Silver Lake Water & Sewer District

SAFETY POLICY MANUAL

2023

Table of Contents

Silver Lake Water & Sewer District

SILVER LAKE WATER AND SEWER DISTRICT

ACCIDENT PREVENTION PROGRAM
WAC 296-800-140

Employees are required to comply with all District safety rules and are encouraged to actively participate in our Safety program.

Supervisors are responsible for the safety of their employees and are required to monitor the workplace as part of their day-to-day duties for unsafe conditions, careless actions, and any hazards.

Management devotes every opportunity and provides the resources necessary to promote safety. The District will maintain a system for identifying and correcting hazards, plan for foreseeable emergencies, and will provide initial and ongoing training for employees and supervisors. To ensure compliance with District safety efforts, the District will enforce a disciplinary policy when required to ensure that safety remains one of the District's highest priorities.

The District's philosophy is that all "incidents" (near misses, property damage, occupational diseases, injuries requiring first-aid, etc.) and loss-time injuries are preventable. Our goal is zero occurrences.

SAFETY RULES

Silver Lake Water and Sewer District is committed to the safety and security of its employees, operations, property, and the public. Therefore, the company integrates and enforces its Safety program throughout its daily operations. Willful disregard of any company safety rule and/or regulation will result in disciplinary action up to and including termination of employment.

Your actions should always be guided by the company's commitment to safety. Should a hazardous situation or condition exist, and a decision must be made on safety or production, safety concerns are to always take precedence over production.

It is the responsibility of managers and supervisors to see that every employee at Silver Lake Water and Sewer District is provided with safe working conditions, observes all safety regulations, and uses good common sense for self-protection and the protection of others. (A supervisor will periodically inspect working conditions and may suspend all work activity until an unsafe condition is corrected.)

The most important component of safety is **YOU**. Make it your responsibility to follow all safety rules; they are designed to protect you from harm.

RULES WHICH MUST BE OBSERVED AT ALL TIMES:

- You are expected to report any injury within a reasonable time, however minor.
- Report all dangerous conditions and practices to your supervisor IMMEDIATELY.
- All defective materials or tools must be brought to the attention of the supervisor and not remain on the job.
- Provided safety glasses and hearing protection must always be used while in required areas.
- Wear clothes suited for the job. Open-toed shoes, tank tops, or short pants are not allowed.
- Practice good housekeeping. Keep work areas clean and free from trip hazards, grease, etc.
- Ensure your actions do not endanger others, damage company or personal property.
- Always keep guards and protective devices in place.
- Use tools only for their intended purposes. Do not use broken or dangerously dull tools.
- Do not attempt to operate machinery or equipment without permission and instructions.
- Do not repair or adjust machinery while it is in operation. Follow Lock-out/Tag-out Safety procedures. Never oil moving parts, except on equipment fitted with safeguards for this purpose.
- Do not engage in horseplay, practical jokes, gambling, selling merchandise, solicitation, or general loitering while on company property. This applies any time you are on company premises.

RESPONSIBILITIES – MANAGEMENT/SUPERVISORS/EMPLOYEES

Safety and health responsibilities involve management and employees taking appropriate steps at the right time.

MANAGEMENT RESPONSIBILITIES

The management of Silver Lake Water and Sewer District is committed to meeting its safety and health obligations under the law (WAC-296-800-110), and any relevant standards, guidelines or "best practices." Management's responsibility is to ensure a safe and healthy working environment for its employees, visitors, and all persons using the premises as a place of work. Management will:

- Actively display interest in safety and health matters at every opportunity.
- Participate in the annual audit of safety & health systems. Plan goals for improvement.
- Promote a company-wide safety mindset.
- Establish realistic injury/incident reduction goals and enforce steps to meet those goals. Routinely analyze number, cost, and type of significant injuries/incidents occurring.
- Evaluate and monitor channels of communication (meetings, training, safety committee, employee involvement, etc.) on safety issues to ensure program is effective.
- Improve strict guidelines on the reporting, recording, and appropriate investigation procedures of all injuries/incidents, including follow up and corrective action(s).
- Ensure employees have ongoing opportunities to represent their interests in all matters relating to health and safety. The company will provide a dedicated safety bulletin board to communicate safety and health information.
- Ensure that all likely emergency/readiness procedures are effective with any operation.
- Ensure that on-site contracting work will not disrupt normal work patterns or create workplace hazards.
- Assess and prioritize significant hazards and develop and implement action plans to eliminate or control them.
- Each work area will receive a written hazardous assessment.
- Ensure that PPE requirements (based upon hazard assessments for each task) are met and that funds are budgeted for proper equipment.
- Enforce effective guidelines on exposure and safe handling and transporting of dangerous/hazardous substances.
- Ensure the company's record keeping system (OSHA 300/301) for occupational injuries and illnesses is complete.

SUPERVISOR RESPONSIBILITIES

Each supervisor is primarily responsible for enforcing safety rules and ensuring that the work environment is free from recognized health and safety hazards for the employees they supervise. Specific responsibilities include:

- Ensure each employee has received a work area specific orientation before beginning work.
- Ensure that (new and experienced) employees understood training and employees are competent in accomplishing each job/task safely and efficiently before starting. Complete Safety Orientation with employee before they start a new job/task.
- Require the proper care, storage, and use of all appropriate protective equipment.

- Do a daily walk-around safety check of the work area. Take prompt action when unsafe acts, practices, conditions and/or equipment are reported or noted. Develop appropriate controls.
- Receive, act, and follow up on employee suggestions, awards, or disciplinary measures.
- Set a good example for employees, follow all safety rules and actively support and participate in the company's Safety and Health program.
- Investigate injuries/incidents expeditiously (within 12 hours of knowledge of an incident). Report all on-the-job incidents promptly to management and request medical treatment, if necessary.
    - Submit written Supervisor's Accident Investigation Report to Safety Officer.
    - Obtain Doctor's Release for Work form before allowing the employee to return to work.
    - Preserve injury scene when incident requires L&I's full investigation. The only exception would be if the potential for further injury or damage is imminent, such as an explosion or fire.
- Assure that all employees understand safety and health rules, regulations, policies, and procedures. Review rules with employees as the job or conditions change or when workers develop a specific record.
- Inform and train all employees on the hazardous chemicals they may encounter under normal working conditions or during an emergency. (See separate HazCom Program).
- Conduct crew/leader monthly meetings to detect and eliminate unsafe conditions/work procedures. Keep records on who attended and what was covered as well as the date that the meeting occurred.

EMPLOYEE RESPONSIBILITIES

An employee performing a job is usually in the best position to assure the safety of that job. Therefore, every employee should be held responsible for and measured on how well he/she understands and follows Silver Lake Water and Sewer District's safe practices listed below:

- All company safety and health rules, WISHA safety standards and training received, will be observed. Violation of these rules, safe work practices, and failure to use safety equipment may result in disciplinary actions up to and including termination of employment.
- All hazards/near misses/unsafe acts/unsafe conditions must be promptly reported. Reports are used to prevent future accidents; you are required to report to a supervisor or safety committee representative.
- Any personal job-related injury/illness, no matter how minor, must be reported to my supervisor within a reasonable time.
- All Personal Protective Equipment (PPE) will be checked before each use. Report any discrepancies/malfunctions to my supervisor. Use only the appropriate Personal

Protective Equipment (PPE) assigned for specific tasks. Properly maintain and store equipment when not in use.

- All safeguards provided for my protection will not be removed, bypassed, or ignored. All hazard warnings and no smoking signs will be observed.
- All witnesses to industrial injury/illness events must be reported to the work area supervisor within a reasonable time.
- Locate all safe exits and remember all evacuation procedures.
- Never report to work when under the influence of alcohol and/or narcotics. Notify my supervisor if authorized prescription drugs, requiring a precautionary label, must be taken during work.
- Frayed, torn or loose clothing, jewelry or long unrestrained hair is strictly prohibited near moving machinery, equipment, or other sources that have the potential for causing harm.
- Ask my supervisor questions if uncertain about any safety or operating procedure. Feel free to suggest changes to supervisor, safety committee representative, or management that will improve safe work practices.

I understand and agree with the above terms.

Employee Signature: _____
Date: _____

EMPLOYEE SAFETY ORIENTATION & TRAINING

WAC 296-800 requires management to ensure that all (new/transferred) employees are informed of their own and management's responsibilities in this program. Supervisors must also ensure that their employees have specific knowledge and understand the information and training concerning management of hazards to which they are exposed through workplace procedures, environment, equipment, and materials.

EMPLOYEE SAFETY TRAINING PROCEDURES

1. Management will ensure that the immediate supervisor or lead of a new employee will conduct a site-specific safety orientation, utilizing a company safety orientation checklist. The following items are to be covered:
    - Introduction of company/department policies
    - Plant safety rules discussed – including disciplinary action.
    - The reason behind the company's safety training efforts and why we want workers to be safe.
    - Tour of facility.
    - Employee responsibilities reviewed.

- Documentation of safety orientation – with signatures and filed in personnel folder.

2. Supervisors will provide job site safety training if employee is doing a new/different job rather than his/her regular job. Topics covered should include:
    - Safety hazards anticipated in certain projects.
    - Fall Protection/Fall Arrest Program.
    - Proper use, storing, and maintenance of Personal Protective Equipment (PPE).
    - Review/demonstrate correct lifting procedures.
    - Use of Lock-out/Tag-out procedures.
    - Hazardous chemicals in use, the hazards associated with the chemicals, the appropriate means to protect employee from hazards, and the location of the Safety Data Sheet (SDS) book for further information.
3. Supervisors will perform a follow-up review of safety procedures on new hires to be done after 2 weeks and again in 3 months.

SAFETY COMMITTEE

Personal involvement at all levels of Silver Lake Water and Sewer District is critical for the company to be successful in its Accident Prevention Program. Therefore, a joint employee/management Safety Committee has been established to bring workers and management together in a non-adversarial, cooperative effort, to promote safety and health in the company. This Safety Committee will assist Silver Lake Water and Sewer District in making recommendations for change.

- Employees in each division will elect an employee representative to be on the committee.
- Elected representatives will serve for one year before being re-elected or replaced.
- In addition to the employee-elected representatives, management will designate no more than two management representatives but a minimum of one who will serve until replaced by management.
- A chairperson will be selected by a majority vote of the committee members each year.
- In addition to the committee's responsibilities explained above, duties of the Safety Committee members include, but are not limited to:
    - A monthly self-inspection of the area they represent.
    - Communicating with the employees they represent on safety issues and encouraging safe work practices among co-workers.
    - Incident review (near misses, first aid administered, workers' comp claims, etc.)
- Time of meeting: 8:30 a.m. – 9:30 a.m. – 1st Thursday of each month.
- Location: Office Conference Room. This may be changed by vote of the committee.

- A committee member will be designated each month to record minutes. A copy will be posted on the employee bulletin board after each meeting. After being posted for one month, the minutes will be filed for one year. The minutes contain the basic monthly meeting agenda.
- Based upon a vote of the committee, ineffective elected members can be voted out of the committee by the Safety Committee membership.

EMPLOYEE SAFETY MEETINGS

All employees are required to attend a monthly Safety meeting held on various dates that work best for attendance and staff workload. Location will be in the Headquarter Board Room, Teams Meeting, or onsite at various locations depending on the topic. This meeting is to help identify safety problems, develop solutions, review incidents reports, provide training and evaluate the effectiveness of our Safety program. Minutes will be recorded and kept on file for at least one year.

REPORTING & RECORDING – UNSAFE CONDITIONS/PRACTICES/ACTS

1. Employees are required to report any hazardous condition/practice/act that may be harmful, to their immediate supervisors.
2. The immediate supervisor, along with the worker, will conduct and document a fact-finding investigation of the event for correction. In the case of an incident or injury, the injured worker will complete an Employee Report of Accident form, and the supervisor will complete a Supervisor's Report of Accident form. Both reports are to be completed independently.
3. There are First Aid Kits located at the District Headquarters Site in the large kitchen and the maintenance shop at the south code-in entry by the receiving area. At the Operations and Maintenance Facility West on 132nd Street, the first aid kit is located in the operations maintenance office. In addition, all District vehicles carry updated first aid kits.
4. Training is required every 2-years for District staff. Staff will be trained in CPR/First Aid/AED/ and Bloodborne Pathogen awareness.

