direction of fall and clearing escape routes, cut the tree as follows:

- Make one cut through trees less than 8 inches in diameter.
- On larger trees, notch (undercut) at least one-third of the trunk diameter on the fall side of the trunk. Make the lower cut of the notch first to prevent the loose wedge of wood from pinching or bending the chain.

- Make a felling or back cut on the opposite side of the trunk two inches above and parallel to the horizontal cut in the notch. The tree should begin to fall when you are several inches from the inner face of the notch. Leave a narrow uncut portion to serve as a hinge for controlling the fall of the tree.

If the saw begins to bind in a closing cut, you may have misjudged it. At the very first indication of binding, remove the saw. If it is too late to remove the saw, do not struggle with it. Shut off the engine, and plan a way to remove the saw using wedges.

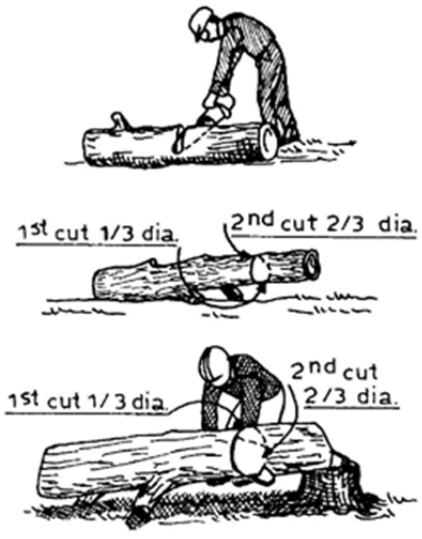
Wedges are the most dependable way of controlling the direction a tree falls. Using two wedges rather than one is best. Two wedges allow better control and ensure a forward fall of the tree.

The path of the butt of a falling tree is unpredictable. Being struck by the butt, rebounding limbs or broken tops is the second most common cause of death to those felling timber.

Controlling tree fall comes with experience. Get advice and help from an experienced person before attempting a difficult fall. Remember, accident statistics show that overconfidence can hurt experienced workers. It may lead to dangerous shortcuts, such as not providing clear escape routes from a falling tree. Or it may lead to attempting too much, dulling the senses to danger signals.

Limbing the Tree

The next job is to remove the limbs. Be alert for flexible limbs that wedge and whip a chain saw, and avoid cluttered work areas. Serious injuries may occur during the limbing operation. Some safety tips are:



- Begin limbing at the base of the trunk. The first limbs cut should be those on top of the trunk. Cut these as far up the top side of the trunk as possible before removing those resting on the ground.
- Stand on the opposite side of the trunk from the limb being cut. The trunk provides a barrier between you and the saw and helps protect from accidental contact with the chain.
- Do not hold a running saw with one hand and clear limbs with the other. Shut off the saw and put it down until limbs have been cleared.
- Cutting branches resting on the ground may be necessary to clear the area as you work. Beware that the tree may sag or roll as a new branch is cut. The likelihood of the tree rolling increases as more branches are removed. Be alert for any trunk movement and be ready to move away quickly if necessary.

Bucking the Logs

Bucking is cutting the trunk of the felled tree into desired lengths. The greatest hazards while bucking a tree are unexpected log roll and saw kickback. Here are a few safety tips:

Always be sure of your footing. By keeping yourself in a well-balanced position at all times, you can react to unexpected log movement.

Raise and chock the trunk when possible to prevent rolling. Work on the uphill side of the log. Since a log rolls downhill, working on the uphill side provides greater safety.

Bucking procedures differ depending on how you support the log. When the log is flat on the ground, cut it from top, then roll it over and cut it through from the opposite side. When the log is supported on one end, cut one-third of the diameter from the underside to avoid pinching and splintering, then cut the remaining two-thirds of the diameter from the top. On a log supported at both ends, make the first cut through the top one-third of the diameter. The remaining wood is then cut upward from the bottom.

When cutting firewood lengths, several methods can be used. One way is to make cuts about three-fourths of the way through for each length of firewood. By not cutting completely through, several lengths stay together and the log remains rigid. After all cuts are made from one side, roll the log over and complete cuts. Avoid sawing into the ground, which dulls the chain and shortens its useful life.

Splitting the Wood

Splitting wood is a skill that improves with experience. Having the proper tools makes the job easier. Tools used to split firewood include a splitting ax, a sledgehammer, a splitting maul and wedges.

The quickest way to split small, easy-to-split pieces is with an ax. An ax can get stuck, however, in larger pieces. A splitting maul makes the job easier. A splitting maul is a combination of an ax and a maul, with a wedge on one side and a hammer on the other. Use the wedge side just as you would an ax. The broader wedge keeps the blade from jamming as easily in wood. The hammer side can be used to pound the occasional wedge. You may need a sledgehammer and wedges for larger pieces that are very hard to split.

Felling trees, cutting firewood and operating a chain saw have a high risk of injury. Anyone near these activities should be alert to the hazards and communicate their intentions. Use a sharp chain saw, follow safe practices, and maintain clear escape routes and plan ahead to work safely.

Safety First

11.11. Lawn Mowers

- Power mowers will not be left unattended with motor running.
- Area to be mowed must be inspected for foreign objects. Wire, stones, bottle caps, sticks, etc., should be removed before mowing.
- 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.
- Operator must keep hands and feet away from the undercarriage of the mower.



- Safety goggles or safety glasses must be worn while operating a lawn type rotary mower.

12. EQUIPMENT MAINTENANCE AND REPAIR

12.1. Basic Shutdown and Isolation Procedures

While lockout equipment procedures are very important, locks and isolation devices alone will not keep affected personnel safe. Town of Windsor personnel shall know how to recognize and isolate potentially harmful energy sources, and then follow a step-by-step procedure to correctly negate the hazards before a disaster occurs.

Town employees are responsible for ensuring clear specific instructions outlining the scope, purpose, authorization, rules and techniques to be used for the control of hazardous energy sources at the workplace.

The Town of Windsor has a clear policy to convey the message that there are important procedures covering the lockout of energy isolation devices whenever maintenance or servicing occurs on machines or equipment. It is equally critical that full compliance by everyone is an absolute must. Violation of any part of the procedure is not acceptable and will be met with firm disciplinary measures.

Shutdown and isolation require an orderly procedure for preparing the machine or equipment for the application of isolation devices, locks and tags. While the specifics may change because of differing situations, here are the basics:

1. Notification - notify all affected employees that lock out and tag out is about to occur for servicing and maintenance of plant and equipment and in preparation for shutdown.

2. Shutdown - this is the normal procedure used to shut down equipment using the equipment operating controls. It may be pushing a stop button, opening a switch or closing a valve.

3. Isolation - this involves the activation of energy-isolating devices that have been identified as being capable of preventing any hazard to those who will be working on the equipment.

Application of Isolation Equipment

This is where we physically apply the isolating devices, locks and tags that have previously been discussed. This is called "securing the point of control". The point of control is the point or part at which the energy isolating, blocking or dissipating devices are controlled. It is necessary to ensure that only authorized Town personnel doing the work apply the isolation and lock out devices. The point of attachment ensures that the energy control devices will safely and securely remain in the OFF or SAFE position. Tags must be positioned so that they can be clearly read.

Release of Stored Energy

Once isolation of the main energy source has occurred and it has been physically locked and tagged out at the point of control, it then becomes necessary to make sure there are no hidden dangers. It is important to relieve, disconnect or restrain any and all potential, stored or residual energy. This may include, for example, completing the cycle of a flywheel, releasing steam and bleeding valves.

Each apparatus shall be properly assessed to determine if written procedures are necessary. The risk assessment should cover the following points:

1 The machine or equipment must not have any "hidden" energy sources that are likely to suddenly activate, such as, for example, springs, capacitors, pressure vessels and accumulators.

2 The machine must have a single main energy source, which is readily identifiable and easy to isolate.

3 The machine must be capable of being quickly and efficiently isolated and preferably locked out, for example, using plug locks. Remember, just because it's simple, it's not necessarily less dangerous.

4 If you need more than one lockout device, then you need a written procedure.

5 The lockout device used must at all times be under the control of the person carrying out the work.

6 The servicing and maintenance must not create any potential hazards for other employees. Do not assume that any mechanical device is safe.

Isolation of Hazardous Energy

The basic installation procedure is as follows (review the Public Works Utilities Division LOTO Program, Section I Appendix-A LOTO Inspection Checklist for more information):

1. The operator shall shut down, isolate, depressurize, drain, and/ or otherwise absolutely secure the equipment to be worked on. Use an isolation point checklist.

2. The operator shall secure the energy isolation points with group locks and an "Electrical Lockout Checklist" tag, which is attached to the local start/stop station.

3. The operator and employees shall conduct a joint job site visit to review the energy isolation points and verify that the equipment is properly secured. Use an isolation checklist.

4. The employee shall properly attach a personal lock and a completed "Danger-Do Not Operate" tag to each energy isolation point.

5. The employee shall then verify that the equipment is isolated from its power source.

   - For electrical equipment, after ensuring that the area around the machinery is clear, the employee shall try to operate the local start/stop switch. Once satisfied the equipment is properly isolated, the employee shall initial the "Electrical Lockout Checklist" tag.

   - For process equipment, the operator shall show the employee how the equipment was depressurized and how it will remain so. If it is required that a bleeder remain open to prevent the buildup of hazardous energy, the employee shall apply an employee "Open Bleeder" tag to the bleeder source.

6. Upon completion of the above steps, the operator shall issue the appropriate permit for the work to begin.

7. The operator shall place a designated copy of the permit and the isolation list in the plants "Active Permit Binder" where it will remain until the job is closed out.

12.2. Lock out / tag out procedures

Only Town of Windsor authorized personnel with knowledge of power sources and controls are allowed to fix or service energized equipment. The following are general guidelines to be followed when locking/tagging out energized equipment.

Locking/tagging out energized equipment

1. Alert employees in the area that equipment will be turned off and locked out.

2. Turn off the machine or equipment and its energy control device.

3. Lock the energy control switch in the “off” or “safe” position.

4. Then release or block any stored energy. Before maintenance or servicing work can begin equipment must be at zero energy state (ZES).

5. Check that power is off by turning controls "on" and trying to start the equipment.

6. Return controls to the "off" position.

Perform the required service or maintenance

1. Remove tools or other materials from the area.

2. Replace machine guards and test that equipment is ready to operate.

3. Tell employees to stay a safe distance away while locks or tags are removed.

4. Remove the locks or tags.

5. Turn on the equipment and make sure it operates properly.

6. Tell affected employees that locks/tags are off and the equipment is ready for use.

Applying lockout/ tagout

In preparation for lockout/tagout, the authorized employee and the supervisor shall agree on the equipment being taken out of operation and the type and amount of the energy, which needs to be controlled. All employees affected by the lockout/tagout should be notified and advised of the reason. The machine or equipment must be shut down in the normal fashion (pushing the "stop" button, closing a valve, throwing a switch, etc.) to avoid any additional hazards to workers.

The authorized employees who will service the equipment shall locate and identify all energy-isolating devices. Locking out one source of power to a piece of equipment may not be enough. Some machines use a combination of power supplies. Even if the main power source has been turned off, so must any backup generator that could create a back feed.

Locks shall be attached to each energy-isolating device in a way that will hold the device in a "safe" or "off" position. Tags must be put in the same location that a lock would be placed. Only the locks and tags supplied by Town of Windsor are to be used. Each authorized employee in the crew must attach his/her personal lock. More than one worker can lock out a single energy-isolating device by using a multiple lock hasp.

If tags are used instead of locks, the tag shall be securely attached at the same point as a lock, or as close as possible where it will be immediately obvious to anyone attempting to operate the device. Each tag must be filled out completely and correctly.

Steps must be taken to guard against energy left in the equipment after it has been isolated from its energy sources. The authorized employees must make sure that all parts have stopped

moving, tension in springs have been released, piping systems have been drained, valves have been closed and lines have been blocked.

Use a lockout device if your lock cannot be placed directly on the energy control. This provides additional protection for the entire crew involved since the controls cannot be operated until each member of the team has removed his/her lock. Keys for the locks shall remain with and be used only by those employees working on the job.

Before starting work on locked-out equipment, authorized employees shall physically verify that the equipment is de-energized by confirming that the main disconnect switch or circuit breaker can't be moved to the "on" position, by pushing buttons or other normal operating controls and/or by other tests to make sure that the equipment will not operate.

Release from lockout/tagout

1. Before the last lock or tag is removed, the worker shall check to ensure that all tools have been removed from the work area and the system is completely re-assembled.

2. As each worker completes his or her repairs, they should each remove their own lock or tag.

3. All affected personnel need to be safely clear of the hazard; all employees who work in the area need to be notified the lock/tag out is being removed.

4. The supervisor should then be advised that the equipment is ready to be put back in service.

Group Lock Out/Tag Out

Group lockout procedures address the problems that could arise when a complex or prolonged maintenance or service job exists, where, for example, work involves a group of people or different departments. The problem here is that when you have many people involved, everything becomes complicated or confused and then it's only a matter of time before mistakes occur.

The important principle to be followed is that irrespective of what procedures are developed, it has to be at least as effective as the procedures utilizing a personal lockout. The procedures must ensure that the plant and equipment remains in a locked and isolated state until the last lock is taken off.

It may be necessary to assign primary responsibility to a senior employee, to ensure continuity of protection and to coordinate the operation. Making each member of the group use his/her own personal lock and tag allows each member a degree of control over his/her own protection, rather than having to depend on other people. As long as the last lock remains attached, the authorized person in charge of the group lockout knows the job is incomplete and that it is not safe to re-energize the equipment. Therefore, the employee will continue to be protected by the presence of their lock until such time as they remove it.

Evaluate prior to implementing

When all energy sources have been isolated and stored energy dissipated or securely restrained, it is time to physically try it out to make sure that everything is safe. Many accidents have occurred at this stage when workers have assumed "everything is now okay and it's time to start work." After a few minutes of work, the plant or machinery has suddenly activated with devastating consequences.

First, check all isolation equipment locks and tags and ensure switches and valves are definitely positioned in the off or safe position. Then attempt activation or start-up. If everything has been done correctly, nothing should move. Finally, check all electrical circuits by using a multi-meter to ensure there is no current flow or live elements.

There may be other types of test instruments, such as pressure gauges, available to test for the presence of other energy sources. The important thing is to ensure that it is the right equipment for the job and that it is calibrated correctly and in good operating condition.

Release from lockout

Once all the work is completed, release the plant or equipment from its locked-out state and de-isolate it before start-up.

The key points here are to ensure that all tools, test instruments and equipment have been removed and are accounted for, and make sure that any guards, restraints or mechanical parts have been replaced. Check that employees are clear of machines and equipment, and then begin to remove the isolation and lockout equipment.

The employee that put isolation and lockout equipment in place must (whenever possible) be the person who removes it. There shall be a contingency plan in place for an emergency situation. For example, what if the authorized employee has gone home sick or has lost the key?

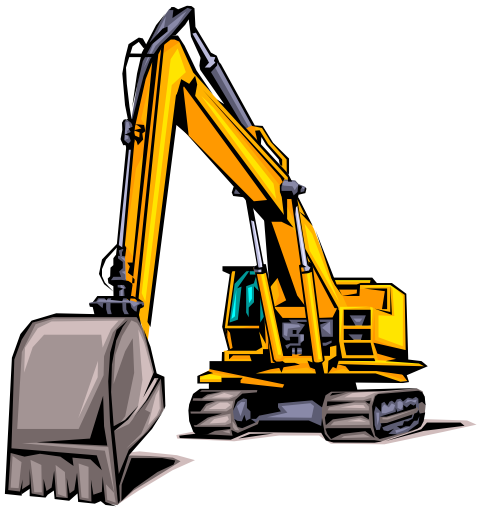
It is therefore necessary and appropriate to have a written procedure, which must be followed to release the lockout and de-isolation when the person who put the lockout in place cannot, for whatever reason, do it. Such a procedure may require some sort of permit system whereby a leading hand/supervisor and the manager of that section follow a series of steps, for example, clearing the area and checking for tools. When the responsible person is satisfied that every step in the procedure has been carried out, they sign the permit to authorize release of the lockout before using a master key or, if absolutely necessary, cutting the lock. When people are required to sign their name to a document, they are always very cautious and careful to ensure that the correct procedure has been followed before accepting such responsibility.

13. CONSTRUCTION SAFETY

13.1. General

Town employees are often involved in tasks related to 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 loads usually inflicts severe injuries.



Other public utilities are often installed in or near the work site area of projects to be completed by Town employees. Contact with, or damage to, the other utilities may affect the safety of the workers on the job, the safety of the general public, or interruption of essential utilities services. Familiarity with these services may make even experienced employees treat them too lightly until there is 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 leave 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 the 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 advanced planning. But if they should occur, prompt reporting to Pacific Gas & Electric Company (PG&E 1-888-743-9411 is the Public Agency number only – not for public distribution) 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 injured employees are still at the point of contact or rescuers are attempting to remove them, the reactivation of the circuit poses additional hazards. An immediate report to (PG&E) 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, crush, etc., from being struck by or caught in materials and/or machinery.
- Fractures, strains, dislocations, etc., from cave-ins.
- Strains from lifting and materials handling tasks.
- Eye injuries from dust and debris propelled by machinery and tools used in the operations.

Construction accidents can be prevented by constant consideration of necessary safety precautions in planning every job, coordination 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 WORK IS STARTED, a supervisor or designated competent person shall:



1. Check plans to see what public utility services are located on or near the job site area. Contact USA Alert at 1-800-227-2600.

2. USA will contact other public utilities having services in the job site area.

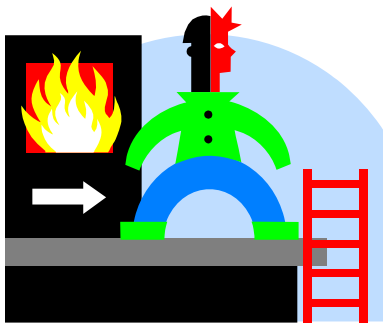
3. Make a personal inspection of the job site area to identify what signs, post markers, overhead electrical lines, etc., may be seen and make this information known to the crew during the on- site safety tailgate session.

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 accidental contact is made.

13.2. Natural Gas Service

1. Anytime you may be dealing with underground utilities, the first step always is to call USA Alert at 1-800 227-2600.

   Then, inform all crew members of locations and depths, if known, of buried pipelines.



2. Specifically instruct equipment operators to avoid contact with buried lines. Do hand digging when in close proximity to buried pipelines.

3. Be aware of proper compaction procedures when using mechanical compaction equipment after backfilling over buried pipelines.

<u>If a Gas Pipeline is Damaged:</u>

1. Call Windsor Police Dispatch at 565-2121 to contact the appropriate local Fire Department.

2. Call PG& E to report the damage at 1-888-743-4911 (public agency use number only – not for public distribution). Make sure radios and cell phones are used at a safe distance to avoid possible ignition.

3. Shut off all motors in the area.

4. Remove all flares or lanterns.

5. Enforce **NO SMOKING** in the area.

6. Do not cover up a damaged pipeline.

7. Do not operate gas valves.

8. Check buildings in the immediate area for gas odors.

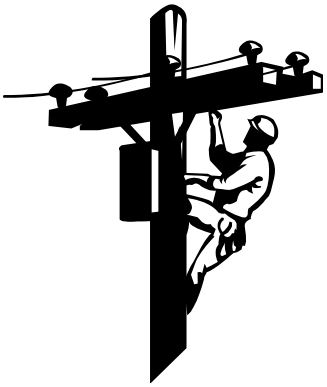
9. Request occupants to leave the area if gas odors are detected.

10. Re-route traffic from the immediate area and notify the Police Department and the Public Works Director of the situation.

11. Stay near the area until relieved by Police or PG&E personnel.

13.3. Electrical Transmission Service

1. Contact PG&E if work is to be done near electric service and accurately locate any buried service.



2. If excavating near poles or guide wires and the possibility of damage to cables or collapse of a pole line exists, consult PG&E.

3. If excavating beneath buried conduit or cables, arrangements shall be made in advance with PG&E concerning maintenance of electrical services, proper support of exposed conduit, and suitable compacting of backfill.

4. <u>All</u> wires and conduit shall be considered energized and dangerous.

5. Booms and protruding parts of construction machinery shall not be operated closer than 10 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 crew member shall be provided to direct the operator. Crew members in those circumstances shall be especially watchful to prevent movement of the machinery any closer than the minimum 10 feet 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 occurs. Ground crews shall be repeatedly warned of the hazard and especially watchful to prevent such contact.

If Machines Contact Energized Wires

- Immediately contact PG&E Emergency & Customer Service office at1-800-743-5000.
- The operator should attempt to swing the boom clear.
- 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.
- When jumping clear of energized equipment, aim for dry ground.
- Once clear of energized equipment, do not return to it and keep others away from it.
- If wires are down, post guards to prevent anyone from touching them.

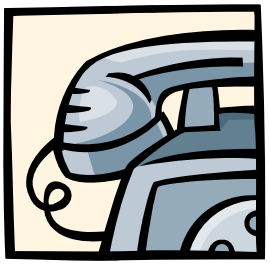
13.4. Telephone Service

1. While telephone circuits operate on low voltage and are not an electrical hazard in themselves, they may be energized with higher voltages 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 guide wires. Sudden release of tension may cause an entire pole line to collapse.

3. Observe the precautions listed above 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 USA Alert has determined the location of buried telephone cables and conduit.



13.5. Digging and Trenching Operations

Employee safety is the primary requirement when personnel enter an excavation to work. Digging a trench or excavation is a misleading and hazardous activity because most individuals consider a trench of 3 to 5, and even 6 feet deep as something they can easily enter without installing shoring. The reality is that should a wall collapse unexpectedly even in a shallow trench of 3 feet, it can overcome and suffocate the strongest person working within it. This seductive carelessness has led many individuals to experience serious injury and even death. When digging below ground surface, the *competent person* will supervise, inspect, identify, and correct hazardous site conditions and practices related to trenching activities.

The Supervisor shall ensure that Town employees involved in trenching activities are properly trained in Town of Windsor safe excavation/trench work procedures (shoring, sloping, benching, etc.), including safety precautions and hazard assessment. Also, prior to any Town employee entering an excavation or trench, the employee in charge shall ensure that an employee protection system is installed in the excavation in accordance with applicable Cal/OSHA excavation/trench regulations.

Excavation/Trench Safety Guidelines

All employees working in or near any excavations, including trenches, shall abide by the following rules:

1. A competent person, meaning one who is capable of identifying existing and predictable hazards in the surrounding or working conditions that are unsanitary, hazardous or dangerous to employees and who has authorization to take prompt corrective measures to eliminate them, shall be present at all excavation work being performed.

2. All surface encumbrances that are located so as to create a hazard to employees shall be removed or supported, as necessary, to safeguard employees.

3. Utility installations, such as sewer, telephone, fuel, electric water lines, or any other underground installations that reasonably may be encountered during excavation work, shall be determined prior to opening an excavation.

4. A stairway, ladder, ramp, or other safe means of egress (means of exiting) shall be located in trench excavations that are four feet or more in depth so as to require no more than 25 feet of lateral travel for employees.

5. Employees exposed to public vehicular traffic shall be provided with, and shall wear, warning vests or other suitable garments marked with or made of reflectorized or high visibility material.

6. No employee shall be permitted underneath loads handled by lifting or digging equipment.

7. Employees shall not be exposed to harmful levels of atmospheric contaminants such as oxygen deficient atmospheres, atmospheres containing flammable gas, or atmospheres containing other harmful gases.

8. Employees shall not work in excavations in which there is accumulated water or in excavations in which water is accumulating unless adequate precautions have been taken to protect employees against the hazards posed by water accumulation.

9. All excavated or other material shall be kept at least two feet from the edge of excavations, or retaining devices shall be used to prevent excavated or other material and equipment from rolling into excavations.

10. Excavations more than five feet in depth, or excavations less than five feet that show indications of a potential cave-in, in which employees must work in, shall be either shored or sloped, or employees must be shielded in accordance with Cal/OSHA §1540/1541.

11. Daily inspections of excavations, the adjacent areas, and the protective systems shall be made by a competent person for evidence of a situation that could result in possible cave-ins or other hazardous conditions.

12. All employees shall wear hard hats when working in or near an excavation.

Trenching Requirements

1. Trenches 5 feet or more in depth must be sloped, benched, or shored.

2. Most of our soils are Type B to Type C; 45-degree slope from heel is required for Type B. That is a 1:1 horizontal to vertical ratio. Type C soil requires a slope of 1 ½: 1, horizontal to vertical.

3. Spoil pile must be at least 24 inches (two feet) from edge of trench.

4. Egress must be within 25 feet of every person in trench; ladders must extend 3 feet above the landing area.

5. Trench boxes must extend 18 inches above the vertical wall; the trench must not extend beyond 24 inches of the bottom of the trench box.

6. If you feel threatened (unsafe) in the trench, tell the employee in charge immediately.

13.6. 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 at any time over persons on the ground, or above persons working in an excavation.

13.7. Platforms and Baskets

Town 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 electricians, traffic signal and street light technicians, and tree trimmers performing various 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. Aerial platforms or baskets should not be positioned closer than 10 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, 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 if it is secured to the employee and to the boom or platform.

The equipment used by Town crews has controls located in various parts of the basic machine to operate the outriggers, 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 employee 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 outriggers before raising the basket. (Most equipment now in use is equipped with an interlock, which prevents raising the basket until outriggers are down.)

2. Give verbal warning to persons near the vehicle when lowering outriggers if an automatic audible signal is not operative.

3. When working aloft in aerial baskets or platforms, a safety harness shall be worn by the employee.

13.8. Working in the Public Right-of-Way

Town 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.

2. Helping the public to safely avoid hazardous obstructions, excavations, etc., that interrupts the flow of vehicle and pedestrian traffic.

When road surfaces are being repaired, wastewater access covers opened, or excavations dug, it is necessary 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 is efficiently re-routed.

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



As applicable to working and traffic conditions, Town approved warning signs, barricades, traffic cones, flags, etc., shall be correctly placed to protect Town employees, pedestrians and the driving public.

To ensure correct use of traffic control devices, the employee in charge shall follow the State of California, Department of Transportation requirements published in the Manual of Traffic Controls for Construction and Maintenance Work Zones. The Manual outlines the traffic control methods to be used when temporary disruption of vehicular and pedestrian traffic is necessary.

The following factors shall be considered when work area protection is required:

- The ability to move traffic safely and expeditiously
- Protection of employees, pedestrians, and motorists
- Safe and orderly flow of traffic
- Emergency vehicle access
- Minimized traffic congestion

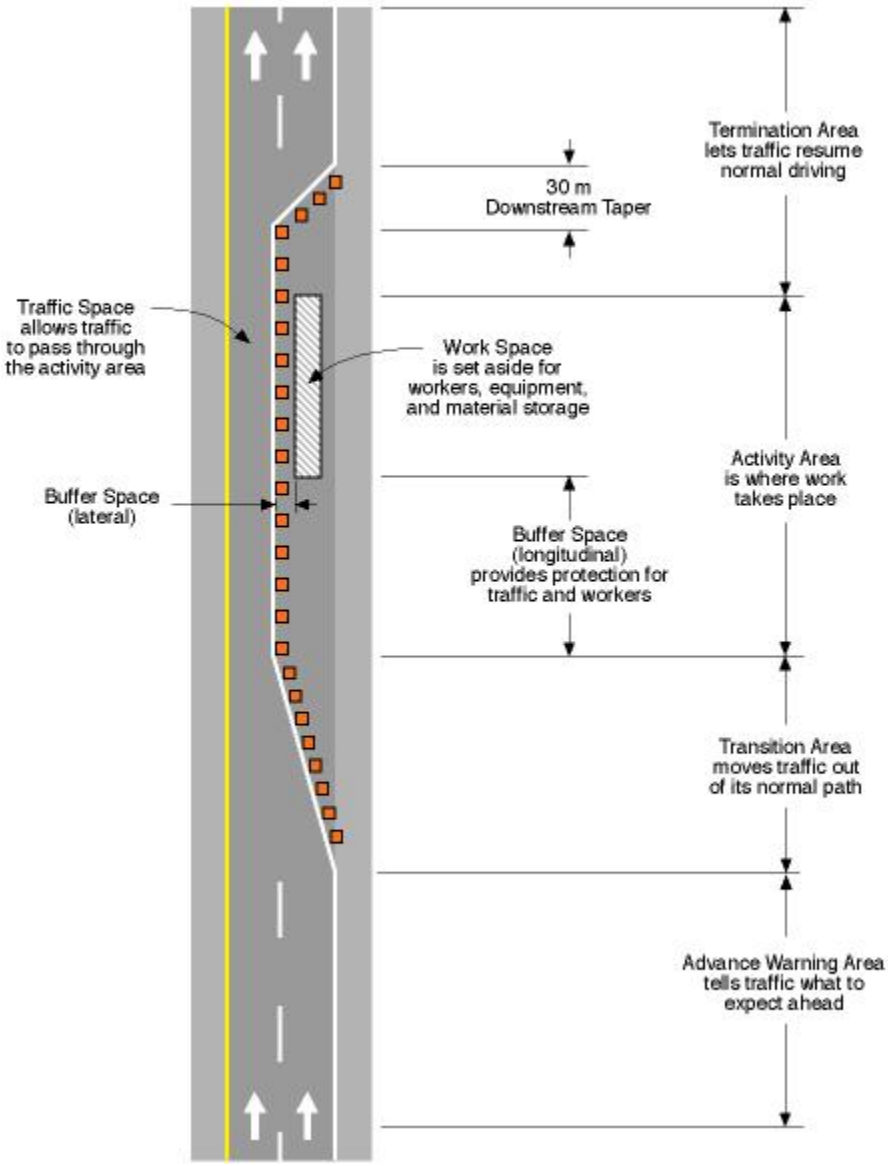
When determining work area protection, the employee in charge shall also consider the impact on public relations. Remember, Town of Windsor field crews' work is readily visible and subject to public observation and opinions. As an employee, what you do and how you do it will influence public opinion regarding the Town of Windsor. Therefore, consider the following:

1. How the work area is set-up and maintained.

2. The efficiency of operations and the professional conduct of each employee.

Show by example that Town of Windsor and its employees are serious about employee and public safety. In all cases, be courteous. After a vehicle stops, if possible, inform the driver of the reason for the stop. Explain the delay in as few words as possible. Remember, a "Thank you" and a smile always helps.