REPORTING & RECORDING – INJURIES/INCIDENTS

1. Employees are required to report any work-related incident/injury to their respective supervisors within a reasonable time following the event regardless of how minor. Failure to report work-related injuries/incidents in a timely manner may result in the denial of benefits under the workers' compensation law.
2. Upon being advised of the incident, the supervisor should report immediately to the scene of the occurrence to assure prompt medical attention for employee involved and address any safety hazards which may have caused or contributed to the incident. In the event the incident occurred outside the employee's work area, the supervisor on duty in the area where the incident occurred should report to the scene immediately.

3. It is essential that a Supervisor's Accident Investigation Report be completed. It is the responsibility of the supervisor on duty to fill out this form accurately and completely. In addition to completing the report, the supervisor should document the names of any co-workers who may have witnessed the incident.
4. *Report all injuries to the Archbright™ claims manager within a 24-hour period if member of Archbright' s Worker's Compensation Program.*
5. In-patient hospitalizations or fatalities of any worker ***must*** be reported to Washington State Department of Labor & Industries (L&I) within 8 hours. Non-hospitalized amputation or loss of eye due to on-the-job injury must be reported within 24 hours. Call 1-800-423-7233.

   Information needed for reporting:

   - Company name
   - Location
   - Time of incident
   - Number of employees involved
   - Extent of injuries or illness
   - Brief description of what happened
   - Name and phone number of a contact person at the company

   Do not disturb the scene except to aid in rescue or make the scene safe.
6. The supervisor should advise management of immediate hazards, which warrant prompt investigation and/or remedy.

SILVER LAKE WATER AND SEWER DISTRICT TAILGATE SAFETY MEETING

DATE OF WORK	TIME		DURATION OF JOB	FORM FILLED IN BY

ADDRESS OF WORKSITE

TYPE OF WORK PERFORMED (CHECK ALL THAT APPLY)

□ CONFINED SPACE ENTRY
□ EXCAVATION SAFETY
□ ELECTRICAL SAFETY
□ FLUSHING
□ FLAGGING EVENT
□ VEGATATION MANAGEMENT (BOOM MOWER)
□ VACTOR TRUCK (SEWER CLEANING)
□ PUMP WORK/REMOVAL
□ RIGGING/CRANE WORK
□ WATER MAIN SHUTDOWN
□ EROSION CONTROL
□ LIFT STATION
□ RESERVOIR

□ Other Types of Work Performed

SAFETY TOPIC OF DISCUSSION (CHECK ALL THAT APPLY)

□ AIR MONITORING
□ CONFINED SPACE ENTRY PROCEDURES
□ FALL PROTECTION
□ HYDRO EXCAVATOR SAFETY
□ LOCK OUT/TAG OUT
□ PEDESTRIAN SAFETY
□ PPE (PERSONSAL PROTECTIVE EQUIPMENT)
□ OVERHEAD HAZARDS
□ TRAFFIC CONTROL
□ HEAT STRESS
□ HYPOTHERMIA
□ LIGHTING
□ COMMUNICATION EQUIPMENT
□ WALK AROUND INSPECTIONS
□ TRAFFIC SAFETY

□ Other Safety Topics Discussed

EMPLOYEE SIGNATURE	EMPLOYEE PRINT NAME

WORK SITES (CHECK ALL THAT APPLY)

SEWER

- ☐ STATION #2, 11610 51ST AVE SE
- ☐ STATION #3, 6231 134TH PLS SE
- ☐ STATION #4, 10500 35TH AVE SE
- ☐ WOODLANDS NORTH, 4011 102ND PL SE
- ☐ WOODLANDS EAST, 4101 105TH PL SE
- ☐ PIONEER TRAILS, 3501 125TH PL SE
- ☐ 164TH STREET STATION, 16331 35TH AVE SE
- ☐ CREEKSIDE, 12400 58TH ST SE
- ☐ 180TH STATION, 3917 180TH ST SE
- ☐ THE POINT, 10607 45TH AVE SE
- ☐ HIGHLANDS 1, 12811 66TH AVE SE
- ☐ HIGHLANDS 2, 12400 68TH AVE SE
- ☐ SILVER FIRS, 15412 52ND AVE SE
- ☐ VALMONT, 3807 99TH ST SE
- ☐ BRASSWOOD, 8028 East Lowell-Larimer RD
- ☐ SECTOR #7, 7704 132ND PL SE
- ☐ WALDENWOOD, 10900 51ST AVE SE
- ☐ THOMAS LAKE, 3915 138TH ST SE
- ☐ LARIMER 1, 5314 LOWELL-LARIMER RD
- ☐ LARIMER 2, 6002 LOWELL-LARIMER RD
- ☐ HIGHLANDS EAST, 12601 71st Drive SE

WATER

- ☐ MASTER METER #1, 2100 100TH ST SE
- ☐ MASTER METER #2
- ☐ MASTER METER #3, Peters Place/Freeway Place
- ☐ MASTER METER #4, 7429 CATHCART WAY
- ☐ MASTER METER #5, 14932 SNOHOMISH CASCADE DR SE
- ☐ MASTER METER #6, 12411 SEATTLE HILL RD
- ☐ MASTER METER #7, 7809 132ND ST SE
- ☐ MASTER METER #8, 3917 180TH ST SE
- ☐ PRV WEST, 14931 67TH AVE SE
- ☐ PRV EAST, 5905 153RD PL SE

RESERVOIR SITES

- ☐ RESERVOIR #2, 6804 152 ST SE
- ☐ RESERVOIR #3, 2305 100TH ST SE
- ☐ RESERVOIR #4, 2220 132ND ST SE

OTHER SITES

- ☐ DISTRICT OFFICE, 15205 41ST AVE SE
- ☐ OLD OFFICE SITE (O&M WEST), 2210 132ND ST SE
- ☐ CLEARVIEW PUMP STATION, 8114 64TH ST SE
- ☐ CATHCART LANDFILL, 8915 CATCART WAY SE

Silver Lake Water & Sewer District

Employee Injury Report

Shaded Area for Supervisors Only

Employee's Last Name	First Name	Middle Initial

Street Address	City	State	Zip

Department	Hire Date	Age	Sex □ Male □ Female	Social Security Number	Marital Status □ Single □ Married

Number of Dependants	Today's Date	Position	□ Regular □ Intermittent/FTE:__ □ Temporary

Date of Injury	Time of Injury	Time Lost	Address Where Injured

Name(s) of Patient/Witness	Direct Supervisor

Describe Accident (include equipment, object, or substance involved)-**GIVE FULL DETAILS**

PART OF BODY		**TYPE OF INJURY**	**SEVERITY OF INJURY**
□ 01 Head	□ 11 Hand	□ 01 Wound	□ 01 Incident-Non Recordable
□ 02 Eyes	□ 12 Finger	□ 02 Sprain/Strain	□ 02 Treat & Return to Work
□ 03 Nose	□ 13 Leg	□ 03 Hernia	□ 03 Restricted Work Activity
□ 04 Mouth	□ 14 Foot	□ 04 Fracture	□ 04 Lost Work Days Only
□ 05 Ear	□ 15 Toes	□ 05 Amputation	□ 05 Temporary Transfer
□ 06 Shoulder	□ 16 Internal	□ 06 Infection, Disease Exposure	□ 06 Permanent Transfer
□ 07 Back	**MULTIPLE INJURIES**	□ 07 Burns	□ 07 Termination
□ 08 Chest	□ 17 Head	□ 08 Irritations	□ 08 Fatality
□ 09 Arms	□ 18 Upper Body	□ 09 Asphyxiation	
□ 10 Wrist	□ 19 Lower Body	□ 10 Tendonitis	

Describe Any Related Unsafe Acts:	Describe Any Related Unsafe Conditions:

Was An Unsafe Act Committed?	Were Conditions Unsafe?

What, if anything, could you have done to prevent this accident?

What, if anything, can you do to prevent a similar accident?

INJURED EMPLOYEES SIGNATURE:	**SUPERVISOR SIGNATURE:**

WAS THIS ACCIDENT REPORTED TO THE DEPARTMENT OF LABOR AND INDUSTRIES?

□ YES □ NO Date Reported: ___/___/____

NOTES:

Silver Lake Water & Sewer District

SAFETY ORIENTATION

EMPLOYEE NAME_____ **DATE**_____

☐ **PPE (Personal Protective Equipment)**

- Steel Toe boots;
- Hard hat;
- Safety glasses;
- Safety vest;
- Gloves (leather and other).

☐ **Back Injury**

- Team lift;
- Planned lifts;
- Use legs and good form when lifting.

☐ **Bloodborne Pathogens**

- Always use Universal Precautions;
- Go over Hepatitis Vaccinations;
- Provide dates of Immunization if available.

☐ **Confined Space Entry**

- Training to occur yearly.

☐ **Defensive Driving Program**

- Seat Belts are Mandatory;
- No talking on cell phones unless you have a hands-free device;
- No texting while driving a vehicle;
- Obey all posted speed limits and be aware of school zones;
- If anything gets damaged on a vehicle you are operating, report immediately to your supervisor.

☐ **Excavation Safety**

- Follow crew instructions and wear all PPE;
- Pay attention to backup alarms and stay clear of large equipment.

☐ **Hearing Conservation**

- Always use protection, go overuse of disposable plugs. Earmuffs are available.

☐ **Lock out/Tag out**

☐ **Heat Stress**

- Always drink an ample amount of water during the day, especially in the summer season;
- Take breaks during the day to cool down and to prevent overheating on hot days;
- Use the vehicles air conditioning to assist in cooling down if you feel overheated;
- Know the signs of Heat Exhaustion and Heat Stroke;
- A District issued water bottle (32 oz) will be assigned to you. Put your name on it and use it daily.

☐ **SDS**

- Go over binders and how to use.

☐ **Personal Safety**

- Keeping yourself safe in all situations.

☐ **Work Zone/Traffic Control**

☐ **Independent Work Safety**

- While working in meter boxes or doing individual tasks, follow all safety precautions. Go over manual section.

☐ **Fire Safety**

- Should a fire alarm go off at any of the Headquarter Buildings, evacuate the premise immediately. Meet at the south parking lot, next to the Fire Hydrant.

☐ **Safety Meetings**

- Attend each month with the crew or as needed or required;
- Tailgate Safety meetings are held daily on crew projects.

☐ **Sick Leave**

- Email the "Operations Supervisors" to let them know you are sick or provide them a text message;
- Fill in a Request for time off (see slips in Lead offices), submit to your direct supervisor.

☐ **Vacation**

- Submit vacation requests as soon as you know your dates. Try to give advance notice for supervisors to schedule your time off.

☐ **Workday**

- 8:00 a.m. start time first day for orientation (Safety, IT, and Finance);
- 7:00 a.m. start time and 3:30 p.m. end day, or 8:00 a.m. – 4:30 p.m. each day;
- 9/80 Flex Schedule available to Full Time Field staff;
- 30-minute lunch break each day, usually around noon or when crew observes time; lunchrooms are available at both HQ site and old 132nd Street Site;

- A non-scheduled 10-minute break is available to each employee in the morning and afternoon.

☐ **Timecards**

- You are responsible to keep your timecard filled in and up to date. Turn timecard in to your immediate supervisor at the end of the month, for review. Lucity records the timecards.

☐ **Job Duties**

- See your direct supervisor for daily assignments.