Figure 5-1
Component Parts of a Temporary Traffic Contol Zone



Maintenance activities may include such minor interferences as curbside planting, street sweeper operation, 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.

The following safety procedures are established:

1. No Town Street shall be completely closed for utilities repair work without prior approval of the Director of Public Works and adequate notice to the Police Department and Fire Department.

2. When Town work crews must perform emergency repair work in a posted traffic lane during peak traffic periods (6:00 a.m. to 9:00 a.m. and 3:00 p.m. to 6:00 p.m.), the Public

Works Director shall be notified as to location, time work started, and estimated time of completion.

3. If an open cut is left in a posted traffic lane when work is stopped or suspended for any reason, a steel plate cover of sufficient strength to sustain normal traffic loads should be placed over the cut. If a cut cannot be covered and must be left overnight, signs and barricades shall be left in place, adequate lighting shall be provided, and the Street Maintenance Supervisor shall be consulted. Depending on the work location, cold mix (cutback) should be used to secure the cut.

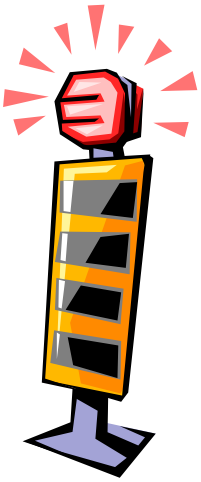
4. Mobile equipment used for maintenance and repair work in Town streets shall be equipped with flashing or rotating lights.



5. When a portion of a street has been closed for maintenance and repair work and construction equipment must be intermittently operated in lanes left open to traffic, a crewmember shall be provided to control traffic.

6. Any obstruction of a public right-of-way by Town work crews for maintenance and repair work exceeding 15 minutes duration shall be signed and barricaded according to basic traffic warning principles.

13.9. Traffic Control



All traffic controls in work zones shall comply with the State of California Manual of Traffic Controls.

1. Protection of hazards such as large holes, soft patches, windows, etc.

   - Place signs in advance of hazard.
   - Protect holes and patches with barricades at the hazard.
   - Where flags are used to mark a hazard, they shall be replaced by signs as soon as possible.

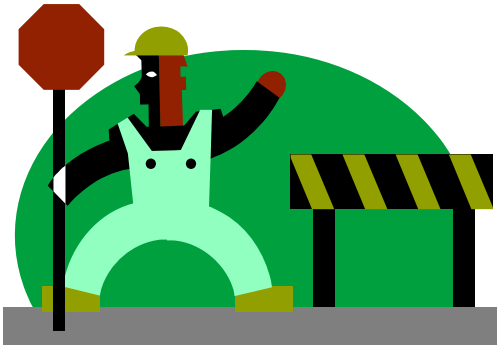
2. Removal of temporary signs:

   - Signs placed solely for the protection of workers shall be removed at the end of the day's work.
   - Signs to warn of temporary hazards (bump, one-way traffic, etc.) shall be removed as soon as the hazard has been eliminated.

3. Protection of employees working on roadway:
   - Warning signs shall be placed in advance of the work in both directions during crack-filling operations.
   - Work shall be done on one-half of the roadway at a time when patching and/or filling cracks, etc.
   - Members of the flag crew shall be used where the amount or speed of traffic warrants.

4. Members of the flag crew should:
   - Stand near enough to the employees being protected so there is no doubt as to the flag crew's purpose.
   - Stay not less than 100 feet from the employees unless conditions make this impossible.
   - Stand on the shoulder, to the right of approaching traffic.
   - To stop traffic:
     - Hold the flag stationary, extended into the traffic lane, until the car has stopped.
     - Speak to the driver, if necessary, and give the signal to proceed with the free hand.
   - To slow traffic:
     - Hold flag stationary, extended into the traffic lane, until the car has slowed sufficiently.
     - Then lower flag and give signal to proceed with free hand.

5. Flagging traffic at night:
   - Use a bright red lantern or flashlight.
   - To stop traffic, wave the light back and forth until the vehicle has stopped.
   - Give the signal to proceed with your free hand or by speaking to the driver.



14. FALL PROTECTION

14.1. General

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

The purpose of this procedure is to ensure that employees are protected from fall hazards in accordance with Cal/OSHA safety regulations. Supervisors are required to monitor and enforce the use of this procedure. Workers will be responsible to know and follow this safe operating procedure for fall protection. The goal of this procedure is to eliminate or control every fall exposure at our worksites.

Town employees shall utilize fall protection systems. This may include safety nets, standard guardrail (handrail, midrail, and toe board), personal fall arrest systems, fall restraint systems, warning lines and safety monitoring systems.

If standard fall protection is not feasible, all workers must tie off. Tie off must be done with a full body harness and shock-absorbing lanyard equipped with double locking snaps. Cal/OSHA prohibits the use of body belts as part of a personal fall arrest system as of January 1, 1998. In addition, only locking type snaphooks will be permitted for use in personal fall arrest systems and positioning systems as of the same date. The lanyard must be attached to the D-ring in the center of the back and to a structural member capable of supporting a 5,400-pound load in the event of a fall. The tie off point shall be above the head as high as practical. The lanyard can be no longer than six feet.

Employees working from swing scaffolds, boatswain chairs, spider baskets, etc., shall tie off to an independent lifeline, which is securely attached to a structural member. Each worker will have a separate lifeline to himself/herself.

Employees working near electrical equipment will use nylon or other non-conductive lanyards. Steel slings shall not be used.

All fall protection equipment will be protected from damage and kept in good repair. Any equipment subject to in-service loading (a fall) will be immediately removed from service. All employees exposed to fall hazards will be trained in this procedure. This procedure will be strictly enforced and any employee not in compliance will be subject to disciplinary action up to and including termination.

Cal/OSHA requires employees to be protected with fall protection at heights six feet or higher. Other height guidelines are as follows:

<u>Fall protection must be utilized at the following heights:</u>

- General Industry - four feet or higher.

Scaffolds - 10 feet or higher.

- When width of scaffold is less than 45" - six feet or higher.

Ladders

- Fixed ladders - 25 feet or higher.
- Portable ladders - no fall protection required.

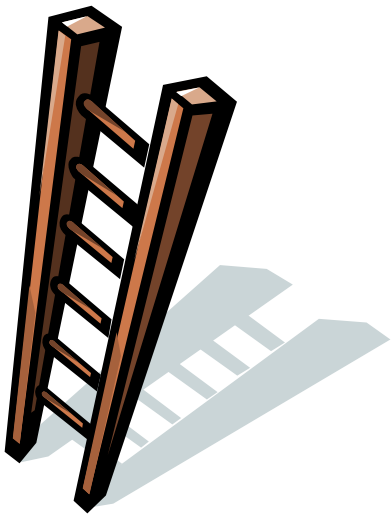
14.2. Ladders

1. Employees working from portable ladders shall ensure the ladder is securely placed, held, tied off, or otherwise made secure to prevent slipping or falling from the ladder.

2. Employees shall use care and caution when placing ladders. To ensure ladder stability, the horizontal distance from the top of the ladder rail to the foot to the ladder should be one-fourth the working length.

3. Metal ladders shall not be used in the vicinity of electrical circuits. Any such ladders approved for use shall be clearly marked "CAUTION – DO NOT USE AROUND ELECTRICAL EQUIPMENT."

   Exception: Non-conductive fiberglass railed ladders may be used near electrical apparatuses.



4. 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).

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 insecure surface, secure the ladder in position by the use of hooks, ropes, spikes, cleats or other anti-slip 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 a step ladder to work unless the manufacturer has specifically designed the platform for standing.

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.

15. The side rails shall extend no less than 36-inches (3-feet) above the landing. When this is not feasible, grab rails, or similar structures, that provide a secure grip for the employee moving to or from the access point, shall be installed.

16. While on the ladder, do not lean on one side while working.

17. Ladders with weakened, broken or missing steps, broken side rails, or other defects, shall be removed from service and tagged **"DAMAGED."**

18. Portable ladders shall be equipped with non-slip bases and care shall be exercised in placing them. Securing the ladder or having it held by a co-worker may be necessary for stability, especially where oil, metal, concrete, or other slippery surfaces are present.

19. Employees shall not use benches, boxes, tables, or any makeshift substitute as ladders.

20. Portable ladders or stools shall not be used on gratings unless securely positioned atop of sound material where said material is so positioned that its presence does not allow for the possibility of penetration through the material and/or grating.

21. Unattended tools/equipment shall not be left on ladders.

14.3. Scaffolds and Supports

General Scaffold Components

All metal frame scaffolds shall have common components including platforms, base supports, side brackets, and support trusses.

Metal frame scaffolds must be designed at four times their rated carrying capacity. Trained personnel must erect all supported scaffolds. A registered professional engineer must design all scaffolds greater than 125 feet in height.

Platforms

Each platform must be fully planked or decked. Platforms should be a minimum of 18" wide. Each platform unit (e.g., scaffold plank, fabricated plank, fabricated deck, or fabricated platform) shall be installed so that the space between adjacent units and the space between the platform and the uprights is no more than 1 inch (2.5 cm) wide, except where the employer can demonstrate that a wider space is necessary (for example, to fit around uprights when side brackets are used to extend the width of the platform).

Platform Loading
Distribute the weight evenly. Place the heaviest load over vertical members. Scaffold platforms cannot deflect greater than 1/60 of the span distance when loaded.

Platform Overhang
If a platform is less than 10 feet long, the maximum overhang is restricted to 12". On platforms longer than 10 feet, the maximum overhang is 18".

Planks
Scaffold planks must be made from scaffold-grade lumber or be laminated planks. Do not use planks that are cut, split, chemically damaged, or painted. Plank overlap must be by 12" unless restrained. Ends should always be cleated or restrained. If the end overhang is less than 6", the ends **must** be cleated or restrained. Planks must be a minimum of 2" by 10" (nominal). A minimum of two planks no further than l" apart must be used.

Base Support
A firm, level foundation is required for all supported scaffolds. Scaffold base plates or casters are to be used on **all** scaffold legs. Plates and casters must be pinned or secured to the frame at all times.

Screw Jacks

Screw jacks are designed for leveling the scaffold. The recommended maximum extension for fixed scaffolds is 18", while 12" is the maximum for mobile scaffolds.

Ties

Ties provide protection against toppling. Ties are secured at the junction of the vertical and horizontal scaffold members. They must be of rigid construction. A positive anchor is required. Guys, ties, and braces must be installed according to the scaffold manufacturer's recommendations or at the closest horizontal member to the 4:1 height and be repeated vertically at locations of horizontal members every 20 feet or less thereafter for scaffolds 3 feet wide or less, and every 26 feet or less thereafter for scaffolds greater than 3 feet wide. The top guy, tic or brace of completed scaffolds shall be placed no further than the 4:1 height from the top. Such guys, ties and braces shall be installed at each end of the scaffold and at horizontal intervals not to exceed 30 feet (measured from one end [not both] towards the other).

Additional ties may be required under special circumstances, such as loads not centered, winds, hoisting, or on covered scaffolds. Guys are required if the scaffolding is free standing and are greater than four times the minimum base width in height. Guys must be a minimum of 3/8" wire rope and should be tied at a 45° angle to the scaffold.

Supported Metal Scaffolds

Welded Frame Scaffold:

These consist of end frames and braces. All components must be inspected for damage/defects prior to being used. When erecting scaffolding, start at the highest point of the run and work downhill. Cross braces will automatically square the scaffold frames. Ensure that the scaffold is level, square, and plumb.

Use pin connections on all frames to prevent separations of frames. Ladders provide access to the scaffold. Ladders are not to be used on scaffolding unless it is secured top and bottom, the scaffold is secured from any movement and the platform is stabilized to prevent deflection.

Mobile Scaffold:

Mobile scaffolds have restricted reach unless a guy wire secures them. They are more susceptible to overturning and require a smooth, level working surface. Additionally, they are the most frequent type of scaffold involved in power line accidents. A complete guardrail system must be used at elevations above 10 feet and shall be used at all working levels. Scaffold should be moved when unoccupied and only by pushing from the base. Wheel brakes must be set when scaffold is in use. Base dimensions may be extended with outriggers.

Guardrail System/Fall Protection

Fall protection is required on all scaffolds where the working height is above 10 feet. A guardrail is required above 10 feet on all scaffolds if fall arrest system is not used. Guardrails must be able to withstand 200 pounds of force. Top rails shall be about 42" in height. Midrails and toe boards are required. Toe boards must be a least 3'/2" in height. Cross braces may be used as midrails if the cross height is 20" to 30" above the platform. Interior guardrails are not required when the working face is less than 14" from the platform. Guardrails must be installed on all open ends and sides of platforms more than 10 feet in height. Upright supports must be no more than 8 feet apart.

Scaffold Access

All metal frame scaffolds must have a means of access. This access can be gained from attached or portable ladders, stairways, or the adjacent structures. Ladders must extend 3 feet above the working surface. Gates or removable guardrails or safety chains must be used at the ladder landing. Employees shall not work on scaffolds during storms or high winds.

Scaffold Erection

Scaffold shall only be erected, moved, dismantled, or altered under the supervision of competent persons. A fall protection plan must exist when erecting scaffolding.

While under the direction of the Town of Windsor, no individual shall be supported on any portion of any elevated structure, scaffold, tree, ladder, walkway, etc., and no material shall be supported from same, without the employee in charge first determining that the proposed support structure(s) shall safely carry the load of the intended number of individuals, materials, or any combination of both.

1. After considering the combined load that includes all material and personnel potentially on the structure, scaffolds shall have a minimum safety factor of 4:1 for structural force and stability.

2. Any scaffold erection and dismantling shall be conducted under the direction of a qualified person.

3. Scaffolding, its component(s), its placement, and use, shall meet or exceed the appropriate Cal/OSHA standard.

    - The Supervisor shall ensure affected employees are trained in scaffold operations prior to commencing work.

    - Inspect scaffolds and its components prior to each use.

- Planking shall be at least equivalent to 2-inch x 10-inch (nominal) lumber selected for scaffold grade plank with a bending stress of at least 1900 (psi).

- Manufactured planks with spans beyond 10-feet shall be labeled to indicate the maximum safe working load based on a safety factor of four.

14.4. Elevated Work Platforms

Employees working at elevated positions shall comply with applicable Cal/OSHA standards for work at elevation that includes the use of scaffold(s) and scaffolding system(s), safety belts and snaps, lifelines, temporary guardrails, or other appropriate protective systems as required by Cal/OSHA. Unless otherwise protected, appropriate railings and toe boards consistent with Cal/OSHA regulation(s) shall be provided along all unprotected and open sides, edges and ends of elevated work areas 7 ½ feet or more above the ground

15. FORKLIFTS

When employees follow safety procedures, forklift operation is much more efficient.

1. Only trained and authorized operators shall be permitted to operate a forklift.

2. Perform a walk-around inspection of the forklift before each use. Make sure that all safety devices are in place and functioning properly, including the back-up alarm.

3. USE THE SEATBELT!

4. Forklifts shall not be driven up to anyone standing in front of a bench or other fixed object.

5. No person shall be allowed to stand or pass under the elevated portion of any forklift, whether loaded or empty.

6. Passengers are not allowed to ride on a forklift.

7. Arms or legs are prohibited from being placed between the uprights of the mast or outside the running lines of the forklift.

8. When a forklift is left unattended, the load engaging means (forks) shall be fully lowered to rest of the ground or pavement, controls shall be disengaged, power shall be shut off, and brakes properly secured. Wheels shall be blocked if the forklift is parked on an incline. A forklift is unattended when the operator exits the vehicle.

9. A safe distance shall be maintained from the edge of ramps or platforms while on any elevated dock, platform, or freight car. Forklifts shall not be used for opening or closing freight doors.

10. Brakes shall be set and wheel blocks shall be secured in place to prevent movement.

11. There shall be sufficient headroom for safe passage under overhead installations, lights, pipes, sprinkler system, etc.

12. An overhead guard shall be used as protection against falling objects.

13. A load backrest extension shall be used whenever necessary to minimize the possibility of the load or part of it from falling rearward.

14. Only safe and Town of Windsor approved forklifts shall be used.

15. The operator shall slow down and sound the horn whenever his/her vision is obstructed. If the load being carried obstructs forward view, the driver shall be required to travel with the load trailing.

16. Railroad tracks shall be crossed diagonally wherever possible. Parking closer than 8 feet from the center of railroad tracks is prohibited.

17. The operator shall look in the direction of, and keep a clear view of the path of travel.

18. Grades shall be ascended or descended slowly.

19. When ascending or descending grades in excess of 10 percent, loaded forklifts shall be driven with the load upgrade.

20. On all grades, the load and load engaging means shall be tilted back if applicable, and raised only as far as necessary to clear the road surface.

21. Under all travel conditions, the forklift must be operated at speed that will permit it to be brought to a stop in a safe manner.

22. Stunt driving and horseplay is NOT permitted.

23. Operators shall slow for wet and slippery conditions

24. Operators shall avoid running over loose objects on the roadway surface.

25. Do not operate any powered industrial truck unless you are trained and authorized to do so.



26. Forklift drivers should read and understand the posted operating rules. If you do not understand the rules, ask your supervisor.

27. Industrial trucks must be inspected at the beginning of each shift. Report any defects to your supervisor.

28. Before entering a highway truck, make sure the brakes have been set and the wheels are chocked.

29. Do not use a forklift to elevate a person unless it is equipped with a personnel cage.

16. CHEMICAL EXPOSURES

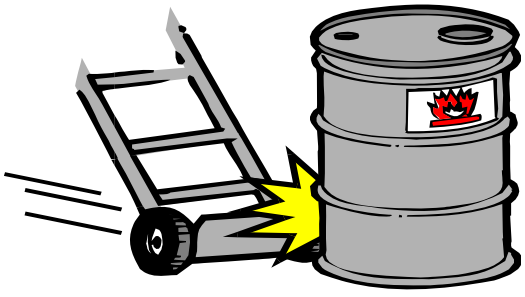
16.1. General

The following safety procedures are followed when Town employees are working with chemicals:

1. Employees must wear the following personal protective equipment when handling caustic chemicals: Gloves, goggles, aprons and boots.

2. Lab technicians may only dispense solvents under the hood. Technicians are required to wear gloves and goggles.

3. Read and become familiar with the information contained in the Material Safety Data Sheets (MSDS) for the chemicals used in your area. If you have any questions, ask your supervisor.



4. Do not eat or smoke in areas where hazardous chemicals are stored or used.

5. Become familiar with the emergency procedures and the location of emergency equipment to be used in the event of a hazardous material spill.

6. Do not transfer chemicals into unlabeled containers.

7. Hazardous waste must be labeled and dated. A manifest must be obtained to dispose of waste with a certified waste disposal company.

16.2. Chemical Spills

Always evaluate the risk of the conditions first. Only authorized, qualified and trained personnel shall clean up small quantity spills. Town management personnel shall outsource cleaning of large quantity spills or small quantity highly toxic chemical spills that require special equipment and/or specialized training. Certain types of chemical spills may require notification of the incident to certain regulatory agencies. Town management will conduct this activity.

16.3. Hazardous Waste Disposal

Chemicals shall be disposed of according to specific procedures found on the chemical's MSDS. Solvents, flammable liquids, toxic materials are not to be poured or flushed down sewers or drains. Strict EPA regulations prohibit dumping anything into an outdoor storm drain.

Damaged glass shall not be placed in wastebaskets. Broken glass that is contaminated with chemicals cannot be recycled. Put this waste in an appropriately labeled container.

Glassware contaminated with a hazardous material (a broken mercury thermometer for example) shall be properly managed as hazardous waste. All Town established hazardous waste disposal procedures are to be strictly adhered to.

When handling chemicals or equipment containing chemicals, safe handling or removal must be considered before use. Every Town employee who handles chemicals shall have received hazard communication training prior to his or her handling chemicals.

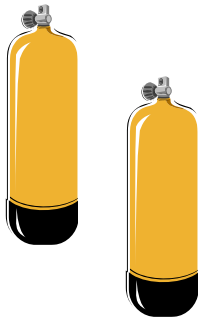
Eating and/or drinking is permitted in lunchrooms, food service areas, break rooms and other areas that are free from and physically isolated from chemical exposure. No food or drink may be stored in refrigerators designed for storage of chemicals.

All containers are required to be properly labeled naming its contents. Labels on all containers of potentially hazardous materials shall include warning information about these hazards. Employees shall immediately notify his/her supervisor whenever he/she discovers an unmarked container.

Safety First

17. COMPRESSED GASES

Employees working with compressed gases shall abide by the following safety practices:



1. Oil or grease shall not be allowed to come in contact with valves, regulators, or other parts of oxygen cylinders or apparatuses.

2. Portable gas cylinders or containers shall be handled with extreme care and shall be stored in a suitable, well-ventilated location, correctly secured in a vertical position with the valve cap installed. Where oxygen cylinders are stored with acetylene cylinders, local fire codes for separation storage shall be strictly followed.

3. Portable gas cylinders or containers shall not be exposed to excessive heat. Sparks and flames shall be kept away from such cylinders and containers.

4. Connections to piping, regulation, and similar devices shall be tight to prevent leakage.

5. Compressed gas cylinders shall be transported in a manner that prevents falling, rolling, or the creation of similar hazards. EXCEPTION: When transporting acetylene cylinders the vehicle driver shall place the acetylene cylinder(s) in a secured upright (vertical) position.

6. Employees transporting compressed gas cylinders shall strictly adhere to regulatory mandate(s) for driver qualification (license), shipping papers, load securement, placecarding, etc.

18. ELECTRICAL SAFETY

18.1. General

Electrical apparatuses and lines shall always be considered as energized unless the devises are tested, de-energized, grounded, or cleared by a Qualified Electrical Worker contracted by the Town.

A Qualified Electrical Worker is a person with a minimum of two years of training and experience with high-voltage circuits and equipment and has demonstrated by performance familiarity with the work to be performed and the hazards involved.

Only authorized personnel at the Town are permitted to do electrical service work. Only authorized personnel are permitted to repair, adjust, test or service electrical equipment in

any way. Governmental codes regulate these requirements and impose strict guidelines to follow in the area of electrical safety.

The Town of Windsor shall NOT subject themselves or others to energized electrical circuits. No types of work, tests, or adjustments on energized circuits are permitted unless Town authorization has been given.

The following electrical safety procedures will be followed by all Town employees:

1. Employees shall use caution to prevent any material or tools from contacting energized electrical systems.

2. Employees shall not carry material or tools on their shoulders while working around energized equipment.

3. The first employee having knowledge of any water leakage occurring near electrical equipment shall immediately report it to the supervisor in charge.

4. Employees shall not use electrical equipment with frayed or deteriorated insulation or connections.

5. Refrain from bringing in or using personal portable electrical equipment such as radios, heaters, etc. The responsible supervisor must approve such equipment prior to it being used on company property.

6. Before work begins, check to see that all electrical implements are in safe condition. If you have any doubts or questions regarding the safety of the equipment, notify your supervisor immediately and have the condition checked by the electrical department.

7. Before plugging in and using electrical equipment, inspect it for the following:

   - Ensure there is an attached electrical inspection label dated within the past six months.
   - Ascertain that the electrical cord is free of cuts or abrasions through the outer insulation.
   - Examine the male plug to be sure that the protective insulating disc is in proper position and that no prongs are loose or missing.
   - Check for evidence of loose or visually damaged parts, switches, shielding, nuts, bolts, etc.
   - Report any of these defects to your supervisor.
   - Inspect the receptacle before plugging in electrical cord. Check for burn marks, cracks, broken insulation, missing cover plate, or other noticeable defects. Notify your supervisor immediately, and do not use the equipment if you find any of these faults.
   - Upon insertion of the plug, if the receptacle is discovered to be loose, immediately disconnect the plug and report the situation to your supervisor.

18.2. Operation of Electrical Equipment

All employees shall follow these safety procedures when operating electrical equipment:

1. Check to see that the male plug is correctly seated in the receptacle.

2. If any shock sensation is felt when using the equipment, immediately shut it off, unplug it, and inform your supervisor.

3. If the equipment does not operate, lock and tag out and inform your supervisor of the malfunction.

4. Never unplug equipment by pulling the cord. Turn off the apparatus switch and then pull the plug from the receptacle.

5. When you leave the work area, be sure that all equipment is unplugged.

6. When your job is complete, recheck the equipment to be sure it is ready for the next operator.

7. Extension cords used with portable electric tools and appliances shall be a three-wire type. It shall be placed in as dry a path as possible away from water and mud and kept away from doorways and walkways where it could become a tripping hazard.

8. Supervisors must see that all electrically powered apparatuses are promptly scheduled for repairs should they need it.

9. Supervisors must ascertain that all employees thoroughly understand the above inspection and operating procedures.

19. HEAT AND COLD PROTECTION

19.1. General

Physical agents include heat and cold, noise, radiation, electricity and other dangers. Physical agents can occur naturally or can be produced in the workplace. For example, heat is a physical agent that is the result of the weather and is also produced by machinery.

Protecting workers from physical agents requires the same process as other hazards. First, the physical agent and its health effects must be identified. Next, working conditions must be changed to prevent exposure to the hazards.

19.2. Cold

Health effects of cold:

- Frostbite: As the body tries to prevent heat loss, less blood reaches the surface. Hands and feet become numb and the skin freezes. Severe frostbite may require amputation of the affected parts.

- Hypothermia: This is a condition that results from being in cold weather or submerged in cold water. The body can no longer create heat, causing dizziness, fatigue and can lead to unconsciousness and death.

- Trench foot: Long periods of exposure to wet and cold conditions can cause severe nerve and muscle damage in the feet.

- Eye injuries: Employees can become snow-blind and the cold can cause the cornea to freeze.

The following steps can protect workers from the cold:

- Give employees frequent rest periods in a warm area.

- Provide clothing designed to keep cold and wind out and allow heat and perspiration to escape. The body loses heat quickly when clothes are wet. Workers should wear layers of vented clothing, insulated gloves and footwear.

- Where possible, build barriers around the worksite to block the wind.

- Supply workers with warm beverages that do not contain caffeine or alcohol.

19.3. Heat

Heat can be more than uncomfortable. It can be dangerous and even deadly. Summer weather is a common cause of heat problems. Employees are also exposed to heat in boiler rooms, confined spaces and during welding or brazing. Too much heat can cause a number of health problems.

Being exposed to heat can cause:

- Heat rash is also known as prickly heat.

- Heat cramps, which are painful muscle spasms, are usually felt in the arms, legs, and stomach area. They usually occur after sweating heavily and not drinking enough liquids.

- Heat exhaustion - symptoms include tiredness, dizziness, clammy skin, heavy sweating, loss of appetite, nausea, and pain in the stomach area. These symptoms are

brought on when the body loses too much fluid (dehydration) during hard physical labor.

- Heatstroke - the body can no longer cool itself. The person's skin becomes hot and red or blotchy. Body temperature is as high as 105 degrees or more. Heat stroke can cause a person to lose consciousness and go into a coma.

Other effects of exposure include heart disease. Employees also become less alert and are more likely to injure themselves or others.

Knowing the temperature is only part of figuring out if it is too hot. The effects of heat increase when it is humid or when there is no breeze. A Wet Bulb Globe Temperature device gives a reading based on heat, humidity and wind speed, and provides a more accurate measure of the effects of heat on the body.

Air conditioning can eliminate heat hazards in buildings and vehicles. Areas with machines that cause heat need exhaust systems to remove the extra heat that is produced.

The following changes can protect workers from heat:

- Scheduling: Do the hottest work during early morning, evening or night hours, or on cooler days.
- Job rotation: Divide heavy and hot work among more workers.
- Breaks: Take breaks preferably in an air-conditioned area or in a shady place.
- Drink fluids: Replace the fluids that are lost through sweating.
- Avoid drinks that contain caffeine! Caffeine makes you lose more fluids.
- Get used to heat gradually: Employees need a chance to get used to heat (acclimatization). At first, work in hot environments should be limited to short periods. The amount of time that an employee spends in the heat should be increased gradually.
- PPE - Light-colored clothing should be worn. Cooling vests provide some protection but can be bulky and make it harder to perform job tasks.

20. WATER SAFETY

When employees are protected from falling into water by appropriate hand railings and toe boards, or the equivalent, the employee in charge shall determine the need for employees to wear life vests or lifelines while working in or very near to water situations where conditions have the potential for an employee to fall into the water.

Pool/Spa Safety Requirements

1. A sign with 4-inch lettering stating, “WARNING: NO LIFEGUARD ON DUTY” accompanied with the wording, “Children under the age of 14 should not use pool without an adult in attendance”.