☐ **Flagging / CPR, First Aid, AED / Forklift Cert Dates**

Employee Signature_____**Print**_____

Supervisor Signature_____**Print**_____

Date_____

Notes or Comments_____

_____

_____

SILVER LAKE WATER AND SEWER DISTRICT

ARC WELDING & OXY-FUEL SAFETY PROGRAM

INTRODUCTION

Welding is a production and creative process that joins materials, such as metals or thermoplastics together, resulting in coalescence. This is often done by melting particular work pieces and adding filler material to form a pool of molten material that cools to become a strong joint. Out of the many different welding styles that are available, Silver Lake Water and Sewer District chooses to operate the arc and oxy fuel welding methods. Arc welding is a type of welding that uses a power supply source to create an electric arc between an electrode and the base material to melt the metals at the welding point. In oxy-fuel welding, a welding torch is used to melt and join metals together. A pool of molten metal is formed as a result of two pieces of metal being heated together at a specific temperature. The molten pool is generally supplied with additional metal called filler. The type and the amount of filler material depends upon the metals to be welded. As an employee of Silver Lake Water and Sewer District, there are specific guidelines and precautions that must be taken by you, the employee, prior to, in the process of, and posterior to the production of a weld in order to ensure proper safety, along with completion of the task in an efficient manner.

***Weld repairs fit into three categories*:**

1. Removal of excess metal.
2. Deposition of additional metal.
3. Removal and reapplication of metal.

PURPOSE

Recognizing the benefit of establishing our own welding program at Silver Lake Water and Sewer District, it is important that we be aware of the potential hazards and safety procedures that accommodate this program. Whether arc welding, oxy-fuel welding, or plasma cutting, performing a weld or cut carries along with it the potential of a serious accident. The following sets of information are safety tips to keep in mind but are not intended to be a comprehensive lesson in safety. The points that are listed below are purposed towards the prevention of injury and to lessen its potential.

HAZARDS

As stated previously, it is important that we be aware of the potential hazards and safety procedures that accommodate this program. A few of the hazards that might be present when approaching a weld or in the process of welding can be very severe, leading to serious injury or potentially death. The list that follows consists of only some of the potential hazards that one might come across when performing a weld. The welding process emits sparks which can present a fire hazard. Also, arc welding produces intense visible and invisible rays that can burn the eyes and the skin. In these situations, be mindful of the possibility of a passerby being subjected to the arc flash. Welding produces metal fumes and gases that can make you sick. The hazard depends on the welding method (such as MIG, TIG, or stick), what the welding rod, (electrode) is made of, filler metals and base metals (such as mild steel and stainless steel), paints and other coatings on the metals being welded, and proper ventilation.

Listed below are some of the potentials "Chemical & Physical" agent hazards that are present when performing a weld:

Chemical Agent Hazards

- Zinc
- Cadmium
- Beryllium
- Iron Oxide
- Mercury
- Lead
- Fluorides
- Chlorinated Hydrocarbon Solvents
- Phosgene
- Carbon Monoxide
- Ozone

Physical Agent Hazards

- Ultraviolet Radiation
- Infrared Radiation
- Intense Visible Light

PREVENTION

Most welding accidents occur from wearing improper/inadequate clothing, the usage of improper equipment, and working in an environment where conditions may be unsuitable with the work task. The following information compiled by OSHA, provides one with a clear understanding of the preventative precautions that should be taken when

approaching a weld or while in the process of a weld. Be sure to use the safest welding method for the job.

CLOTHING

When welding, adequately protect your skin. Shorts, short sleeves, open collars all leave you vulnerable to burns from both flying sparks and arc rays. Wear only flame-resistant clothing, and button your cuffs and pockets to prevent from catching sparks. Pant cuffs have the ability also to catch sparks and should be avoided. With respect to footwear, high top leather shoes offer the best protection. Tennis shoes and other cloth shoes are inadequate; they can catch a spark and smolder unnoticed, and their components can melt and stick to your skin.

The Well-Dressed Welder:

- Safety Glasses
- Welding Bandana
- Lightweight Welding Jacket/Leathers
- Industrial Grade Auto Darkening Helmet
- Welding Gloves
- Leather Apron
- Denim Pants Without Cuffs
- Leather Shoes/Boots (tucked into pants)
- No Safety Tennis Shoes or cloth shoes allowed

EQUIPMENT

Welding can be quite a safe process when the right welding equipment is used, when sufficient measures are taken to protect the welder from potential hazards, and when proper operating practices are followed. The following information highlights some critical information that must be grasped when welding as a Silver Lake Water and Sewer District employee.

Properly inspect all equipment before your use of it, to make sure that it is working effectively. If you do observe defects with the equipment, report it to your supervisor immediately and request for it either to be restored or replaced. When welding, to ensure that you are using the right gas, always check the label and testing date prior to using any cylinder. Store oxygen tanks at least 20 feet away from fuel cylinders or behind a properly designed firewall, to minimize the risk of explosion or fire. Inspect the cylinder valves for possible damage. Always store acetylene cylinders in a vertical upright position and secure them in order that the gases are kept stable and under pressure. If tipped over, the acetone may leak into the valve area and release acetone into the system. In the case that a cylinder is tipped or not in a vertical upright position, place it upright

for twice as long as it had been lying down, before using it. Use cap covers to ensure the security of a cylinder.

WORKING CONDITIONS (ENVIRONMENT)

Prior to the initiation of your weld, as an employee of Silver Lake Water and Sewer District, it is important to make sure that your welding area is well ventilated and free of flammable gases, vapors, or liquids. The right welding equipment and supply should use enough ventilation or exhaust to remove fumes and gases from the work area. Natural ventilation may be used under certain conditions. Cross ventilation should not be blocked, and welding should not be done in confined space. One must remove all paint and solvents before welding or torch cutting, making sure all residues are removed. Avoid working in wet conditions, since water conducts electricity, and insulate yourself from the work and the ground by standing on a dry rubber mat or similar non-flammable material. Welding should not be done when welding personnel are exposed to conditions under which quality will suffer. The outside environmental temperature could drop below 0°F, but if within the shelter the temperature is above this lower limit, welding may continue.

Connect the work piece to a proper earth ground and connect the frames of all electrically powered machines to a properly grounded disconnect switch, receptacle, or other appropriate ground. Always double check the installation and verify proper grounding. Never use chains, wire ropes, cranes, hoists, and elevators as grounding connectors.

TRAINING

Initially, persons that perform arc welding and oxy fuel welding will be trained and authorized to perform these duties at Silver Lake Water and Sewer District. District trainers will make sure employees can demonstrate safe and competent work practices. Once training is completed, employees will sign a form stating that they have been authorized to perform these duties. Refresher training will be provided as needed and upon request.

CONCLUSION

Again, remember to follow *all* of the preventative precautions that have been listed and explained in regard to the hazards that may come with welding. This is not a complete list of all safety provisions but is merely an outline of some good practices and habits to follow when approaching a weld.

Silver Lake Water & Sewer District

ARC WELDING/OXY FUEL WELDING
SAFETY AUTHORIZATION FORM

Name of Employee: _____
(PRINT) **(SIGNATURE)**

Date of Training: _____

Time of Training: _____

Topics Covered;

□ Stick Welding
□ Oxy Fuel Welding
□ MIG Welding
□ Plasma Cutter
□ PPE Covered
□ Cylinder Change-out Procedure

Name of Trainer/Trainers Authorizing Employees:

_____ _____
(PRINT) **(SIGNATURE)**

_____ _____
(PRINT) **(SIGNATURE)**

SILVER LAKE WATER AND SEWER DISTRICT

BACK INJURY PREVENTION

PURPOSE

Since a large portion of the Silver Lake Water and Sewer District's work involves lifting heavy objects, it is important for employees to learn how to prevent back injury. The following points should be used to prevent back injuries.

PREVENTION

Preventing a back injury is much easier than repairing one. Most back pain arises from using your back improperly, so learning a few basic rules about lifting, posture, and proper exercise can help keep your back in good shape.

EXERCISE TO STRENGTHEN YOUR BACK AND REDUCE STRESS

Having a strong back and stomach muscles is important to ease the work your back is put through. By doing simple back toning exercises, you can strengthen back muscles. Check with your doctor to see what the best exercises are for you.

LOSE EXCESS WEIGHT

Excess weight exerts extra force on the back and stomach muscles. Your back tries to support the weight out in front by swaying backwards, causing pain in your lower back.

MAINTAIN GOOD POSTURE

You can learn to prevent back pain by learning to sit, stand, and lift correctly. Sit straight with your back against the back of the chair, with your feet flat on the floor, and your knees higher than your hips. Learn to stand tall with your head up and shoulders back.

PLAN YOUR LIFT

Many people perform lifting incorrectly, resulting in unnecessary strain on their back and surrounding muscles. It is important to plan your lift ahead of time, and to think about how much weight the object is and the distance it will be moved. Ask yourself if you need any assistance lifting or how you can eliminate any lifting hazards.

When removing large style manhole casting lids, use a magnetic lid puller for each lift. Warm up properly prior to removing a lid as these lids are very heavy.

POSITIONING

After you have planned your lift, the next important step is to align yourself correctly in front of the load with your feet straddling the load. Squat down by bending your knees, not your back and stomach. Firmly grab the load and bring it as close to your body as you can. Once the load is close to your body, slowly straighten out your legs. **Lift with your legs not your back**. Make sure the load is not blocking your view.

SET THE LOAD DOWN CORRECTLY

It is equally important to make sure to set down the load correctly. By reversing the above lifting procedures, you can reduce strain on your back and stomach muscles.

GET HELP IF NEEDED

If the load is too heavy or awkward for you to lift alone, call on a co-worker to help you lift the object. If no one is available, look to see if you can break the load into two smaller loads. Look for simple solutions to help make the move easier on your back. ***Work smarter, not harder*.**

SILVER LAKE WATER AND SEWER DISTRICT

BLOODBORNE PATHOGENS

INTRODUCTION

Concern over the increase of disease spread by blood of body fluid has promoted the Occupational Safety and Health Administration (OSHA) to create the BLOODBORNE PATHOGENS STANDARD which applies to all occupational exposures to blood or any other potentially infectious material.

A pathogen is a disease-producing agent such as a virus or microorganism that may be present in the human body, which may include, (but not limited to) Hepatitis B virus and Human Immunodeficiency virus (HIV).

PURPOSE

The purpose of the Standard is to limit and control occupational exposure to blood or any other potentially infectious material since any exposure could result in transmission of bloodborne pathogens which could lead to disease or death. The Standard covers all employees who could be reasonably expected to come in contact with human blood or other potentially infectious materials in the course of their work.

It is entirely possible to protect yourself from bloodborne pathogens on the job, by knowing the facts and by taking proper precautions. The Silver Lake Water and Sewer District, in its effort to provide employees with a safe and healthy workplace, has developed this program to provide employees with appropriate training and education to ensure the well being of District employees, their families, and the general public by:

- Developing the following written exposure plan.
- Providing methods of compliance.
- Providing post-exposure and following plans upon exposure.
- Providing information and training to employees.
- Providing Personal Protective Equipment.
- Providing employees with vaccinations for Hepatitis B and follow up testing.

EXPOSURE CONTROL PLAN

EXPOSURE DETERMINATION

We have performed an exposure determination and determined that all field staff employees may foreseeably have risk of exposure to bloodborne pathogens though everyday operations as well as while providing aid. The risks of Bloodborne diseases in the workplace are quite serious and it is the intention of the District to eliminate or minimize employee exposure. Any employee could reasonably become exposed to any bodily fluid by means of piercing the mucous membrane or skin barrier through such means as a needle stick, cut or abrasion, or other means.

Any injury or accident in the workplace could expose any employee. First Aid trained employees' risk the greatest potential for exposure; for this reason, the District has implemented this Exposure Control Plan. All employees will be familiar with and be trained in the precautions in the Bloodborne Pathogens Standard and the Exposure Control Plans, including, universal precautions and use of Personal Protective Equipment (PPE) as a means of protecting themselves.

UNIVERSAL PRECAUTION

Universal precautions shall be observed to prevent contact with blood or other potentially infectious materials. Under circumstances in which differentiation between bodily fluid types is difficult or impossible, ALL body fluids shall be considered potentially infectious materials.