2. A sign with 4-inch deep lettering stating, “NO DIVING ALLOWED” is required for pools that are less than 6 feet deep.

3. Illustrated procedures for artificial respiration shall be posted.

4. Emergency telephone numbers (911) shall be posted.

5. An occupant-load sign showing maximum number of bathers allowed in the pool or spa at any one time (Pool occupancy = one bather for every 20 square feet of water surface area; Spa occupancy = one bather for every 10 square feet of water surface area).

6. A warning sign for spa pools which cautions against use under certain conditions.

7. A life ring with attached safety rope long enough to span the maximum width of the pool.

8. A twelve-foot rescue pole with an attached body hook.

Pool/Spa Equipment

All parts of the pool and related pool facilities and equipment shall be maintained in good repair, including fences, gates, showers, restroom, chlorinators, pumps, filters, flow meters and pressure gauges.

Pool/Spa Contamination

Refer to the Senior Center Pool Operations Policy

21. INFECTIOUS DISEASES

The Town shall limit employee exposure to infectious diseases to the maximum extent possible. Infectious diseases are caused by disease-causing bacteria, viruses, fungi and parasites. Most infectious diseases are transmitted to humans by swallowing (due to contaminated food, hands or cigarettes), but some can enter through intact skin (leptospirosis) or damaged skin (tetanus).

At the Town's wastewater treatment facility, there is no way to predict if there are dangerous organisms in the wastewater. Sick and infected individuals or animals routinely shed disease-causing bacteria, viruses, fungi and parasites into the waster treatment system; and many of these organisms can thrive or even continue to multiply in wastewater. Therefore, precautions are especially important for our employees in the Public Works Utilities Division as well as for other employees who can reasonably anticipate their skin, or eye, or mucous membrane coming in contact with infectious disease-causing organisms in the performance of their duties.

Examples of common disease-causing organisms include bacteria, viruses, bloodborne pathogens, parasites and fungus.

Bacteria

Bacteria are primitive, microscopic, one-cell organisms that can enter a worker's body through swallowing, breathing and skin absorption. Examples of bacteria include:

- Staphylococci: this can cause stomach and intestinal problems, fever, nausea, vomiting, headache and diarrhea. It can also cause skin infections as well as lung and respiratory disease.
- Salmonella and shigella: both can produce intestinal symptoms and distress, including high temperatures, vomiting and bloody stools.
- Leptospirosis (Weil's Disease): this can produce intestinal symptoms, liver and kidney disease, eye problems and jaundice. It is especially common where rats are present.
- E. coli: this can produce diarrhea, vomiting and fever.
- Tularеisis: this can cause chills, fever and swollen lymph nodes.
- Less commonly found bacteria in wastewater cause tuberculosis and cholera.

Viruses

Viruses are tiny particles of genetic material covered with a protein coating. Workers can absorb viruses into their bodies by breathing in contaminated water droplets or aerosols,

swallowing contaminated water, eating or smoking with contaminated hands or through skin contact. Common disease-causing viruses include:

- Influenza ("flu" virus) causes intestinal symptoms.

  Avoiding the Flu

  - Wash hands frequently. Scrub with soap and hot water for at least 30 seconds.
  - Cover your mouth and nose with a tissue when sneezing or coughing.
  - Avoid touching your eyes, nose or mouth.
  - Avoid sharing food, eating utensils, drinking glasses, pens and pencils, towels and other personal items.
  - Don't reuse or share bottles of water.

- A virus that attacks the liver, hepatitis-A, is transmitted by the fecal-oral (hand-to-mouth) route. The infectious agent is found in feces that can be swallowed if hands are not washed before eating, smoking or drinking. Hepatitis A causes fever, abdominal discomfort, nausea and jaundice (yellowing of the skin). The disease can last from a few weeks to several months, but recovery is usually complete.

- Rubella (German measles): this can cause serious birth defects in children whose mothers were exposed during pregnancy.

- Polio: this causes paralysis and other effects to any worker who has not been vaccinated.

- West Nile virus: all employees are at risk of getting West Nile virus. Most people who are infected with West Nile virus will not develop any type of illness, however, you cannot know ahead of time if you'll get sick or not when infected. It is estimated that about 20 percent of people who become infected with West Nile virus will develop West Nile fever**.** Symptoms include fever, headache, tiredness and body aches, occasionally with a skin rash (on the trunk of the body) and swollen lymph glands. While the illness can be as short as a few days, even healthy people have reported being sick for several weeks.

  Symptoms

  Most people who are infected have no symptoms or experience mild problems. Symptoms generally occur three to 14 days after the bite of an infected mosquito and include fever and headache and possibly permanent neurological damage.

Prevention Tips

- Wear mosquito-repellent containing DEET.
- Many mosquitoes are most active at dusk. Use insect repellent and wear long sleeves and pants at these times or consider staying indoors.
- Make sure you have good screens on your windows and doors to keep mosquitoes out.
- Get rid of mosquito breeding sites by emptying standing water from flowerpots, buckets and barrels. Change the water in pet dishes and birdbaths weekly. Drill holes in tire swings and recycling containers so water drains out. Keep children's wading pools empty and on their sides when they aren't being used.

Bloodborne Diseases

- Hepatitis B is a bloodborne virus that is transmitted through contaminated body fluids. These fluids include blood, semen, saliva and vaginal secretions. Workers can be infected on the job when infected fluids enter the bloodstream, either by exposure on the mucous membranes (nose or mouth) or through a puncture wound.

- Hepatitis B infection can have a range of illnesses and cause liver damage. Although some people never feel sick, other people become very ill and may die. Workers may be exposed to hepatitis B in a variety of different ways. For example, a worker may cut him/herself while cleaning sharp objects (such as syringes and needles) out of grates or bar screens, or coming into contact with large amounts of fresh blood or body parts. Although these types of exposure are uncommon, OSHA recommends that some Town employees, including wastewater workers, be vaccinated against hepatitis B if they are likely to be exposed to blood or syringes at work.

- HIV/AIDS (Human Immunodeficiency Virus) is the virus that causes Acquired Immune Deficiency Syndrome (AIDS). Transmission of HIV, like hepatitis B, occurs when contaminated body fluids - blood, semen, vaginal secretions or breast milk -- enter the bloodstream. HIV destroys the body's immune system, leaving those infected at risk of developing "opportunistic" infections. The opportunistic infections eventually cause the deaths of HIV-infected persons.

  There are no known cases of on-the-job HIV transmission among wastewater treatment workers. It is quite unlikely that a sewer or wastewater treatment plant worker would contract HIV/AIDS on the job because HIV particles are not very concentrated in the blood and become further diluted in wastewater. To prevent transmission of bloodborne diseases such as HIV/AIDS or hepatitis B, sewer and wastewater treatment plant workers, as well as other employees susceptible to

bloodborne diseases, should wear heavy gloves when working with items that may cause cuts.

- For more information, see the Public Works Utilities Division Hepatitis B and HIV/AIDS Program manuals.

Parasites

Parasites feed off other living organisms and can cause serious diseases in humans. Infection can occur when workers swallow these parasites and their cysts, or they touch their mouths, smoke with dirty hands or swallow contaminated food. Tapeworms, hookworms and roundworms are examples of parasites. The two most common parasites found in urban sewage are:

- Entamoeba histolytica (also known as amebiasis): this is commonly found in rural areas. When a worker swallows water containing entamoeba cysts, the parasite may cause dysentery (diarrhea, cramps, fever and malaise) or produce no symptoms at all. In serious infections, entamoeba can break through the bowel wall, circulate through the body and attack other organs, especially the liver. Symptoms include bloody diarrhea, cramps and fever.
- Giardia lamblia: once common in rural areas where infected animals contaminate streams, giardia can cause diarrhea and intestinal distress. Some infected individuals, however, show no symptoms of the disease.

Fungus

Fungi are primitive organisms that grow in decaying material. Workers in dusty sludge composting areas are exposed to fungi that may cause respiratory problems. Most notable is aspergillus fumigatus, which causes "farmer's lung," a chronic, debilitating allergic lung disease. Aspergillus can also get into the middle ear and cause a severe infection.

Universal Precautions

All potentially infectious materials shall be considered infectious and precautions shall be observed to prevent contact. The following human body fluids are considered potentially infectious: semen, vaginal secretions, cerebrospinal fluid, amniotic fluid, body fluid that is visibly contaminated with blood, and all body fluids in situations where it is difficult or impossible to differentiate between body fluids. Any tissue or organ from a human is also potentially infectious. Urine, feces, saliva, sweat and tears are not considered infectious unless there is visible blood.

When dealing with West Nile virus, prevention is your best bet. Fighting mosquito bites reduces your risk of getting this disease, along with others that mosquitoes can carry. Take the commonsense steps below to reduce your risk:

- Wear appropriate clothing. When possible, wear long-sleeves, long pants and socks when outdoors. Mosquitoes may bite through thin clothing, so spraying clothes with repellent containing permethrin or DEET will give extra protection.

- Help reduce the number of mosquitoes in areas outdoors where you work by draining sources of standing water. In this way, you reduce the number of places mosquitoes can lay their eggs and breed.

- Be aware of peak mosquito hours. The hours from dusk to dawn are peak mosquito biting times. If possible plan your workday accordingly.

Work Practices

Employees shall wash hands and any other skin with soap and water or flush mucous membranes with water immediately or when feasible following contact of such body areas with blood or other potentially infectious materials. Eating, drinking, smoking, applying cosmetics or lip balm and handling contact lenses are prohibited in work areas where there is a reasonable likelihood of occupational exposure.

Personal Protective Equipment (PPE)

Appropriate PPE that is sufficient to provide protection from potentially infectious materials shall be provided to employees. Bodily Fluid Disposal Kits are included in all first aid kits.

Clean-up Procedures

When cleaning up a spill of blood or other potentially infectious material, employees shall wear protective equipment sufficient to prevent contact of the material with the skin. At a minimum, this shall include gloves and eye protection. The spill shall be disinfected with a 10 percent bleach solution (one part household bleach to nine parts water). Cleanup methods that prevent contact with the material (i.e., dustpan and broom) shall be used, especially when broken glass or other sharp objects are present. Mop or wash the spill area with 10 percent bleach until visibly clean.

The cleanup material must be labeled and disposed of as infectious waste. Disposal arrangements will be made on a case-by-case basis.

Safety First

22. CONFINED SPACE ENTRY AND RESCUE

Note: Refer to the written Public Works Confined Space Program for more information. *Confined spaces are a major hazard to workers who are required to work within these areas. Confined spaces include but are not limited to storage tanks, process vessels, pits, vats, vaults, sewage digesters, sewer silos and tunnels, pump stations, sanitary sewer access holes and storm drain access holes.*

Hazardous Atmospheres

The most common hazard in a confined space is a hazardous atmosphere. These hazards include oxygen-deficient, oxygen-enriched, flammable or toxic atmospheres.

Oxygen
An oxygen-deficient atmosphere means that there is not enough oxygen in the space. Normal air is made up of 20.8 percent oxygen. An oxygen-deficient atmosphere has less than 19.5 percent of oxygen. Levels below 10 percent can cause unconsciousness and levels below 8 percent can quickly cause death.

Low oxygen levels in confined spaces can be caused by:

- Chemical reactions
- The breakdown of sewage or other organic matter, such as domestic waste and plant life
- Work being done in the space such as welding, cutting or brazing

In order to have safe working conditions in a confined space, the oxygen level must be between 19.5 and 23.5 percent. Any level below 19.5 percent is dangerous and will affect the worker's health and safety. If a confined space has less than 19.5 percent oxygen, it must be ventilated and must not be entered without a self-contained breathing apparatus (SCBA) approved by the National Institute of Occupational Safety and Health (NIOSH).

An oxygen-enriched atmosphere (too much oxygen) - above 23.5 percent - will cause flammable materials, such as clothing and hair to burn violently when ignited. Never use pure oxygen to ventilate a confined space. Ventilate with normal air that consists of 21 percent oxygen, 78 percent nitrogen, and 1 percent noble gases.

Flammable atmospheres, caused by the buildup of methane or other flammable dusts, gases or vapors can cause deadly fires and explosions. An explosion can only occur when a certain mixture of a fuel and air is present. If there is too little fuel, then the mixture will be too lean to burn.

If a source of ignition (e.g., sparking or electrical tools) is introduced into a confined space where the fuel mixture is above the Lower Explosive Limit (LEL) and below the Upper Flammable Limit (UFL), then a fire or explosion may occur. Use only explosion-proof equipment and spark-proof tools in a confined space.

Other Atmospheric Hazards

Toxic gases and vapors come from a wide variety of sources. The three most common naturally occurring toxic gases found in confined spaces are carbon monoxide, hydrogen sulfide and methane. They originate inside wastewater treatment facilities/sewers by the natural breakdown of sewage, sludge or rotted material or as a result of chemicals added in the plant to treat the sewage.

- Hydrogen sulfide is a flammable, colorless gas that is created by the decay of organic matter that is found in sewers and sewage treatment plants. Hydrogen sulfide has a strong "rotten egg" odor. Workers who come in contact with hydrogen sulfide quickly lose their ability to smell the gas, even though the gas is still present.

- Carbon monoxide is a very toxic, colorless, odorless combustible gas that is a product of incomplete combustion. Both arc welding and combustion engines create it. In high concentrations, carbon monoxide can cause death by asphyxiation.

- Methane is a colorless, odorless, flammable gas. It displaces breathable air in a confined space and can cause suffocation. The most common source is the natural decay process of materials such as raw sewage, leaves or weeds.

Toxic gases and vapors can also originate from outside the wastewater treatment process. Chemical spills or illegal dumping can cause large amounts of toxic materials to enter storm drainage systems, sewers and treatment plants. Substances spilled or dumped into sewers can cause short-term or long-term health effects, as well as explosions. The dangers of toxic discharges are often complicated and unpredictable. For example, two harmless substances dumped into the sewage system miles apart can combine down-line to produce a chemical reaction that results in the release of a poisonous gas by the time it reaches the workers.

The types and quantities of toxic chemicals a worker may be exposed to depend on the industries in the surrounding area. Major categories of toxic chemicals include organic compounds, acids and alkalis, and chemicals used in sewage treatment.

Organic Compounds

Thousands of commercially available organic substances may find their way to a treatment plant. Contamination may be especially bad if the sewage plant receives wastes from a chemical or pesticide plant. Many of these chemicals "volatilize" or evaporate as they pass through sewers and the treatment plants (especially grit chambers, wet wells, settling tanks, aeration basins and throughout the activated sludge process).

Evaporation of these substances also contributes to general air pollution. In sewers and in enclosed areas, chemical fumes accumulate which may be explosive, flammable and dangerous to breathe.

The most common organic compounds dumped or spilled into sewers are:

- Gasoline from service stations is irritating to skin, eyes and mucous membranes and contains several organic compounds that can be dangerous. Most notable are hexane, which can cause nerve damage (peripheral neuropathy) after chronic exposure; and benzene, which affects the formation of blood cells and the bone marrow and causes leukemia -- a cancer of the white blood cells.

- Pesticides such as Malathion, parathion, and 2, 4-D are just a few of the more common chemicals that can cause nerve damage, cancer and birth defects or miscarriages.

- Cancer-causing agents such as PCBs found in electrical transformers and storage dumps often find their way into the sewage system as do solvents and degreasers such as methyl chloroform, benzene, trichloroethylene and carbon tetrachloride.

Acids and Alkalis
Acids (sulfuric, nitric and hydrochloric) and alkalis (potassium hydroxide, sodium hydroxide and ammonia) are also frequently discharged into the sewage system. Acid and alkali fumes and vapors can irritate a worker's nose, throat and lungs.

Chemicals Used in Sewage Treatment
It is very important for workers to know the particular substances that could be found in a particular confined space that will be entered. Solvents, pipe grouts, paints, pesticides and other materials can cause serious health effects.

Other Hazards of Confined Spaces

Entrapment
Spaces with sloping, converging walls that empty into smaller cross sections can trap a worker in the cross section, causing suffocation or severe injury.

Falling Objects
Workers in confined spaces should be aware of the possibility of falling objects, especially in spaces that have topside openings, and where work is being done above the worker.

Unguarded Machinery
Machinery that is unguarded and may strike a worker, cause feet or hands to be caught or cause any other kind of injury can also cause hazards to employees who work in confined spaces.

Electrical Hazards
Shocks and electrocutions are all too common in wastewater treatment facilities. To control electrical hazards, routinely inspect all electrical equipment and tools, use ground fault circuit interrupters (GFCIs) or low voltage transformers.

Access with Ladders

It is essential that authorized entrants be able to safely enter and quickly evacuate the permit space. Fixed or portable ladders are commonly used for access. In many situations, ladders may be the only means of entry and egress.

- Ladders must be equipped with a non-slip base and should be tied at the top.
- Extend the ladder at least 3 feet above the top of the surface.
- The ladder should be placed so that the horizontal distance from the base to the vertical plane is approximately one-quarter of the ladder length. For example, place a 12-foot ladder so that the base is 3 feet from the wall.
- The ladder must be maintained in good condition and should be inspected prior to each use. A fixed, permanent ladder in a confined space should be checked visually for slippery or corroded rungs prior to use.
- If a worker is at risk of falling from a ladder, have the employee wear a full body harness attached to a fall-arresting and retrieval device.

Lighting

Adequate lighting must be provided to allow authorized entrants to safely enter and exit the confined space, and to perform their work tasks. If flammable or explosive atmospheres are possible, lighting must be intrinsically safe (explosion proof). To prevent electrocutions when water may be present, lighting must be connected to ground fault circuit interrupters (GFCI).

Animals

Sewers, wastewater treatment plants and other confined spaces can contain snakes, rats and other dangerous animals. Protective equipment, exterminators or other physical changes to the workplace may be needed.

Trenching and Excavation

Town employees may perform excavation and trenching operations in order to service broken lines or replace valves.

Employees can easily sustain a serious injury when excavated soils fall back into the excavation, when the walls of the trench or excavation collapse, or when water collecting in a trench causes the soil to become unstable. A protective system such as shoring must be installed in trenches or excavations before workers enter them.

Trenches and excavations may also contain hazardous atmospheres. For example, excavations in landfills and trenches dug around sewer lines may have a potential for containing methane, hydrogen sulfide or some other flammable or toxic gas to accumulate in the trench or excavation. There may also be a potential for an oxygen-deficient atmosphere in the trench or excavation. As mentioned above, there may also be engulfment (a common problem in unsloped, unshored excavations) or other physical hazards in the trench or excavation.

For additional information, see the Public Works Utilities Division Manual on Trenching and Excavations.

Entering a Confined Space

Note: Refer to the written Public Works Utilities Division Confined Space program for more information.

All confined spaces need to be considered immediately hazardous to life until proven otherwise. When unexpected hazards arise, the escape or rescue of a worker may be difficult due to the limited number of entrances or exits. Therefore, entry into a confined space requires planning in advance to deal with potential hazards.

Permit Required and Non-Permit Required Confined Space

The Town is required to determine if there are any potential or actual hazards in any of the confined spaces in the workplace. Based on the hazards present, these spaces will be categorized as permit-required or non-permit-required confined spaces.

A permit-required confined space (PRCS) has:

- Potential to contain a hazardous atmosphere
- Material that can cause the engulfment of a worker
- An internal shape that might cause a worker to be trapped or asphyxiated by inwardly converging walls or by a floor that slopes downward and tapers to a smaller cross section
- Contains any other recognized serious health hazards

If there are permit-required spaces in the workplace, the Town must inform exposed workers of the existence, location and danger of the permit-required confined space by posting danger signs or by another effective method.

DANGER!!

CONFINED SPACE – PERMIT REQUIRED!

A non-permit-required confined space (N-PRCS) is a confined space that does not contain any hazards capable of causing death or serious physical harm, and has no atmospheric hazard, nor the potential for any atmospheric hazard. The Town supervisor in charge must verify these conditions.

Employee Responsibilities

Entrants

The entrant is the worker who will enter the confined space to do the work. Prior to being allowed to enter a permit-required confined space, workers must receive training and be able to identify the hazards that they may face during entry. The employer is responsible

for making sure that entrants use all personal protective clothing and safety equipment required for a safe entry. The entrant is responsible for self-monitoring, both by using monitoring equipment and by continually checking his or her physical conditions in the space.

Attendants

The attendant is the employee (or contractor) stationed outside the permit-required confined space. He or she must be in constant communication with the entrant to monitor the entrant's status and to alert the entrants of the need to evacuate the space. For the entrant, the attendant is the only communication link to outside of the confined space. The attendant is responsible for making sure the entrant remains safe.

There are a number of things the attendant must do to protect the entrant:

- Ensure that the ventilation system, if used, is operating and effectively ventilating the work area
- Monitor the atmosphere, using monitoring equipment
- Maintain constant communication with entrant
- Never leave the post unless relieved by another trained attendant
- Perform non-entry rescue
- If used, attend the life line attached to the entrant
- Attend the air line, if used, to prevent it from getting tangled or kinked. Note: Air lines may only be used if accompanied by an emergency escape bottle
- Notify the entrant if the air line gets tangled or kinked or there is any other reason to evacuate the space
- Summon help if an emergency situation arises
- Never enter the confined space unless he or she is trained to perform a rescue, and unless another attendant has arrived to relieve him or her

PRCS Confined Space Entry Program

The Public Works Utilities Division written confined space entry program is available for inspection by Town personnel. This program describes how employees will comply with the requirements of the Cal/OSHA standard.

The Town’s written program includes the following:

- The procedure that the employer will use to implement the measures necessary to prevent unauthorized entry
- Identification and evaluation of the hazards of permit spaces before employees enter them
- A list of equipment needed to perform a safe entry operation
- Procedures for atmospheric testing of the space
- Provision for at least one attendant outside the space
- Provision for responding to emergencies if attendant is monitoring more than one space

- Designation of all persons with active roles (e.g., entrants, attendants, persons who test and monitor) and provision of required training
- Procedures for summoning rescue and emergency services
- System for the preparation, issuance, use and cancellation of entry permits
- The system developed and implemented for closing off the permit space and cancellation of entry permits
- Procedures to coordinate operation where more than one employer (such as a contractor) is involved
- Procedures for evaluation and correction of entry operations when the employer has reason to believe that the program is not sufficiently protective
- The mechanism by which the confined space permit entry program is reviewed

Entry Permit

An entry permit must be filled out before a worker enters a confined space. The entry permit is posted at or near the confined space. It should contain the following types of specific information concerning:

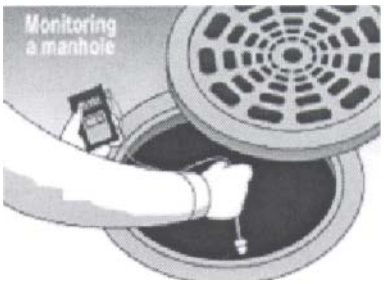
- Identification of space
- Purpose of entry
- Date and duration of permit
- List of authorized entrants
- Names of current attendants and entry supervisor
- The hazards of the permit space to be entered
- The measures used to isolate the permit space and eliminate or control hazards
- The acceptable entry conditions
- The results of atmospheric monitoring
- Rescue and emergency services that can be summoned and the means for summoning those services
- The communication methods used by entrants and attendants to maintain contact
- Any other safety information necessary for the specific space
- Any additional permits, such as for "hot work" (welding)

The entry permit is the document that certifies that the Town complies with the requirements of the Cal/OSHA standard for entries into PRCS environments. Also, the entry supervisor must close off the space and cancel permits when an assignment has been completed or when prohibited conditions exist. All new conditions must be noted on the canceled permit and used in revising the permit space program. The standard also requires the employer to keep all canceled entry permits for at least one year.

Monitoring For Atmospheric Hazards

Monitoring Before Entry

Air monitoring must be conducted before entry to determine if acceptable entry conditions exist in the space. Once the initial monitoring is completed, the entrant into the confined space may then carry the monitor.



It is important to monitor at the top, middle and bottom of each permit space. Some gases, such as methane, are lighter than air and will tend to be present near the top of the space. Other gases, such as carbon monoxide, are the same density as air and will be found near the middle of the confined space. Still other gases, like hydrogen sulfide, are much heavier than air and will tend to be present near the bottom of the confined space. A good rule of thumb is to monitor every four feet down, if possible.

Some workplaces use more than one monitoring device to check for atmospheric hazards in confined spaces – one for each gas. If you use more than one meter in your workplace, remember you must test for these hazards in the following order:

1. Oxygen – Before entering the permit space, workers must always test for oxygen content in the air. Oxygen testing must be done before testing of flammable or explosive gases or vapors. If there is not enough oxygen in the space, the meter (monitor) will not be able to detect the presence of flammable or combustible gases. Too much oxygen in the confined space can blow the sensors in the monitoring equipment, making the device useless until the sensors have been replaced.

2. Flammable or Combustible Gases or Vapors – Workers must test for the presence of flammable or combustible gases or vapors. Entry is not allowed if a concentration greater than 10 percent of the Lower Explosive Limit (LEL) is detected. The LEL is the lowest concentration (air-fuel mixture) at which a gas or vapor can ignite. Every mixture needs a certain amount of fuel to ignite. Below this level - the LEL - there is not enough of the chemical to ignite - the mixture is too lean.

   For example, methane has an LEL of 5 percent in air. That means there are five parts of methane in every 100 parts of air. At or above that concentration, a sparking tool or some other ignition source will cause the mixture to flash and burn.

The combustible gas indicator-monitoring device indicates when 10 percent of the LEL has been reached. In the case of methane, this level is 0.5 parts of methane per 100 parts of air (0.5 percent is 10 percent of the LEL).

The Cal/OSHA standard thus provides a safety factor. Workers are forbidden to enter or stay in a space if any more than 10 percent of the LEL has been reached.

3. Toxic Chemicals – Workers must monitor for the presence of toxic chemicals such as carbon monoxide and hydrogen sulfide. The monitor reads these gases in parts per million (PPM). For example, the monitor may read hydrogen sulfide (H2S) at 2ppm. That means that you have a concentration of 2 parts of H2S gas per million parts of air. While that concentration is not in excess of the Permissible Exposure Limit (PEL) of 10ppm set by Cal/OSHA, it does reveal a problem in the confined space.

4. Other Hazards – If the space may contain other atmospheric hazards, such as temperature extremes (heat or cold), then these hazards must also be monitored.

If testing reveals an oxygen deficiency or an oxygen-enriched atmosphere, the presence of flammable gases or the presence of toxic gases or vapors, the space must be ventilated and retested before workers may enter. If ventilation is not possible and entry is necessary, for example in emergency rescue, workers must have appropriate respiratory protection.

Monitoring During Entry

Cal/OSHA requires that permit spaces be monitored as necessary to determine that acceptable entry conditions are being maintained. In some confined spaces that can be isolated (closed off), such as tanks or vaults, this may mean frequent monitoring or continuous monitoring, depending on the conditions.

In storm sewers, sewage collection lines, water distribution lines, vaults, lift stations or other areas which are part of a continuous system, it is not always possible to determine if acceptable entry conditions exist before entry. Hazards may exist at distances far from the entry point, and new hazards may enter the system at any time. For this reason, Cal/OSHA requires that air monitoring in continuous systems be conducted continuously - from pre-entry testing until the last entrant leaves. Continuous monitoring means that the persons entering the confined space must carry the monitoring device with them into the space. While the entrant is performing work in the space, the monitoring device continues to look for changes in oxygen content or the presence of flammable and/or toxic gases.

It is important to check the monitor before you enter the space to make sure that the alarm is working properly. All monitors should have an alarm that can be heard by the entrant or attendant above background noise levels. The alarm sounds if the levels of oxygen, flammable gases or toxic gases are too high or, in the case of oxygen, if the level is too low. Many monitoring devices are also equipped with a visual alarm - a light that will flash rapidly at the same time that the alarm goes off.

Monitoring Equipment

Monitoring equipment designed for use in permit-required confined spaces must be "direct reading instruments." These monitors draw air over a network of sensors inside the monitor. The sampled air is then analyzed inside the monitor to determine whether an atmospheric hazard exists. The results of that analysis are then directly reported to the operator of the equipment on a digital readout on newer monitors, or a needle gauge on older models.

Many monitors must be "calibrated" after every use in an environment that has similar heat and humidity conditions as the confined space. The manufacturer's recommendations should be strictly followed. Many monitoring devices must be "zeroed" before each use by exposing the monitor to clean air and setting the indicator to zero. Just turning the instrument on is not enough. The indicator must be zeroed frequently in a clean environment when monitoring an area for an extended period of time.

Ventilation

If the atmosphere is found to lack oxygen or contain unsafe levels of toxic gases and vapors, the space must be mechanically ventilated before entry. An air-powered ventilator placed at the top of the opening can blow breathable air into the space. Ventilation must continue until safe levels exist. Just taking the top off a manhole for a period of time so that it can "air out" may not provide enough natural ventilation to make the space safe.

If the space contains an unsafe atmosphere, it may have to be mechanically ventilated. Ventilating a space before entry to clear out all contaminants is usually referred to as “purging the space.” Purging should take at least 10 to 15 minutes depending on the size of the confined space. The larger the space, the more time this process will require. The forced air ventilation should ventilate the immediate areas where an employee is or will be working within the space. Ventilation should be continuous where possible, because in many confined spaces the hazardous atmosphere will form again when the flow of air is stopped.

Equipment

The equipment needed to properly ventilate a confined space consists of a blower (electrical or gas powered) and a long hose. Electrical blowers are safer than gas-powered blowers and they are quieter if night work is required. A blower that has the capability to provide 600 cubic feet per minute of fresh air should be used. The hose should be 6 to 10 inches wide and long enough to reach the bottom of the confined space.