Because Bloodborne pathogens infect all people regardless of age, income, or lifestyle, and since many people carry bloodborne infections without any visible symptoms or without knowing they are infected, handling all bodily fluids as contaminated resolves the uncertainty.

ENGINEERING AND WORK PRACTICE CONTROLS

Engineering controls are physical or mechanical systems the District provides to eliminate hazards at the source to reduce the potential for injury or illness. Since these hazards are difficult to recognize or anticipate, the District will rely on proper training, education, and equipment as well as medical assistance or treatment.

Work practice controls are specific procedures that must be followed on the job to reduce exposure to bloodborne pathogens or infectious materials. This will include proper practices, personal protection equipment, good housekeeping, and personal hygiene.

PERSONAL PROTECTIVE EQUIPMENT

All First Aid kits include a CPR kit. These kits contain eye protection, gloves, clean-wipes, and additional gauze. All employees, whenever engaged in providing First Aid

and/or CPR, will wear this Personal Protective Equipment. These kits shall be used to clean up any contaminated work area.

Biohazard warnings shall be placed on any container of a potentially infectious material and disposed of in accordance with recommendations from local authorities.

The District has a 1-gallon Sharps container located in the Maintenance Building restroom and one in each of the Office Headquarter Lobby restrooms. One additional 1-gallon Sharps container is located at the 2220 132nd Street Maintenance Shop crew office restroom.

Do not dispose of Sharps containers in the garbage. To discard, bring to a Sharps disposal center. (SafeNeedleDisposal.org).

Puncture proof gloves are available and are required for handling all sharps related paraphernalia.

POST-EXPOSURE EVALUATION AND FOLLOW-UP

If an employee should become exposed to a potentially infectious material, it is vital that the District be notified immediately. Following a report of an exposure, the District will immediately make available a confidential medical evaluation and follow-up including:

- Documentation of exposure and the circumstances under which the exposure occurred. Sharps log forms are available and is located at the Sharps Container area in the Maintenance shop. All incidents of exposure must be recorded and documented.

- Confidential identification and documentation of the source individual.

- After consent is obtained, the source individual's blood shall be tested as soon as feasibly possible in order to determine HBV and HIV infectivity. The District shall exercise every reasonable and legal means to obtain and document source individual's blood for sampling.

- Results of the source individual's testing shall be made available to the exposed employee, and the employee will be informed of applicable laws and regulations concerning disclosure of the identity and infectious status of the source individual.

- Counseling and evaluation of reported illnesses.

HEPATITIS B VACCINATION

If an employee should be exposed to a potentially contaminated body fluid, the District shall provide the employee a medical evaluation. A Hepatitis B vaccination shall be made available. If the employee should decline a Hepatitis B vaccination, the appropriate documentation shall be made (Exhibit A) on page. If, at a later date the employee should reconsider, the District will still make the vaccine available.

LABELS AND SIGNS

If a spill of a potentially infectious fluid should occur, "spill containment and clean up" kits shall be used and labeled or identified as a "**BIOHAZARD**" and disposed of according to local authorities' recommendations. Each truck carries a bodily fluid spill kit.

INFORMATION AND TRAINING

If an employee should become exposed to a potentially infectious bodily fluid, it is vital that the information be immediately passed on to their immediate Supervisor and the Safety Officer. The Administrative Services Manager will coordinate with the exposed employee so they can be medically evaluated as soon as possible.

Bloodborne Pathogen training will occur annually, using the District's OSHA Lexipol online training tool.

The District's Bloodborne Pathogen standard shall be reviewed annually.

METHODS OF COMPLIANCE

Universal precautions will be observed by District employees in order to prevent contact with blood or other potentially infectious materials. All blood and other potentially infectious material will be considered infectious regardless of perceived status of the individual source.

Engineering and work practice controls will be utilized to eliminate or minimize exposure to employees while on the job. Where an occupational exposure remains after the institution of these controls, Personal Protective Equipment (PPE) shall also be utilized.

Hand washing facilities shall be available to the employees who incur exposure to blood or other potentially infectious materials. OSHA requires that these facilities be readily available after incurring exposure. The District will provide an antiseptic cleaner in conjunction with clean cloth/paper towels or antiseptic towelettes. If these alternatives are used, then the hands are to be washed with soap and running water as soon as possible.

BLOODBORNE

Pathogen training will occur annually. This training will include:

- An explanation of the Standard and the District's plan.

- An explanation of the appropriate methods for recognizing or other activities that may involve exposure to a potentially infectious material.

- An explanation of the use and limitations of methods that will prevent or reduce exposures including appropriate engineering controls, work practices, and Personal Protective Equipment.

- Information on the types, proper use, location, removal, handling, decontamination, and disposal of Personal Protective Equipment.

- Information on the Hepatitis B vaccine, including information on its efficiency, safety, administration, the benefit to being vaccinated, and that it is offered free of charge.

- An explanation of the procedures to follow if an exposure were to occur, including reporting and medical follow-up and post evaluations.

- -

Exhibit A

BLOOD BORNE PATHOGENS
HEPATITIS SIGNATURE FORM

Please check the appropriate box

☐ I understand that due to my occupational exposure to blood or other potentially infectious materials, I may be at risk of acquiring Hepatitis B (HBV) infection. I have been given the opportunity to be vaccinated with Hepatitis B vaccine, at no charge to myself.

☐ I decline the Hepatitis B vaccination at this time. I understand that by declining this vaccine, I continue to be at risk of acquiring Hepatitis B, a serious disease. If in the future I continue to have occupational exposure to blood or other potentially infectious materials and I want to be vaccinated with the Hepatitis B vaccine, I can receive the vaccination series at no charge to me.

☐ I have received the vaccination series for Hepatitis B. **Please provide documentation to the Administrative Services Manager.**

Approximate Date of Hepatitis Vaccination _____

Approximate Date of Hepatitis B Booster _____

There is the possible risk of Hepatitis B, due to decreased levels of antibody in the bloodstream. If in the future you continue to have occupational exposure to blood or potentially infectious materials and you want to have your blood levels tested and have a Hepatitis B booster, it will be made available. You can receive these tests at no charge. **Please provide your documentation to the Administrative Services Manager.**

_____ _____

Signature **Date**

_____

Print

The District will ensure that all medical records be maintained in strict confidentiality. Medical information relating to occupational exposure will not be released or disclosed without the employee's express written consent, except as required by the Bloodborne Pathogens Standard or as required by law.

SILVER LAKE WATER AND SEWER DISTRICT

CHLORINE SAFETY PROCEDURE

GENERAL

This chapter highlights information on the safe use and handling of Sodium Hypochlorite, first aid procedures in the event of contact with the solution, and a list of Personal Protective Equipment that should be utilized when handling the chemical.

CONTACT NUMBERS

MEDICAL

Providence Regional Medical Center
1700 13th Street
Everett, WA 98201
425-261-2000

Immediate Emergency: 911

FIRE

Everett Fire Station No. 7
425-257-8100

South County Fire Station No. 12
425-551-1200

Immediate Emergency: 911

PROCEDURAL/OPERATIONAL

Silver Lake Water and Sewer District
15205 41st Avenue SE
Bothell, WA 98012
425-337-3647 (Office)

Chris Stecher, Utility Systems Supervisor
425-750-9666 (Mobile)

Andrew Piekarski, Water Quality
425-750-0047 (Mobile)

Bill Kuhlman, Water Quality
425-791-0661 (Mobile)

SPILL RESPONSE

Snohomish County
3000 Rockefeller Avenue
Everett, WA 98201
425-388-3411 (Office)

CHLORINE HAZARDS

EXPLOSION AND FIRE HAZARDS

Sodium Hypochlorite (5.25 percent) is not considered an explosion or fire hazard. Even so, care should be taken to avoid chemical exposure near open flames or extreme heat.

Water may be used to extinguish fires at or near hypochlorite solution.

HEALTH HAZARDS

Primary health hazards include burns or damage to soft tissues as a result of contact, ingestion, and/or inhalation.

See safety and first aid information below for recommendations on actions to be taken in the event contact is made with chemical solution.

CHEMICAL SAFETY

LOADING AND UNLOADING

Loading and unloading chemical drums should be accomplished with a suitable hand truck. The drum should be secured to the hand truck with safety straps prior to tipping and/or movement.

When transporting a drum, every effort should be made to provide secondary containment for the chemicals in the event of drum puncture or damage.

HANDLING AND STORAGE

Care should be exercised when handling hypochlorite solution, and handling should be minimized to the maximum extent possible. It may be beneficial to handle full chemical drums with two staff, as drums are very heavy.

Store in a cool, dry, ventilated storage area. Protect from physical damage. Keep out of sunlight, away from direct heat, water, and incompatible materials. Do not wash out container and use it for other purposes. Observe all warnings and precautions stated on the container label. Wear Personal Protective Equipment (PPE) when handling, opening containers, and using hypochlorite solutions.

PERSONAL PROTECTIVE EQUIPMENT

When handling Sodium Hypochlorite in any concentration, the following Personal Protective Equipment (PPE) should be utilized at all times:

- OSHA approved safety glasses and/or face shield;
- Rubber or neoprene gloves to protect exposure to skin;
- Apron or coveralls;
- Shirt with sleeves;
- Pants;
- Sturdy, closed-toe shoes.

Additional PPE may be utilized as required by District policies, but all staff members shall take precautions necessary to reduce the risk of hypochlorite exposure to skin and eyes.

FIRST AID

INHALATION

1. Remove to fresh air.
2. If not breathing, give artificial respiration.
3. If breathing is difficult, give oxygen.
4. Seek medical attention as required for breathing issues.

INGESTION

1. If swallowed, do not induce vomiting.
2. Give large quantities of cool water.
    a. Do not give anything by mouth if person in contact is unconscious.
    b. Seek immediate medical attention.

SKIN CONTACT

1. Immediately flush with cool, clean water for 15 minutes.
2. Remove contaminated clothing and shoes.
    a. Wash clothing before reuse.
    b. Note: hypochlorite will cause slow deterioration of clothing fibers.
3. Seek immediate medical attention if rash or burning develop.

EYE CONTACT

1. Immediately flush eyes with cool, clean, flowing water for 15 minutes.
2. Seek immediate medical attention.

SPILLS

If a spill occurs, complete the following steps in accordance with other District safety procedures:

LARGE SPILL-NO HUMAN CONTACT

1. Increase ventilation to the area if possible.
    a. Open doors and/or windows to the exterior.
2. Contain the spill, if possible, to protect critical equipment or other electrical components.
    a. Towels, rags, Vermiculite, sand, earth may be used.
3. Clean the spill using towels, rags, or other absorbent materials depending on the size.
    a. The materials used to clean the spill should be discarded as trash when done or thoroughly rinsed with cool, clean water prior to reuse or storage.
4. Thoroughly rinse and clean the area in contact with solution with cool, clean water.

SMALL SPILL-NO HUMAN CONTACT

Complete the immediate task at hand:

1. Increase ventilation to the area if possible.
    a. Open doors and/or windows to the exterior.
2. Contain the spill, if possible, to protect critical equipment or other electrical components.
3. Clean the spill using towels, rags, or other absorbent materials depending on the size.
    a. The materials used to clean the spill should be discarded as trash when done.
4. Thoroughly rinse and clean the area in contact with solution with cool, clean water.

LARGE SPILL-HUMAN CONTACT

1. Increase ventilation to the area if possible.
    a. Open doors and/or windows to the exterior.
2. Contain the spill, if possible, to protect critical equipment or other electrical components.
    a. Towels, rags, Vermiculite, sand, earth may be used.
3. Clean the spill using towels, rags, or other absorbent materials depending on the size.
    a. The materials used to clean the spill should be discarded as trash when done or thoroughly rinsed with cool, clean water prior to reuse or storage.
4. Flush eyes and/or skin in contact with solution with copious cool, clean water. Eye wash stations are wall mounted at each Reservoir site in the pump house.
5. Remove clothing in contact with solution and discard.
6. Seek medical attention for those in contact.
    a. Do not induce vomiting if swallowed.
    b. If conscious, give large quantities of cool, clean water.
    c. Remove to fresh air.