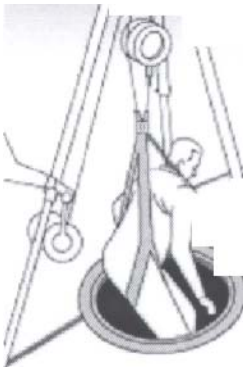
Protective Equipment

Personal protective equipment is used to protect workers only after all other feasible means have been used to control or eliminate hazards. A full body or chest harness and a lifeline should be used when entering a confined space.

In some situations, a respirator will also be needed. Air-purifying respirators can filter dangerous substances from the air, but they provide no protection in an oxygen deficient environment and should not be used when working in a confined space. Only air-

supplying respirators (SAR/SCBA) should be used in confined spaces. An air-line respirator can only be used if the worker has a rescue bottle.

Hardhats, safety goggles, face shields, gloves, safety shoes, boots, disposable suits, ear plugs or muffs, non-sparking flashlight and tools may also be needed when entering a confined space.



Confined Space Rescue

An emergency in a confined space can kill an entrant in a matter of minutes. In order to facilitate rescue without having a rescuer enter a space, OSHA requires the use of "non-entry" rescue retrieval systems or methods, such as tripods and winches to lift unconscious or injured entrants out of a space that is more than five feet deep. In vertical entries, the safety harness should be attached to a retrieval device that will allow quick removal of an employee in the event of an emergency. In the event of an emergency, the attendant located on the outside should be able to initiate a rescue without entering the space.

Where entry must be made for rescue, Cal/OSHA allows rescue to be performed either with trained in-house rescuers or by contracting to an outside rescue service.

- In-house Rescue – Rescuers must have extensive training. No worker - even an attendant - is authorized to enter a space to rescue an entrant unless he or she has had extensive training in personal protective and rescue equipment. This includes actual practice in making simulated rescues and CPR. Note: Even a trained attendant may not enter a space to make a rescue until another attendant has arrived.

- Outside Rescue – Cal/OSHA's Confined Space regulation allows for use of outside rescuers such as fire departments. If this is done, the rescue service must be informed of the hazards they may confront, and the rescue service must have access to all permit spaces so that the rescue service can develop appropriate rescue plans and practice rescues before a rescue must be made.

NOTE: Never assume that the local fire department or rescue squad is trained or equipped to make a confined space rescue unless the requirements listed above have been met. It's not enough to just assume you can call 911 in an emergency.

For additional information, refer to the written Public Works Utilities Division Confined Space Manual.

23. WASTEWATER TREATMENT OPERATIONS

Many of the dangerous conditions that water and wastewater treatment and maintenance personnel face can be eliminated. Other risks can be significantly reduced. Together, each Public Works Utilities Division employee can ensure that safe and healthful working conditions always exist.

Health Hazards

There are four main ways that harmful agents can enter the body:

1. Breathing (inhalation) – You can breathe in chemicals, some that you cannot even see or smell.

2. Swallowing (ingestion) – Employees may swallow chemicals in different ways such as:

   - With food if you do not wash your hands after handling chemicals.
   - In dusty areas you can swallow chemicals that are in the air or that land on food or in drinks.

3. Skin (absorption) – Many chemicals and some types of radiation can pass right through your skin. Some types of chemicals, germs or radiation will cause illness or symptoms just by coming into contact with the skin.

4. Cuts (injection) – Chemicals or germs can also pass through your skin if you get cut or get stuck with a sharp object such as a needle.

Types of Wastewater/Sewer Health Hazards			
Chemical	Biological	Physical	Ergonomics
Chlorine	HIV/AIDS	Noise	Lifting
Ferric chloride	Hepatitis A, B, C	Heat and cold	Repetitive motion
Sulfur dioxide	Entamoeba histolytic	Vibration	Awkward posture

Health Effects

Acute Effects

Examples of Acute Health Effects			
Chemical	Biological	Physical	Stress (psychological)
Skin burn from being splashed with acid	Vomiting or cramps from food poisoning	Fainting due to working outside in the heat	Fatigue from shift work
Losing consciousness from exhaust fumes	Staphylococcal disease	Frostbite from working outdoors	Headache from pressure on the job

Chronic Effects

Examples of Chronic Health Effects			
Chemical	Biological	Physical	Stress (psychological)
Lung cancer from breathing asbestos	Infection with HIV from a needle stick	Hearing loss from working in a noisy facility	High blood pressure from job stress
Leukemia from breathing or skin contact with benzene	Liver disease from Hepatitis B	Skin cancer from too much sun while working outdoors	Sleep disorders

Local Effects
A health effect is local when it only affects the part of the body exposed. A broken toe, a cut finger and a burn are examples of local effects.

Systemic Effects
A health effect is systemic when an agent enters the body and causes damage to other parts of the body. A cut that gets infected and causes fever and other symptoms is systemic. Breathing a chemical that makes you feel "high" or dizzy is systemic and may cause liver or kidney damage if you are exposed over a long time, even if you have never had any acute or local effects.

Controlling Chemical Hazards

Refer to Public Works Utilities Division Hazard Communication Program for more information.

Chemicals can be in different forms. The way a chemical might enter your body depends on the form of a chemical:

- Dusts, fumes and certain fibers are small solids (particulates), which may be inhaled or swallowed.

- Liquids can harm skin and also be absorbed through the skin.
- Mists are very small droplets of liquids that are inhaled.
- Gases and vapors are inhaled

Communication and information sharing is key to controlling chemical hazards.

- All Town departments maintain a list of hazardous chemical/products known in the workplace.

- Containers labeling.

  - Containers must have a label that employees can read.
  - The label must show what the product is and who makes it.
  - The label must warn about the dangers of the chemical.

- Material Safety Data Sheets (MSDS) describe chemical hazards and how to prevent harmful employee exposure.

  - Workers must have access to MSDSs for the chemicals they work with during their shift
  - MSDSs must not have blank spaces
  - The name of the product on the MSDS must match the name on the container's label
  - It is the responsibility of all Town employees to request and obtain MSDSs when purchasing chemical products.

- Employees shall receive proper hazard communication training prior to working with workplace chemicals. The training shall include:

  - The health hazards caused by the chemical
  - How to handle and store chemicals
  - How workers can protect themselves from exposure to chemicals
  - Employee rights and the Town's duties under the law, such as where to find the MSDSs in the workplace and how to read them.

- The Utilities Division written hazard communication program provides employees information about chemicals by:

  - A written program to inform workers, including a list of hazardous chemicals
  - Container labels
  - MSDS and how to get a MSDS
  - Training

Keeping work areas neat and clean can reduce chemical hazards. Part of the workday should be spent keeping the workplace orderly by doing routine tasks such as:

- Putting rags soaked with chemicals in closed containers

- Storing chemicals properly in clearly labeled containers
- Keeping only the amount of chemical on hand that is needed
- Cleaning chemical spills right away

To keep chemicals off their clothes and bodies, the Town (and in particular, the Public Works Utilities Division) provides:

- A separate room away from work areas for eating and storing food
- Soap and water for washing
- Time to wash before breaks, before eating and at the end of the shift
- A place to change and store street clothes
- A facility to wash work clothes

Personal Protective Equipment (PPE)

Masks, gloves and other personal safety gear are the least effective ways to protect workers. The protective gear does not remove the chemical hazard from the area. If the gear does not work, then the worker gets no protection. PPE is needed if there is no other solution, or until a better control is installed. Often, PPE is used along with other protections.

The type of respirator, glove or other type of PPE that workers need depends on the chemical in the area. Respirator cartridges that are used with air-purifying respirators are color coded according to hazard.

Chemicals Used in the Treatment Process

Sulfur Dioxide
Sulfur dioxide is also very dangerous. Sulfur dioxide reduces chlorine by forming sulfuric and hydrochloric acid. It is colorless, heavier than air and corrosive to metals when exposed to moisture. Sulfur dioxide also causes respiratory problems and is irritating to the nose, throat, eyes and lungs.

Sodium Hypochlorite
Sodium hypochlorite (liquid chlorine) is a potential fire and explosion hazard, and is extremely irritating to the eyes, skin, mouth and lungs. Prolonged exposure can bum skin and permanently damage eyes and lungs. Workers who handle containers of sodium hypochlorite should be provided with impervious clothing, gloves and splash-proof goggles. Areas where sodium hypochlorite is used should be equipped with emergency eye-wash fountains. For safety precautions, see the box on chlorine.

Ozonation
Ozone in wastewater treatment is used for disinfection and odor control. It is produced on site from air or oxygen-carrier gas passing between narrowly spaced electrodes under high voltage. Contact with ozone or vapors may cause serious respiratory problems.

Pipe Grouts
Pipe grouts should always be used with plenty of ventilation or respirators. Pipe grouts used for pipe construction or repair can contain two highly toxic chemicals:

- 2-Nitropropane can cause bleeding of the gastrointestinal tract, severe heart and kidney damage, fluid in the lungs and may cause cancer.
- Acrylamide (also used in polymers) can cause severe damage to the central nervous system and may cause cancer.

Various Chemicals Used for Sludge Treatment

Chemicals are used to stabilize sludge, remove water and reduce or kill agents that cause disease. Commonly used chemicals include polymers, lime acid caustic and metal salts. Chemical dust can cause irritation to the eye, nose, throat and lungs. Employees working in this area should use personal protective equipment.

Polymers
Polymers are used for sludge conditioning. Polymer vapors can irritate the eyes, nose and skin. Splashing the liquid into the eyes can cause chemical burns. Polymers are also very slippery, causing a walking surface hazard. Some polymers give off ammonia and formaldehyde fumes, and some contain traces of acrylamide, which can cause cancer and severe nerve damage.

Lime
Workers need personal protective equipment when working with lime. This should include gloves, eye protection, respirators, long-sleeved shirts with collars and long pants. Lime must be stored in dry areas to prevent moisture absorption. Contact with a small amount of water may cause fire.

Acids
Hydrochloric, nitric, phosphoric and sulfuric acids are used to adjust pH and to clean equipment. When acid comes in contact with the moist parts of the body, severe burns can result. Always use the proper personal protective equipment when handling acids.

Caustic Chemicals
Commonly caustic chemicals used for sludge conditioning are calcium hydroxide, sodium hydroxide and calcium oxide. The chemicals are used to aid coagulation, adjust pH, clean filter and neutralize acid spills.

Metal Salts
Metals are used for sludge conditioning, biological nutrients, neutralization, filter aids, coagulant aids and settling aids. The metal salts that are commonly used are ferric chloride, ferrous chloride, ferric sulfate, ferrous sulfate and aluminum sulfate. Contact with skin, mouth or eyes can cause severe burns.

24. SAFETY-RELATED PERSONNEL POLICIES AND PROCEDURES

The Town adopted Personnel Policies and Procedures (PP&P) on February 6, 2002. For easy reference, this section of the Code of Safe Practices includes copies of selected Personnel Policies and Procedures that help to ensure the safety of Town employees and our workplace.

24.1 PP&P Article 6 – Fitness for Duty Evaluations

6.1. The Town at its expense may require an employee to undergo a fitness for duty evaluation based on any reasonable cause.

24.2. PP&P Article 14 – Employee Safety / Violence in the Workplace

14.1. General Safety Rules

14.1.1. Safety is everyone's responsibility. All employees must use safe work practices and report any unsafe conditions that may occur. The Town also recognizes its responsibility to maintain safe workplaces.

14.1.2. All work-related injuries must be reported to the responsible supervisor. If there is any question regarding the appropriate supervisor, the report should be made immediately to the Administrative Services Director.

14.1.3. If a work-related injury may result in lost work time, the employee should be provided with a workers' compensation claim form within one (1) working day of the injury.

14.1.4. Individual departments may adopt specific safety rules applicable to their operations.

14.2. Violence in the Workplace Policy

14.2.1. Policy

14.2.1.1 Acts of violence, whether threatened, gestured, or carried out will not be tolerated in a Town of Windsor workplace. Anyone witnessing or becoming the subject or victim of such behavior shall immediately report it to the proper authorities for investigation. Minimizing the threat of violence is a duty of all employees to ensure a safe workplace.

14.2.1.2. It is the responsibility of all employees to notify a supervisor, the Administrative Services Director, or the Police Chief immediately of any violent act or a threat, or if a violent act or threat against themselves or any other Town employee occurs in the workplace or is directly associated with their employment with the Town of Windsor. Notification may be made to any of these persons as appropriate and shall be

as soon as practicable. Retaliation or the threat of retaliation against a person who reports such an incident is unlawful and shall not be tolerated.

14.2.1.3. Town employees shall not possess the following instruments at a Town worksite or on Town property, including Town parking lots, unless there is a work-related purpose and written approval has been obtained from the employee's Department Head:

(a) Firearms
(b) Explosives or ammunition
(c) Fixed blade knives
(d) Folding knives with blades over 3.5 inches
(e) Illegal weapons such as defined in Section 12020 of the California Penal Code

14.2.1.4. The Town shall take appropriate disciplinary action, up to and including termination of employment, against employees who violate this policy.

14.2.1.5. On a case by case basis, or as needed, the Town will offer incident-related counseling services through the Town's Employee Assistance Program (EAP), or any other resource or program made available by the Town, to employees who are the victims of violence or are subjects of threats of violence or intimidation at the workplace. The Town administration will work with public safety, the courts and other authorities necessary to assure employee safety.

14.3. Procedures - Imminent or Actual Violent Acts

14.3.1. Employee Responsibilities: An employee who is in immediate apparent danger of a violent act, or another employee who witnesses a violent act or the threat of a violent act shall, whenever possible:

(a) Place themselves in a safe location.

(b) Call the Police Department at 565-2121 and request the immediate response of a police officer. Be prepared to inform the police dispatcher of the circumstances and exact location of where an officer is needed.

(c) Inform a supervisor or manager of the circumstances.

(d) Refer media inquiries to the Town Manager's Office.

(e) Cooperate fully in any administrative or criminal investigation which shall be conducted within this policy and the laws.

14.3.2. Supervisor/Manager Responsibilities:

(a) Place themselves in a safe location.

(b) A supervisor or manager who is informed of a violent act or the threat of a violent act, shall whenever possible ensure the immediate safety of employees and the worksite by calling the Police Department at 565-2121, and notify the Department Head and Administrative Services Director.

(c) If feasible, the supervisor/manager shall have the involved individuals wait in separate rooms or locations until the police take control or remove them from the premises.

(d) In consultation with the Town Manager, determine if it is appropriate to obtain a restraining order or other appropriate injunctive and/or other legal and/or equitable relief.

(e) Reassign/relocate personnel or job duties, if required.

(f) Terminate any business relationship.

(g) Any other action deemed by the Town to be necessary or required under the circumstances.

(h) Supervisors shall obtain basic information from the employee and provide this to responding police personnel.

(i) Refer media inquiries to the Town Manager's Office.

14.3.3. Procedures – Future Violence

(a) Employees who have reason to believe they, or another Town employee, may be victimized by a violent act sometime in the future, at the workplace or as a direct result of their employment with the Town of Windsor, shall inform their supervisor immediately so appropriate action may be taken. The supervisor shall inform his/her Department Head.

(b) Employees who have signed and filed a restraining order, temporary or permanent, against an individual due to a potential act of violence, who would be in violation of the order by coming near them at work, shall immediately supply a copy of the signed order to their supervisor and the Administrative Services Director. The employee shall also supply a copy of the signed order and proof of service to the Town of Windsor Police Department.

14.3.4. Post-Incident Review

(a) The Town Manager's Office, the Administrative Services Department, the Police Department, and the affected department may conduct a post-incident review and use the review to evaluate this policy and procedure.

(b) The Town may determine what continuing support systems are needed and oversee post-incident activities.

24.3. PP&P Article 16 – Discipline / General Rules of Conduct

16.1. General Rules of Conduct

16.1.1. It is expected that all employees shall render the best possible service and reflect credit on the Town. Therefore the highest standards of professional conduct are essential and expected of all employees.

16.2. Disciplinary Actions

16.2.1. The Town of Windsor may invoke the following types of disciplinary actions:

(a) Official Reprimand
(b) Suspension Without Pay
(c) Reduction in Pay
(d) Demotion
(e) Disciplinary Probation
(f) Discharge/Termination

16.3. Grounds for Discipline

16.3.1. Disciplinary measures may be taken for any good and sufficient cause. Town employees who are employed "at-will," or who are temporary or probationary, are not subject to the requirement of good cause, and are not entitled to pre-discipline procedures or appeals under these policies

16.3.2. Good cause exists, not only when there has been an improper act or omission by an employee in the employee's official capacity, but when any conduct by an employee brings discredit to the Town, affects the employee's ability to perform his or her duties, causes other employees not to be able to perform their duties, or involves any improper use of their position for personal advantage or the advantage of others. The type of disciplinary action shall depend on the seriousness of the offense and the relevant employment history of the employee. Causes for disciplinary action against an employee may include, but shall not be limited to, the following:

(a) Misstatements or omissions of fact in completion of the employment application or to secure appointment to a position with the Town.

(b) Furnishing knowingly false information in the course of the employee's duties and responsibilities.

(c) Inefficiency, incompetence, carelessness or negligence in the performance of duties.

(d) Violation of safety rules.

(e) Violation of any of the provisions of these personnel rules and regulations,

department rules and regulations, Town policies, Town ordinances or resolutions.

(f) Inattention to duty.

(g) Tardiness, or overstaying lunch periods.

(h) Being under the influence of an intoxicating beverage or non-prescription drug, or prescription drugs not authorized by the employee's physician, while on duty or on Town property, when called in for emergency duty, or any other violations of the Town's Drug and Alcohol Free Workplace Policy.

(i) Disobedience to proper authority, refusal or failure to perform assigned work, to comply with a lawful order, or to accept a reasonable and proper assignment from an authorized supervisor.

(j) Any violation of the Town's Nondiscrimination Policy.

(k) Unauthorized soliciting on Town property.

(l) Unauthorized absence without leave; failure to report after leave of absence has expired or after a requested leave of absence has been disapproved, revoked or canceled; or any other unauthorized absence from work.

(m) Conviction of a felony, or a misdemeanor involving moral turpitude, or a violation of a federal, state or local law which negatively impacts the employee's ability to effectively perform his/her job or brings discredit to the Town.

(n) Offensive treatment of the public or other employees.

(o) Falsifying any Town document or record.

(p) Misuse of Town property; improper or unauthorized use of Town equipment or supplies; damage to or negligence in the care and handling of Town property.

(q) Fighting, assault and/or battery.

(r) Theft or sabotage of Town property.

(s) Sleeping on the job, except as specifically authorized for 24 hour duty personnel.

(t) Accepting bribes or kickbacks.

(u) Engaging in outside employment which conflicts with an employee's responsibilities.

(v) Intimidation or interference with the rights of any employee.

(w) Outside work or any other activity or conduct which creates a conflict of interest with Town work, which causes discredit to the Town, negatively impacts the effective performance of Town functions or is not compatible with good public service or interests of the Town service.

(x) Failure to maintain the necessary license or certification specified for the position.

(y) Abusive or intemperate language toward or in the presence of others in the workplace.

(z) Failure to maintain minimum qualifications, including required licenses or certificates.

(aa) Any other conduct of equal gravity to the reasons enumerated above as determined by the Town.

16.4. Authority to Discipline

16.4.1. Any authorized supervisory employee may institute disciplinary action for cause against an employee under his/her control in accordance with the procedures outlined in these rules.

16.5. Procedure for Disciplinary Action

16.5.1. In the absence of a process in a MOU, employees covered by this policy shall be governed by the following provisions:

16.6. Written Notice / Pre-Discipline Meeting / Final Action

16.6.1. The Town shall issue a written notice of discipline, describing the intended discipline, the basis for the discipline, and attaching any documents upon which the discipline is based. The affected employee may respond by submitting a rebuttal to be lodged in the employee's personnel file, but no further appeal shall be permitted.

16.6.2. For discipline that is greater in severity than a suspension of five working days, the employee shall also receive notice of the right to respond, either orally or in writing, before discipline is imposed. The Town shall set the meeting approximately one week from the date of the notice, unless a different time and date is set by mutual agreement.

16.6.3. The Town Manager, or designee, shall convene a meeting to review the employee's response and position before imposing discipline. The employee shall be entitled to a representative of his/her choice; provided, however, that the inability of a particular representative to attend the meeting shall not be cause requiring a continuance of the meeting. At the meeting, the employee shall be provided the opportunity to

respond to the charges and to present any new information for consideration by the Town.

16.6.4. At some reasonable time after the employee has been provided an opportunity to respond to the charges, the Town shall issue a final notice of discipline. The notice shall include the final decision, the effective date of the discipline and the facts upon which the discipline is based.

16.7. Appeal

16.7.1. For discipline that is greater in severity than a suspension of five working days, employees shall have the right to appeal from the final decision. The notice of appeal must be received within seven (7) calendar days from the date of the final notice of discipline, or the right to appeal is waived and the discipline shall become final.

16.7.2. The appeal shall be heard by an independent hearing officer to be selected by the Town.

16.7.3. The costs of the hearing officer shall be borne by the Town. Either party may request that the matter be transcribed, and the requesting party shall bear the expense of the transcript.

16.7.4. The hearing officer shall have the authority to convene the hearing, receive evidence through testimony and documents and to make findings of fact and conclusions about the discipline. The hearing officer may recommend an outcome, but the final authority rests with the Town Manager. The hearing officer shall serve a recommended decision on the Town and the employee. The Town Manager shall issue a final decision. The Town Manager's decision is reviewable by administrative writ of mandamus.

24.4. PP&P Article 21 – Drug and Alcohol-free Workplace

21.1. The Town's workplace shall be drug and alcohol-free.

21.2. No employee shall unlawfully manufacture, distribute, dispense, possess, use or be under the influence of any alcoholic beverage, drug or controlled substance as defined in the Controlled Substances Act and Code of Federal Regulations during work hours or in any Town designated workplace. Alcoholic beverages may only be served on Town property at events expressly approved by the Town Manager.

21.3. Upon reasonable suspicion of an employee being under the influence while on duty, the Town may require the employee to submit to drug and alcohol testing, at the Town's expense. Employees who decline to submit to such testing may be subject to discipline, up to and including termination of employment.

21.4. The Town shall periodically distribute the following Notice to employees.

21.4.1.

DRUG AND ALCOHOL-FREE WORKPLACE
NOTICE TO EMPLOYEES

YOU ARE HEREBY NOTIFIED that it is a violation of Town policy for any employee at a Town work site to unlawfully manufacture, distribute, dispense, possess, use or be under the influence of any alcoholic beverage, drug or controlled substance as defined in the Controlled Substances Act and Code of Federal Regulations.

Town work site is defined as any place where Town work is performed, including a Town owned building or other premises and any Town owned or approved vehicle used in the conduct of Town business.

As a condition of your continued employment with the Town, you will comply with the Town's policy on Drug and Alcohol-Free Workplace and will, any time you are convicted of any criminal drug or alcohol statute violation occurring in the workplace, notify your supervisor of this conviction no later than five days after such conviction.

The following drug and alcohol counseling, rehabilitation, and/or employee assistance programs are available locally:

CIGNA Behavioral Health EAP & Work/Life Program
1-888-371-1125

24.5 PP&P Article 25 – Dress Code

25.1. Employees of the Town are required to dress appropriately for the jobs they are performing. Therefore, the dress regulations contained in this section shall be followed.

(a) All clothing must be neat, clean and in good repair.
(b) Prescribed uniforms and safety equipment must be worn where applicable.
(c) Footwear must be appropriate for the work environment and functions being performed.
(d) Hair must be neat, clean and well groomed.
(e) Beards, mustaches and sideburns must be maintained in a neat and well-groomed fashion.
(f) Jewelry is acceptable except in areas where it constitutes a health or safety hazard.
(g) Good personal hygiene is required.
(h) Dress must be appropriate to the work setting, particularly if the employee deals with the public.
(i) Employees may be required to wear uniforms specified by the Town. Town uniforms shall be worn in a professional manner.
(j) Employees shall be mindful of other employees' sensitivity to perfume and other fragrances, and employees shall refrain from wearing fragrances that are offensive or harmful to others.

25. CAL/OSHA HEAT ADVISORY

CAL/OSHA HEAT ADVISORY

When employees work in hot conditions, employers must take special precautions in order to prevent heat illness. Heat illness can progress to heat stroke and be fatal, especially when emergency treatment is delayed. An effective approach to heat illness is vital to protecting the lives of California workers.

Employers of outdoor workers must comply with the new permanent heat illness prevention standard. This standard requires employers to take four simple steps that include shade, water, training and written procedures These can greatly reduce the risk of outdoor workers developing heat illness.

Heat illness results from a combination of factors including environmental temperature and humidity, direct radiant heat from the sun or other sources, air speed, and workload. Personal factors, such as age, weight, level of fitness, medical condition, use of medications and alcohol, and acclimatization affect how well the body deals with excess heat.

Heat Illness Risk Reduction

1. Recognize the Hazard.
There is no absolute cut-off below which work in heat is not a risk. With heavy work at high relative humidity or if workers are wearing protective clothing, even work at 70°F can present a risk. In the relative humidity levels often found in hot areas of California (20 to 40 percent) employers need to take some actions to effectively reduce heat illness risk when temperatures approach 80°F. At temperatures above 90°F, especially with heavy work, heat risk reduction needs to be a major concern. **It is especially important to be vigilant during periods of abnormally high heat.**

2. Water.
There must be an adequate supply of clean, cool, potable water. Employees who are working in the heat need to drink 4 eight-ounce glasses of water per hour, including at the start of the shift, in order to replace the water lost to sweat. For an eight-hour day this means employers must provide two or more gallons per person. Many people can be very dehydrated and not feel thirsty at all. Employees need ongoing encouragement to consume adequate water.

3. Shade and Rest Breaks.
Employers are required to provide shade for recovery periods when employees need relief from the heat. The direct heat of the sun can add as much as 15 degrees to the heat index. Heat illness occurs due to a combination of environmental and internal heat that cannot be adequately dissipated. Rest breaks are important to provide time for cooling and provide an opportunity to drink water. Breaks should be taken in cooler, shaded areas. Wide brimmed hats can also decrease the impact of direct heat.



Drink water frequently.
Avoid soda, alcohol and coffee.

4. Acclimatization.
People need time for their bodies to adjust to working in heat. This "acclimatization" is particularly important for employees (1) returning to work after a prolonged absence or recent illness, (2) recently moving from a cool to a hot climate, or (3) working during the beginning stages of a heat wave. For heavy work under extremely hot conditions, a period of 4 to 10 days of progressively increasing work time starting with about 2 hours work per day, though not required, is recommended. Also recommended, for less severe conditions at least the first 2 or 3 days of work in the heat should be limited to 2 to 4 hours. Monitor employees closely for signs and symptoms of heat illness, particularly when they have not been working in heat for the last few days or when a heat wave occurs.

5. Prompt Medical Attention.
Recognizing the symptoms of heat illness and providing an effective response requires promptly acting on early warning signs. Common early symptoms and signs of heat illness include headache, muscle cramps, and unusual fatigue. However, progression to more serious illness can be rapid and can include unusual behavior, nausea/vomiting, weakness, rapid pulse excessive sweating or hot dry skin, seizures, and fainting or loss of consciousness. **Any of these symptoms require immediate attention.**

Even early symptoms may indicate serious heat exposure. If first aid trained personnel are not immediately available on-site to make an assessment and workers show any abnormal response to the heat, you should call 911 immediately. Regardless of the worker's protests, no employee with any of the symptoms of possible serious heat illness noted above should be sent home or left unattended without medical assessment and authorization.

6. Training.
Supervisors and employees must be trained in the risks of heat illness and the proper measures to protect themselves and their co-workers. Training should include:
1. Why it is important to prevent heat illness
2. Procedures for acclimatization
3. The need to drink water frequently
4. The need to take breaks out of the heat
5. How to recognize the symptoms of heat illness
6. How to contact emergency services and how to effectively report the work location to 911
7. The importance of choosing water instead of soda or other caffeinated beverages and avoiding alcoholic beverages all together during high heat.

7. Written Procedures
Employers are required to put their heat illness prevention procedures, including employee training in writing. It is recommended this document be incorporated into the employers Injury and Illness Prevention Plan. Other recommended procedures include account for all your workers during and at the end of the work shift. Check the heat index prior to starting work each day. If the temperatures are high, consider beginning and ending your shifts early. If possible, work should be performed in the shade.

08/01/2006

26. IMPORTANT ADDRESSES AND TELEPHONE NUMBERS

- All emergencies **911**
- Windsor Fire Protection District.....838-1170
  8200 Old Redwood Highway
  Windsor, CA 95492
- Windsor Police Department – Dispatch.....565-2121
- Kaiser Occupational Health Center 571-3000
  After hours, urgent & emergency care.....571-4800
  401 Bicentennial Way
  Santa Rosa, CA 95403
- Sonoma County Poison Control.....1-800-876-4766
- National Response Center (NRC) Toxic
  Chemical and Oil Spills 1-800-424-8802
- Pacific Gas & Electric Emergency & Customer
  Service 1-800-743-5000
- USA Alert 1-800-227-2600
- Santa Rosa Fire Equipment.....546-0797
- CIGNA Behavioral Health (EAP Program).....1-888-371-1125
- CalOSHA Reporting of Serious Injury/Death 1-800-321-6742
- Town Safety Officer / Alternate .....838-5354 / 838-5363
  Cell phone 217-8383
- Redwood Empire Municipal Insurance Fund (REMIF) (707) 938-2388
- **CAL North Ed Chasco**, Adjuster.....(707) 539-7017
- After Hours ……(707) 548-2165
- Bay Alarm.....(800) 470-1000