SMALL SPILL-HUMAN CONTACT

1. Complete the immediate task at hand.
2. Increase ventilation to the area if possible.

   a. Open doors and/or windows to the exterior.
3. Contain the spill, if possible, to protect critical equipment or other electrical components.
4. Clean the spill using towels, rags, or other absorbent materials depending on the size.
   a. The materials used to clean the spill should be discarded as trash when done.
5. Flush eyes and/or skin in contact with solution with copious cool, clean water.
6. Remove clothing in contact with solution.
   a. Wash clothing prior to reuse.

SILVER LAKE WATER AND SEWER DISTRICT

COLD STRESS PREVENTION PROGRAM

PURPOSE AND SCOPE

Employees who are exposed to excessively cold temperatures or who work in cold environments may be at risk of cold stress. Various factors can contribute to cold stress such as low air temperature, cool high wind, dampness, and cold water. Cold stress can result in hypothermia, frostbite, or trench foot. This program has been developed to protect employees from cold-related illnesses while at work.

This program applies to all Silver Lake Water and Sewer District employees who are exposed to, or may become exposed to, excessively cold temperatures during the course of their job duties.

RESPONSIBILITIES

Environmental Health and Safety

- Assisting Departments in implementing the provisions of this program;
- Revising and updating the program as necessary;
- Providing training and educational resources regarding cold stress and illnesses;
- Performing cold stress exposure assessments for employees when necessary; and
- Provide guidance on selection and use of appropriate PPE.

Supervisors/Managers

- Ensuring employees are trained in identifying the signs and symptoms of cold stress;
- Providing emergency heat when necessary;
- Monitoring the wind chill index and pursuing, implementing, and enforcing the proper protective measures for employees as specified in this program;
- Implementing and enforcing the use of proper Personal Protective Equipment (PPE) for employees as specified in this program;
- Assessing employee's workload and assigning work and rest schedules as needed;
- Notifying SLWSD of specialized job tasks or environments as defined in this program that require a cold stress assessment; and
- Reporting occupational injuries and illnesses.

Employees

- Working in accordance with the provisions of this program;
- Understanding the signs and symptoms of cold stress;
- Notifying the supervisor if conditions exist that may lead to cold stress; and
- Notifying the supervisor if they begin to experience signs or symptoms of cold stress.

.

PROCEDURES: COLD STRESS SIGNS, TREATMENT, AND PREVENTION

SIGNS AND TREATMENT

As wind speed increases, it causes the cold air temperature to feel even colder and can cause heat to leave the body more rapidly (wind chill effect). This can increase the risk of cold stress to exposed workers, especially those working outdoors.

When the body is unable to warm itself, serious cold-related illnesses and injuries may occur, and permanent tissue damage and death may result.

The most common health problems caused by cold work environments include:

- ***Immersion/Trench foot*** – Trench foot is a non-freezing injury of the feet caused by prolonged exposure to wet and cold conditions. It can occur in temperatures as high as 60°F if feet are constantly wet. Injury occurs because wet feet lose heat 25-times faster than dry feet.
  - ***Signs/ Symptoms****:* Reddening skin, tingling, pain, swelling, leg cramps, numbness, and blisters.
  - ***Treatment****:* Call 911 immediately in an emergency; otherwise seek medical assistance as soon as possible. Remove wet shoes/boots and wet socks. Dry the feet and avoid walking on them. Keep affected feet elevated and avoid walking. Seek medical attention.

- ***Frostbite*** – Frostbite is caused by the freezing of the skin and tissues. Frostbite can cause permanent damage to the body, and in severe cases can lead to amputation. The risk of frostbite is increased in people with reduced blood circulation and among people who are not dressed properly for extremely cold temperatures.
  - ***Signs/ Symptoms****:* Reddened skin develops gray/white patches in the fingers, toes, nose, or ear lobes; tingling, aching, a loss of feeling, firm/hard, and blisters may occur in the affected areas.
  - ***Treatment****:* Protect the frostbitten area, e.g., by wrapping loosely in a dry cloth and protect the area from contact until medical help arrives. DO NOT rub the affected area, because rubbing causes damage to the skin and tissue. Do not apply snow or water. Do not break blisters. DO NOT try to re-warm the frostbitten area before getting medical help, for example, do not use heating pads or place in warm water. If a frostbitten area is rewarmed and gets frozen again, more tissue damage will occur. It is safer for the frostbitten area to be rewarmed by medical professionals. Give warm sweetened drinks if alert (no alcohol).

- ***Chilblains*** - Chilblains are the painful inflammation of small blood vessels in the skin that occur in response to repeated exposure to cold but nonfreezing temperatures. Small blood vessels in the skin may become permanently damaged by cold temperatures, resulting in redness, and itching during additional exposures.
  - ***Signs/ Symptoms****:* Redness, itching, possible blistering, inflammation, and possible ulceration in severe cases.
  - ***Treatment****:* Avoid scratching. Slowly warm the skin. Use corticosteroid creams to relieve itching and swelling. Keep blisters and ulcers clean and covered.

- ***Hypothermia*** – Hypothermia occurs when the normal body temperature (98.6°F) drops to less than 95°F. Exposure to cold temperatures causes the body to lose heat faster than it can be produced. Prolonged exposure to cold will eventually use up the body's stored energy. The result is hypothermia, or abnormally low body temperature. Hypothermia is most likely at very cold temperatures, but it can occur even at cool temperatures (above 40°F) if a person becomes chilled from rain, sweat, or immersion in cold water.

- ***Signs/ Symptoms****:* An important mild symptom of hypothermia is uncontrollable shivering, which should not be ignored. Although shivering indicates that the body is losing heat, it also helps the body to rewarm itself. Moderate to severe symptoms of hypothermia are loss of coordination, confusion, slurred speech, heart rate/breathing slow, unconsciousness, and possibly death. Body temperature that is too low affects the brain, making the victim unable to think clearly or move well. This makes hypothermia particularly dangerous because a person may not know what is happening and won't be able to do anything about it.
  - ***Treatment****:* Call 911 immediately in an emergency. Move the worker to a warm, dry area. Remove any wet clothing and replace with dry clothing. Wrap the entire body (including the head and neck) in layers of blankets; and with a vapor barrier (e.g., tarp, garbage bag). Do not cover the face. If medical help is more than 30 minutes away, give warm sweetened drinks if alert (no alcohol), to help increase the body temperature. Never try to give a drink to an unconscious person. Place warm bottles or hot packs in armpits, sides of chest, and groin. Call 911 for additional rewarming instructions.

PREVENTION

While cold stress can be dangerous and potentially life threating, it can be prevented. Prevention methods include:

- ***Acclimation*** – Employees gradually acclimatize when exposed to cold conditions. This may take several weeks. When the wind chill is low, special precautions are needed to protect un-acclimatized employees while they adjust to the cold particularly on the first few days they are exposed to cold conditions. Supervisors

should monitor employees closely for signs of cold stress during this period and they should adopt appropriate work-rest schedules for these employees, starting with longer rest periods, that are adjusted over a two-week period. Re-acclimatization may also be necessary when employees are away from the cold conditions for a few days. A new employee should not be required to work in the cold for an extended period during the first days of employment, until they become adjusted to the working condition and required protective clothing. New employees should be introduced to the work schedule slowly and be trained accordingly.

- ***Engineering Controls*** – For employees working indoors, the best way to prevent cold-related illness is to make the work environment warmer. Where and if possible, use heating to warm the work area. However, avoid the use of space heaters when possible as there is a potential for a fire hazard. Additionally, equipment to reduce drafts and condensation can be installed. Air velocity should be minimized and not exceed 200 FPM. For outdoor locations if available, use wind barricades to block the wind from the employees.

- ***Safe Work Practices*** – For employees working outdoors without heat, scheduled breaks in warm areas are appropriate. Employees should drink warm sweet beverages and take breaks in warm areas as needed. Supervisors should consider scheduling the most work for the warmest part of the day, assigning extra employees to high demand tasks that will require longer periods in cold areas. All employees should watch out for the safety of their coworkers and work in pairs, if possible.

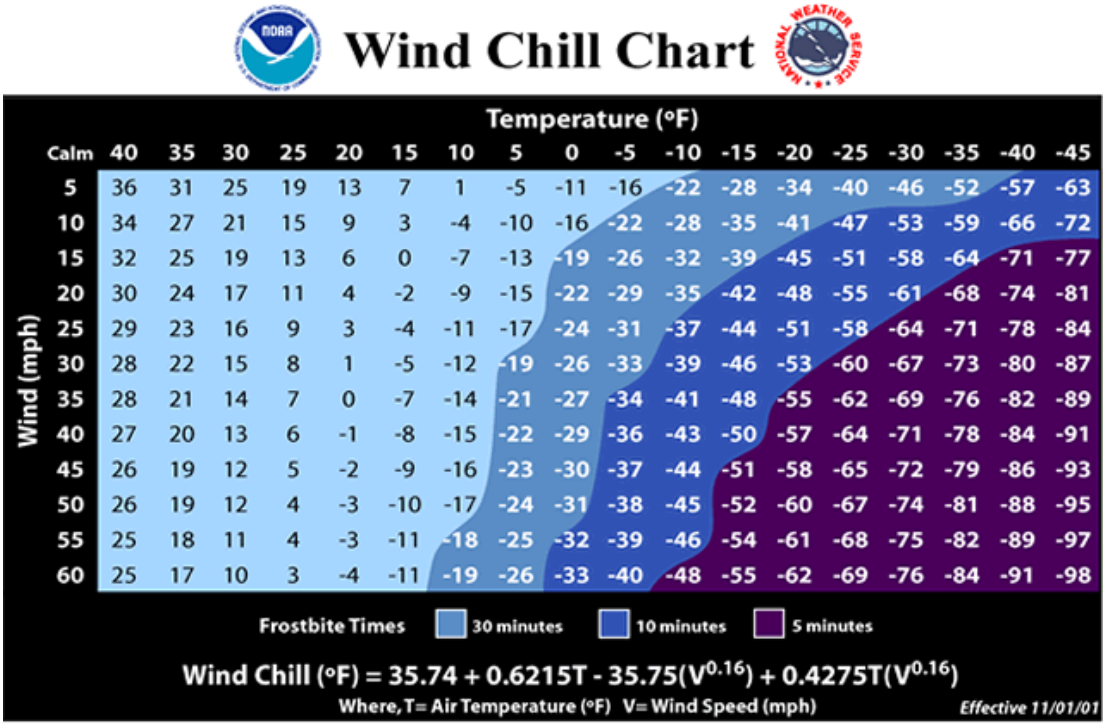
  Personal Protective Equipment – PPE is an important factor in preventing cold-related illnesses and injuries. Employees should adhere to the following recommendations when dressing for work in a cold environment. Wear at least three layers of clothing; an inner layer of wool, silk, or synthetic to wick moisture away from the body; a middle layer or wool or synthetic to provide insulation even when wet; an outer wind and rain protection layer that allows some ventilation to prevent overheating. Wear a hat or hood (up to 40% if body heat can be lost when the head is left exposed). Wear insulated boots or other footwear and wool socks. Do not wear tight clothing (loose clothing provides better ventilation); and Keep a change of clothing available in case work clothes become wet.

TRAINING

Employees who may be exposed to extreme cold conditions must receive training prior to working in such conditions. An online training module is available through Lexipol OSHA training. This training will cover the general safety precautions related to cold stress. However, employees must still be trained on any additional precautions specific to their equipment or work areas.

APPENDIX A: WIND CHILL INDEX

Outdoor workers exposed to cold and windy conditions are at risk of cold stress, both air temperature and wind speed affect how cold they feel. Wind Chill is the term used to describe the rate of heat loss from the human body, resulting from the combined effect of low air temperature, and wind speed. The Wind Chill Temperature is a single value that takes both air temperature, and wind speed into account. For example, when the air temperature is 40°F, and the wind speed is 35mph, the wind chill temperature is approximately 20°F; this measurement is the actual effect of the environmental cold on the exposed skin. Wind chill can be estimated using the Table below.



SILVER LAKE WATER AND SEWER DISTRICT

CONFINED SPACE ENTRY PROGRAM

SECTION 1. PROGRAM STATEMENT

1.1 CONFINED SPACE PROGRAM

1.2 PURPOSE

The purpose of this program is to provide specific procedures/safe work practices for employees required to enter confined spaces. These procedures/practices will be implemented in compliance with all applicable State and Federal regulations pertaining to confined space entry.

1.3 OBJECTIVES

The objectives of the Confined Space Program at Silver Lake Water and Sewer District include the following:

- To comply with all State and Federal regulations regarding confined spaces.
- To assess the feasibility of reducing the total number of confined spaces.
- To limit the number of confined space entries.
- To identify, evaluate, and eliminate potential hazards within the confined spaces prior to entry.
- To establish and implement a permit system for entry into confined spaces.
- To train employees who may work in confined spaces on proper procedures and entry techniques.

SECTION 2. REGULATIONS/REFERENCES

2.1 REGULATIONS

Regulations/references pertaining to the Confined Spaces Program are found in the following publications:

- WA L&I Department of Occupational Safety & Health (DOSH) Confined Spaces (WAC 296-809).

SECTION 3. RESPONSIBILITIES/RESOURCES EMPLOYED

3.1 SAFETY OFFICER

The Safety/Health Officer serves as the first contact for issues concerning the departmental Confined Space Program. The Safety/Health Officer is responsible for establishing a written Confined Space Program that includes a confined space inventory and evaluations of the confined spaces entered by the employee/contractor. He/she is responsible for establishing and maintaining a training program that will provide exposed employees with the understanding, knowledge, and skills necessary for safe and proper work in confined spaces. The Safety/Health Officer shall review the Confined Space Program, using the canceled permits, at least once per year, and shall revise the program as necessary to ensure that employees participating in entry operations are protected from confined space hazards. The Safety/Health Officer is responsible for providing employees with the equipment required, to safely enter confined spaces. The Safety/Health Officer will be available to provide training on proper confined space entry techniques, recommend safety equipment, and assist in confined space evaluations.

3.2 ENTRY SUPERVISOR

Entry Supervisors are the persons responsible for determining if acceptable entry conditions are present at the confined space where entry is planned; authorizing entry, supervising entry operations, and terminating entry when required. Entry supervisors shall be trained on necessary skills and responsibilities.

3.3 TRAINED AND AUTHORIZED ATTENDANTS AND ENTRANTS

Trained and authorized attendants and entrants are responsible for knowing and understanding the hazards that they will encounter while working in and around confined spaces and following all guidelines and work practices established by Silver Lake Water and Sewer District.

Authorized entrants are also responsible for refusing to work in confined spaces until an entry supervisor has deemed entry to be safe and has given approval for entry, or if a hazard is identified while working in the confined space. Entrants must also stay in contact with the attendant and communicate any changes in their health or environment.

The authorized attendants shall attend only one confined space entry at any one time, and shall not perform any other duties. Attendants are responsible for maintaining accurate records of who is in the space at all times and communicating with them as needed to monitor possible changes to entrant health and environment. If necessary, attendants will call for emergency assistance or rescue.

Authorized Entrants are:

1) All trained crew personnel.
2) Authorized Temporary Workers.

Authorized Attendants are:

1) All trained crew personnel.
2) Authorized Temporary Workers.

3.4 TRAINED FREQUENCY:

Confined Space training will occur annually; before initial assignment to jobs that would require entry into confined spaces; when there is a change in assigned duties; when a change in permit space operation creates a new hazard; when there is a deviation from prescribed safety procedures; when employee knowledge or skills are inadequate, and on an annual basis. The Confined Space training will include all supervisors, attendants, and entrants.

Confined Space training will establish employee proficiency in the duties required by the confined space standard; employees will be formally certified for confined space duties.

Training documents will include the employee's name, signature of the trainer, and dates of the training.

3.5 TRAINING CONTENT:

The training programs established for Silver Lake Water and Sewer District include:

1) Confined space identification;
2) Identification and evaluation of permit space hazards;
3) Safe entry techniques;
4) Attendant and entrant responsibilities;
5) Communication techniques;
6) Rescue procedures, including the hazards of attempting rescue for employees who are not authorized to perform it;
7) Ventilation techniques;
8) Supervisory responsibilities;
9) Permit completion/cancellation techniques;
10) Location of permit spaces; and
11) Safe use and maintenance of all confined space equipment (PPE, gas monitoring, rescue, fall protection, etc.).

A copy of the established training program can be obtained from the Safety/Health manager.

SECTION 4. CONFINED SPACE LOCATIONS

4.1 INVENTORY

An in-depth inspection of Silver Lake Water and Sewer District was conducted and all areas that contained potential confined spaces were assessed. A Confined Space Assessment form (Appendix A) was used to classify all confined spaces. When performing confined space evaluations, air monitoring and inspections will be conducted from outside the space. Of the evaluations that cannot be performed from outside the space, the space will be entered through permit procedures.

Note: Non-permit spaces marked with an asterisk (*) are confined spaces that do not normally have the requisite hazards to qualify as a permit-required confined space but that do contain one or more requisite hazards when certain work is performed within them. Employees should review the Confined Space Assessment form for these spaces to determine which tasks trigger permit-required confined space entry procedures for these spaces.

All confined space locations and classifications are listed below:

Location Classification (non-permit):

1) Silver Firs
2) Pioneer Trails
3) Lift Station #2
4) Lift Station #3
5) Waldenwood

6) Woodlands North
7) Sector #7* (See Appendix A)

(Permit):

1) All Sewer manholes and Lift Station wet wells.
2) PRV Stations and Master Meter Vaults with Manhole access only.
3) In exception to Line #2, Bilco style lids require top man attendant and air monitor usage.

4.2 RECLASSIFICATION OF PERMIT REQUIRED CONFINED SPACES

When a Permit Required Confined Space has been changed indefinitely so that it no longer contains a serious hazard (e.g., a tank that contained a hazardous chemical has been emptied and cleaned but remains on-site in an empty condition), it can be officially reclassified to a “non-permit” status.

In such cases, the Safety Manager will fill out a Confined Space Assessment Form that contains the date, the location of the space, and the signature of the person making the determination that the space is now a confined space. The space will be moved from the Permit-Required Confined Space section to the Confined Space section of the inventory in this program.

SECTION 5. ENTRY PERMITS

5.1 PERMIT REQUIRED SPACES

Some confined spaces located at Silver Lake Water and Sewer District meet the definition of a Permit Procedure confined space. The information necessary to design a permit for permit-required space entry is included at the end of this program (Appendix B).

5.2 PERMIT REQUIREMENTS

The entry supervisor shall prepare an entry permit that contains at least all of the information listed in Appendix B. The permit shall be made available to all supervisors, entrants, attendants, authorized employee representatives, and rescue personnel. The permit must remain posted outside of the permit space entry portal, and remain there for the duration of the authorized entry. Any changes of personnel (supervisors, attendants, entrants), or testing and monitoring data shall be added to the permit. At the end of the authorized entry and/or after entry operations have been completed, the entry supervisor shall cancel the permit developed, implemented, and maintained for each permit space entry.

Completed Confined Space Entry Permits will be given to the Safety Officer and will be scanned into the N:/drive, Safety folder, listed under Completed Confined Space Permits.

SECTION 6. PREVENTION OF UNAUTHORIZED ENTRY

6.1 POSTING OF CONFINED SPACES

All Permit-Required Confined Spaces that can be readily labeled, are posted in a manner designed to inform employees of the existence/location of the dangerous space. The signs read as follows:

"DANGER! PERMIT-REQUIRED CONFINED SPACE, DO NOT ENTER!"

If posting danger signs cannot be used to inform the exposed employees, use any other effective means to warn of the existence, location, and the danger posed by the permit spaces.

6.2 OTHER NECESSARY PRECAUTIONS

If it is concluded that posting and training are inadequate to prevent unauthorized entry into permit spaces, covers, guardrails, fences, and locks or other methods of restricting, access shall be implemented.

SECTION 7. ENTRY PROCEDURES

7.1 ENTRY PROCEDURES

Site-specific entry procedures have been developed for each confined space entered by Silver Lake Water and Sewer District staff. The site-specific entry procedures are located in Appendix C. The following list identifies the minimal means, procedures, and practices necessary for safe permit space entry operations:

1) Identify and evaluate permit space hazards.
2) Control hazards and specify acceptable entry conditions.
3) Notify rescue teams/personnel of entry and verify availability of service.
4) Allow authorized entrants or an employee authorized representative to observe monitoring and testing.
5) Isolation of the permit space.
6) Purge, inert, flush, or ventilate the permit space as necessary to eliminate or control atmospheric hazards.
7) Provide barriers to confined spaces that protect entrants from hazards created by pedestrians, vehicles, or other external factors.
8) Verify that conditions within the permit space are acceptable throughout the duration of the authorized entry.
9) After authorized entry has concluded, or entry operations have been completed, the permits shall be canceled and the permit space isolated from unauthorized entry.

7.2 REVIEW OF ENTRY OPERATIONS AND PROCEDURES

Silver Lake Water and Sewer District shall review entry operations, procedures, and canceled entry permits as they are received. Additionally, a review shall be conducted if there is reason to believe that the measures taken under the Silver Lake Water and Sewer District Permit Space program may not provide affected employees with the necessary protection. The review and revisions shall correct any deficiencies found to exist under the prior entry operations and procedures. Circumstances that require the review of the permit space program are listed below:

1) Unauthorized entry of a permit space.
2) A detection of a permit space hazard not covered by the permit.
3) The detection of a condition prohibited by the permit.
4) The occurrence of an injury, or a near-miss during entry operations.
5) The change in the use or configuration of a permit space.

6) Employee complaints about the ineffectiveness of the permit space program.

7.3 CONFINED SPACE EQUIPMENT

When necessary, the following equipment will be provided and properly maintained, at no cost to the employee. Silver Lake Water and Sewer District will ensure that employees required to work, in or around, confined spaces will properly use the following equipment:

1) Testing and monitoring equipment.
2) Ventilation equipment.
3) Communication equipment.
4) Personal Protective equipment.
5) Lighting equipment.
6) Barriers and shields.
7) Equipment necessary for safe ingress and egress.
8) Rescue and emergency equipment.
9) Any other equipment necessary for safe entry into and rescue from permit spaces.

7.4 EVALUATION OF PERMIT SPACE CONDITIONS

When conducting permit space entry operations, Silver Lake Water and Sewer District will ensure that the following evaluation of permit space conditions is conducted:

1) Test conditions of the permit space prior to any authorized entry. If the space can not be isolated (large size, or portion of continuous system), conduct pre-entry testing as is feasible, and maintain continuous monitoring of the areas occupied by authorized entrants.
2) Test and monitor the permit space as necessary to ensure that acceptable entry conditions are maintained, during the course of entry operations.
3) When testing for atmospheric hazards the testing shall be conducted in the following order:

    a. Oxygen (O_2);
    b. Combustible gases and vapors;
    c. Carbon Monoxide (CO); and
    d. Hydrogen Sulfide (H_2S).

4) Allow authorized entrant or employee's authorized representative to observe pre-entry and subsequent testing or monitoring data.
5) Re-evaluate the permit space if authorized entrant or employee's authorized representative feel that the evaluation of the permit space was inadequate.
6) Immediately provide each authorized entrant or employee's authorized representative the results of any testing or monitoring.

7.5 CONFINED SPACE HAZARD IDENTIFICATION AND EVALUATION

Confined Space Location Hazard Type(s) Control Measures

Because of the large number of manholes in the District, **standard confined space entry is required on all sewer manholes and wet wells.**

7.6 MINUMUM NUMBER OF PERSONNEL REQUIRED

Entry Supervisor, Attendant, and Entrant are required for confined space entry. Additional personnel may be required on larger operations.

7.7 MULTIPLE EMPLOYERS/CONTRACTORS

Occasionally, it is necessary for third party contractors to enter the District's confined spaces. When acting as host for a contractor performing permit-required confined space entry work, the District will:

1. Inform the contractor of the permit-required Confined Space Entry Program at the District and their obligation to follow all applicable regulations under WAC 296-809.
2. Apprise the contractor of the dangers within the District's spaces and the procedures that must be implemented to protect workers in or near permit-required confined spaces.
3. Obtain information from the contractor regarding their permit-required program that will be followed and coordinate multiple entry operations if needed.
4. Debrief with contractors after work is complete; determine what procedures were used and what dangers were encountered or created during permit entry.
5. Use any information discovered during the debrief to improve the District's permit entry process.

7.8 ALTERNATE ENTRY PROCEDURES

The District can choose to use Alternate Entry Procedures instead of full permit entry for confined spaces if certain conditions are met. Conditions include that all physical hazards within the space can be eliminated, and any actual or potential atmospheric hazard can be controlled with forced air ventilation. In such cases, an entry permit is not required, but the following procedures and certain written requirements must be followed.

Additionally, an entry supervisor must approve and document the entry. If the entry supervisor chooses not to use Alternate Entry Procedures, then full permit entry procedures will be used:

1. Eliminate physical hazards within the space without opening the space's cover as feasible (e.g., remove any materials that could engulf an entrant, perform lock-out/tag-out of any electrical or moving parts hazards if the control mechanism is outside the space, etc.).
2. Once the cover to the space is removed, guard all openings immediately using railings, temporary cover, or other barriers to prevent accidental entry or falls into the space.
3. Test the internal atmosphere with a calibrated direct-reading instrument for the following conditions in the order given:
    a. Oxygen content: 19.5 - 23.5%
    b. Flammable gases and vapors: <= 10% of LEL
    c. Potential toxic air contaminants: < PEL
4. Ensure that there is no hazardous atmosphere within the space whenever any employee will be inside the space. Continuous forced air ventilation can be used if it completely controls any hazardous atmosphere.
5. Continuous forced air ventilation shall be used as follows:
    a. Entry is not allowed until the hazardous atmosphere is eliminated.
    b. Ventilation shall be directed to immediate areas where employees are, or will be, present and will continue until all employees have left the space.
    c. Air supply shall be from a clean source and may not increase hazards in space.
6. Have the entry supervisor confirm that the space is safe for entry and all the above requirements have been met.
    a. Such verification will be in writing to include the date, location of the space, the signature of the person providing the certification and shall be made available to each employee before entry.
7. Provide written documentation to all entrants, including the following:
    a. The location of the space.
    b. Date of entry.
    c. Duration of entry.
    d. Hazards of the space.
    e. Hazards of the work to be completed.
    f. The specific measures taken to eliminate the physical hazards and control all actual or potentially hazardous atmospheric conditions, including the ventilation system used.
    g. Results of atmospheric testing that demonstrates the absence of a hazardous atmosphere in the space.

h. All conditions that would require the evacuation of the space.

i. The name, title, and signature of the entry supervisor ensuring safe entry procedures.

8. Ensure that procedures are in place to periodically test the space's atmosphere and ensure that ventilation remains adequate. If a hazardous atmosphere is detected during entry:

   a. Each employee shall leave the space immediately.

   b. The space shall be evaluated to determine how the hazardous atmosphere developed.

   c. Measures will be taken to protect employees from the hazardous atmosphere before any subsequent re-entry is attempted.

SECTION 8. EMERGENCY PROCEDURES

8.1 RESCUE PLAN

The rescue plan will specify methods that do not involve entry by rescuers into the confined space. The attendant and/or the entry supervisor are responsible for preventing unauthorized persons in attempting a rescue inside the confined space.

8.2 EMERGENCY EQUIPMENT

All necessary rescue equipment to effectively conduct the rescue, shall be provided and in proper working condition prior to entry into the space.

8.3 RESCUE PRACTICE

At least annually, designated rescuers shall practice making a rescue using an actual entrant, from a space similar to the one being entered.

8.4 RESCUE PLAN AND ENTRY PERMIT

The Entry Permit shall verify that:

1) Rescuers have been notified.
2) Assure the site is accessible for rescue personnel (i.e traffic control, parking, etc).
3) Rescuers are physically located so they can affect a successful and timely rescue at any point during the entry.
4) Rescuers have been trained within the last year on rescue from the particular space being entered.
5) All required rescue equipment is immediately available.
6) Remove the confined space entrant with retrieval system only if there is no danger to the entrant or the attendant.

7) If this cannot be completed, 911 shall be contacted.

8.5 OFFSITE RESCURE SERVICES

Prior to a decision to use an off-site service to provide rescue, verification shall be made that the off-site rescue services comply with all requirements of this section. South County Fire rescue response is available using 911.

SECTION 9. ENTRY EQUIPMENT

9.1 AVAILABLE EQUIPMENT

The following equipment is available for confined space work/entry:

Equipment List:

1) UCL Safety System; two base sections and three mast assemblies;
2) Miller Model 17D retrieval system; six Winches;
3) Protecta full body harnesses with “D” hook on the back; each crewmember has their own full body harness;
4) RKI model air monitors, two GX-2009, five GX-2001, and one Eagle Monitor;
5) Peluse Air blower; four Air blowers.

APPENDIX A

CONFINED SPACE EVALUATION FORM

Confined Spaces are Defined as:

1) Large enough and configured such that an employee can bodily enter and perform the assigned work.
2) Has limited or restricted means for entry or exit.
3) Is not designed for continuous employee occupancy.

PERMIT-REQUIRED CONFINED SPACES ARE DEFINED AS HAVING ONE OR MORE OF THE FOLLOWING:

1) Contains or has a potential to contain a hazardous atmosphere.
2) Contains a material that has the potential for engulfing an entrant.
3) Has an internal configuration such that an entrant could be trapped or asphyxiated by inwardly converging walls, or by a floor, which slopes downward and tapers to smaller cross-section.
4) Contains any other recognized serious safety or health hazard.

CONFINED SPACE ASSESSMENT FORM

Name of Evaluator:_____
Work Area Assessed:_____
Date of Assessment:_____

Confined Space Determination

1) Area was not designed for continual worker occupancy.
   Yes or No
2) Area can be bodily entered and assigned work performed.
   Yes or No
3) Area has limited and/or restricted means of access and egress.
   Yes or No

If you answered **yes to all of the above**, you have met the criteria of a confined space, and must proceed to the next section.

Permit-Required Confined Space Determination

1) The area contains or has the potential to contain a hazardous atmosphere.
   Yes or No
2) The area contains a material that has the potential to engulf an entrant (water, grain, sand, etc.).
   Yes or No

3) The area has an internal configuration, inwardly converging walls or a floor that slopes downward and tapers to a smaller cross section.
   Yes or No
4) The area contains any other recognized serious safety and health hazards (electrical, thermal, mechanical, physical, chemical, etc.).
   Yes or No
5) The area does not normally contain any of the previous (1-4) hazards, but the District sometimes must perform certain tasks that would create one or more of the hazards.
   Yes or No

   List tasks and hazards that would qualify the space as a PRCS:

If you answered yes to any one or more of the above, you have met the criteria of a Permit-required Confined space. Permit-required spaces must be identified with the appropriate signs, or other equally effective means, and implement measures to prevent unauthorized entry (locks, bolts, etc.). If employee entry is required a Confined Space Entry Program a Training program must be developed and implemented.

APPENDIX B
CONFINED SPACE ENTRY PERMIT

All Permit-Required Confined Space Permits Shall List the Following:

1) The permit space to be entered;
2) The purpose of entry;
3) Date and authorized duration of the permit;
4) Authorized entrants (by name);
5) Authorized attendants (by name);
6) Current entry supervisor (by name), with space for name or initials of original entry supervisor who originally authorized entry;
7) Hazards of permit space to be entered;
8) Measures used to isolate permit space and eliminate or control hazards before entry;
9) Acceptable entry conditions (site specific);
10) Results of initial pre-entry testing and necessary periodic testing, accompanied by the names or initials of the testers and date/time of the testing;
11) The rescue plan to be used for this space. Verify that all required elements of the rescue plan are in place, emergency contact listed;
12) The procedures used to maintain communications between authorized entrants and attendants;
13) List of equipment required to maintain compliance. (Example: PPE, testing equipment, communication equipment, alarm systems, and rescue equipment);
14) Additional necessary information (site specific) that will ensure employee safety; and
15) Any additional permits that have been issued to authorize work in the permit space, (example: hot work).

APPENDIX C
SITE-SPECIFIC ENTRY PROCEDURES

Entry Procedures for Below Ground Lift Stations, for Removing Pumps, & for Maintenance:

The following procedures apply to all of Silver Lake Water and Sewer District's below ground pumping stations:

1) Tailgate Safety Meeting forms shall be utilized before performing work;
2) The UCL System, along with the Miller Fall Arrest shall be used at all times;
3) The entrant shall wear an air monitor while in the Pump Station; additional ventilation is not needed since each of Silver Lake Water and Sewer District's Lift Station sites has ventilation systems to supply fresh air;
4) The employee shall remain hooked to the lifeline until the task is completed and is out of the Lift Station before unhooking. The only exception is note # 5;
5) There are provisions for multiple employees' to be hooked to separate lifelines at one time for work in a station. While employees should remain attached to the lifeline cable whenever possible, there are situations performing routine tasks that require temporarily disconnecting the lifeline cable. Reattach lifeline cable as soon as possible, one or more employees shall remain connected at all times;
6) The larger lift stations such as Lift Station #2, Lift Station #3, and Pioneer Trails, sometimes require additional personnel in the site, assisting with the work. Additional top persons shall be utilized to accommodate multiple workers below; and
7) Lock/Tag out procedures shall be utilized when removing pumps and performing electrical servicing.

This program overlays all necessary work at the following locations:

(* below ground station)

164th	16331 35th AVE SE
180th	3917 180th ST SE
Brasswood	8018 East Lowell Larimer Road
Bakerview	N/A
Cathcart Crossing	N/A
Larimer 1	5314 Lowell-Larimer RD
Larimer 2	6002 Lowell-Larimer RD
Creekside	12400 58th ST SE
Pioneer Trails*	3501 125th PL SE
Sector 7*	13301 78th AVE SE
Silver Firs*	15412 52nd AVE SE
Station #2*	11616 51st AVE SE
Station #3*	6231 134th PL SE
Station #4	10500 35th AVE SE
The Highlands #1	12811 66th AVE SE
The Highlands #2	12400 68th AVE SE
Highlands East	12601 71st AVE SE
Thomas Lake	3915 138th ST SE
The Point	10607 45th AVE SE
Valmont	3807 99th ST SE
Waldenwood*	10900 51st AVE SE
Woodlands East	4101 105th PL SE
Woodlands North*	4011 102nd PL SE

ENTRY PROCEDURES FOR PRV STATIONS AND MASTER METER VAULTS

A. Entry Procedures for Bilco Lid Style Vaults

1) Tailgate safety form completed.
2) Open all lids at site.
3) Test atmosphere with Air monitor.
4) Entrant must wear Air monitor at all times.
5) Attendant/Top person required.
6) Fall Protection as required.

B. Entry Procedures for Manhole Style Water/Wastewater Vaults

1) Confined Space Entry Procedures required.

2) See Entry Procedures for all Sewer Manholes.

ENTRY PROCEDURES FOR ALL SEWER MANHOLES AND LIFT STATION WET WELLS

Permit Required Confined Space Procedures Required.

A minimum of three personnel required, they are the Entry Supervisor, Attendant, and Entrant.

1) Use all required PPE.
2) Verify continuous operation of the supplied ventilation system.
3) Note any electrical or engulfment hazards within the space.
4) Secure work area to protect workers from traffic hazards and to protect the site from pedestrians, guard vault or manhole openings, eliminate unsafe conditions before removing entrance covers.
5) Entry Supervisor checks the permit procedures.
6) The work crew assigned to a job site requiring a confined space is responsible for completing the **Entry permit.**
7) **No entry shall be made until all permit conditions are satisfied.**
8) Follow testing of Atmosphere Procedure described previously.
9) Prepare full-body harness, lifelines, and UCL davit or tripod escape unit.
    a. Attach Lifelines to the harness and secure with means of retrieval (Miller winch).
10) If necessary, use explosion proof lighting.
11) Test communication equipment, such as radios or voice.
12) Entry Supervisor will determine if acceptable entry conditions are present and authorize entry by signing the Entry permit.
13) Proceed with entry.
14) Entrant must wear Gas monitor while in the space.
15) If the Gas monitor goes off at any time while in the space, **evacuate the confined space immediately** in a safe manner.
16) Do not re-enter the space until the hazardous condition has been identified and has been eliminated.
17) Attendant must establish a line of communication with the entrant at all times.
18) In the event that a rescue becomes necessary, and the entrant cannot be removed using the retrieval system, call 911. **Do not attempt to enter the space.** The Fire Department will respond and provide rescue.
19) When Confined space work is completed, the Entry Supervisor will cancel the permit.
20) Turn in the completed and closed out Entry permit to the Safety Officer for review and scanning.

SILVER LAKE WATER & SEWER DISTRICT
CONFINED SPACE ENTRY PERMIT/TAILGATE SAFETY MEETING FORM

DATE:
DURATION:
EXPIRES ON:
ADDRESS/LOCATION OF CONFINED SPACE AND PURPOSE OF ENTRY:

EMERGENCY CONTACT NUMBER: 911
ATMOSPHERIC HAZARDS: ( ) Oxygen Deficiency ( ) Flammable ( ) Toxic
PHYSICAL HAZARDS: ( ) Mechanical ( ) Electrical ( ) Chemical ( ) Engulfment ( ) Other

PRE-ENTRY CHECK LIST

Yes	N/A		Yes	N/A	
( )	( )	Entry area is free of debris and objects	( )	( )	Non-sparking tools used
( )	( )	Warning barriers and signs are in place	( )	( )	Forced air or exhaust ventilation is provided
( )	( )	Atmospheric monitoring conducted	( )	( )	All personnel have been informed of potential hazards
( )	( )	Electrical equipment is grounded	( )	( )	Host employer and/or contractors notified
( )	( )	All hazardous lines have been isolated	( )	( )	Entry and Emergency procedures have been reviewed
( )	( )	Attendant stationed at entrances & properly instructed	( )	( )	Hot work permitted (welding, cutting, grinding, etc.)
( )	( )	All personnel have been trained (classroom/exercise)	( )	( )	All energy sources have been neutralized/locked out

AIR MONITORING DATA
Air Sampling Required Continuously

Tests Required	YES	NO	Acceptable Entry Conditions	Measurement and Time					
			TIME:						
			TLV-TWA / STEL / OTHER						
Oxygen			19.5 - 23.5%						
Combustible Gas			Below 10% LEL						
Carbon Monoxide			0-25 ppm/ 0-25 ppm/						
Hydrogen Sulfide			0-10 ppm/ 0-15 ppm/						

PROTECTIVE EQUIPMENT

Yes	No		Yes	No		Yes	No	
( )	( )	Hard Hat	( )	( )	Protective Clothing	( )	( )	Communication Equipment
( )	( )	Eye/Face Protection	( )	( )	Hearing Protection	( )	( )	Respirator (type)_____
( )	( )	Boots	( )	( )	Retrieval Device	( )	( )	Fire Extinguisher (type)_____
( )	( )	Gloves	( )	( )	Harness and Lifeline	( )	( )	Other (type) _____

Print Name **Signature** **Date**

Permit prepared by_____
Atmosphere Tester_____
Attendant_____

I HAVE BEEN PROPERLY INSTRUCTED FOR SAFE ENTRY INTO THIS CONFINDED SPACE AND UNDERSTAND MY DUTIES:

PRINT NAME	SIGNATURE OF ENTRANT(S)	DATE
_____	_____	_____
_____	_____	_____
_____	_____	_____

APPROVALS

Permit Authorization (Must Be Signed Before Entry)
X **(Entry Supervisor's Signature)**

(Signature Certifies That All Precautions & Equipment Are In Place & All Atmospheric Testing Shows Air Acceptable for Entry)

Permit Cancellation (Must Be Signed After Work Is Completed)
X **(Entry Supervisor's Signature)**

SILVER LAKE WATER AND SEWER DISTRICT

DEFENSIVE DRIVING PROGRAM

Since a large portion of employee time is spent driving, the Silver Lake Water and Sewer District (SLWSD) has adopted a Defensive Driving Program that outlines some good driving habits to follow:

PAY ATTENTION

Employees driving District vehicles are required to comply with all state and local laws regarding the use of mobile communications devices while driving. A hands-free device must be used while driving for mobile communications.

- Texting is prohibited while driving a company vehicle.
- Use of secondary applications on mobile devices are prohibited.
- Paying attention makes it possible for you to *see*, *recognize*, and *avoid* the hazards on the road. These are the three basic elements of defensive driving.

Driving is one of the most dangerous things most of us ever do; it deserves your full attention.

Daydreaming, distractions, sleepiness, fatigue, highway hypnosis, cell phones, and just talking are things that can keep your attention off the roadways which could cause serious accidents. Alertness is the primary attribute necessary for a safe driver. Make paying attention a habit!

Employees are personally responsible for and shall pay all tickets, citations, or infractions issued for moving violations or parking violations while using a District vehicle. Employees must immediately advise their supervisor of any such tickets, citations, or infractions received.

DON'T TRUST ANYONE ON THE ROAD

You can never rely on what the other drivers will do. Think of all the mistakes, past and future ones, you have and *could* make. Be cautious approaching red lights and intersections.

DON'T SPEED

Speeding cuts your reaction time down and results in more stored energy that must be dissipated in any collision. Consider that speeding doesn't save much time. In most urban areas, signals limit overall speeds to what the system can handle.

DON'T DRIVE IMPAIRED

Employees are prohibited from operating any District vehicle at any time or operating any personal vehicle while on District business while using, consuming or under the influence of alcohol, illegal drugs, marijuana, or prescription medications or over the counter medications that may affect their ability to drive. Refer to the District Drug and Alcohol Policy for further details.

WEAR YOUR SEAT BELT

Wearing your seat belt is a Washington State Law and is mandatory in all SLWSD vehicles. Seat belts do several things for you. They provide impact protection, absorb crash forces, and they keep you from being thrown from your vehicle.

LOOK DOWN THE ROAD

You must take time to recognize and avoid most potential problems before they become a problem.

Be aware of pedestrians while driving. Enter school zones with extra caution.

DRIVE TO COMMUNICATE

You want to know that other drivers see you. Use your lights and horn when necessary to let others know you are present. Make sure to signal *all* turns.

KNOW YOUR BLIND SPOTS

Typically, on a car, the blind spots are on the sides, near the rear of the vehicle. Other vehicles may be blind to anything behind them. It is important to check your mirrors every 5 to 8 seconds while driving.

It is very important to turn your head and look, before making a lane change; lanes fill up very quickly in fast moving traffic.

Be aware of the size of your vehicle before entering limited access areas. Vehicle sizes vary greatly with the District fleet.

Again, you should make it a habit to follow *all* of the rules of the road. This is not a complete list of all safety provisions but merely an outline of some good driving habits for you to follow.

DAMAGE TO DISTRICT VEHICLE AND ACCIDENT BEST PRACTICES

Employees have a duty to notify a supervisor if any vehicles appear to be damaged, defective, or in need of repair. Prompt reporting of damages, defects, and the need for repairs could prevent vehicle deterioration and possible injury to employees or others. Employees involved in an accident should call 911 and report injuries and details. A police report needs to be issued. Notify your direct supervisor immediately. Take date stamp photos of damages and exchange driver information with other drivers. Try to record as much detail as possible for insurance investigations. Never admit fault or blame. Complete a WCIA accident form that is located in the glove box of each District vehicle.

GENERAL POLICIES

District vehicles are expensive and may be difficult to replace. When using District vehicles, employees are expected to exercise care, perform required maintenance, and follow all operating instructions, safety standards, and guidelines.

District vehicles are intended for District business only. Persons not employed by the District are not allowed to operate District vehicles unless authorized by the District's General Manager or the managers designee.

Non-employee, non-business passengers are prohibited from riding in District vehicles without prior approval from an employee's direct supervisor.

WITNESSES:

1. Name: _____
   Address: _____
   City, State, ZIP: _____
   Telephone: _____

2. Name: _____
   Address: _____
   City, State, ZIP: _____
   Telephone: _____

3. Name: _____
   Address: _____
   City, State, ZIP: _____
   Telephone: _____

4. Name: _____
   Address: _____
   City, State, ZIP: _____
   Telephone: _____

ACCIDENT INVESTIGATION:

Investigated by (circle one)

State Patrol Local Police No investigation

Name: _____

Report No: _____

INSTRUCTIONS

DO

- Introduce yourself by name and title.
- Give immediate assistance and summon Police or Paramedics.
- Stay with injured party until help arrives.
- Record all details of the incident, including names, times, and exact location. Be observant and accurate.
- Take pictures if possible.
- Fill out an incident report as soon as possible and forward it to your claims contact person.

DO NOT

- Do not admit liability or state that the City will take care of the damage or medical bills.
- Do not discuss the incident with anyone (including bystanders) other than your supervisor or other authorized personnel, such as Law Enforcement.
- Do not move an injured party unless it is for his or her protection.

In the event of an incident involving serious injury, a fatality, or large property loss occurring AFTER regular working hours, call Sedgwick Claim Services at **800-235-8784.**

WA cities Insurance Authority

Accident Report Form

This form does not replace the Incident Report Form sent on to WCIA.

Rev. 01/21/20

CITY DRIVER INFORMATION:

Your Name: _____

Driver License No: _____

Department: _____

Work Phone: _____

Vehicle Owner: _____

Date: _____ Time: _____

OTHER DRIVER INFORMATION:

Name of Driver: _____

Address: _____

City, State, ZIP: _____

Telephone: Home ( )_____

Work ( )_____

Date of Birth: _____

OTHER VEHICLE INFORMATION:

License Plate/State: _____

Year: _____ Make: _____

Model: _____

Liability Insurance Company:

_____

Policy Number:

_____

Name of Owner (if different from driver):

_____

Address: _____

City, State, ZIP: _____

Telephone: ( )_____

BRIEF DESCRIPTION OF ACCIDENT:

_____

_____

_____

_____

_____

_____

_____

_____

ACCIDENT DIAGRAM:

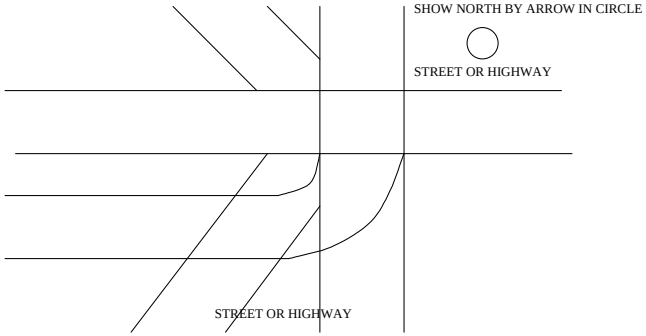
Indicate the City's vehicle as Vehicle #1

1

Location of Accident: _____

_____

_____



_____

_____

_____

INJURIES:

1. Name: _____
   Address: _____
   City, State, ZIP: _____
   Telephone: _____
   Nature and Extent of Injury: _____
   _____
   Where was the injured party taken, and by whom?_____
   _____

2. Name: _____
   Address: _____
   City, State, ZIP: _____
   Telephone: _____
   Nature and Extent of Injury: _____
   _____
   Where was the injured party taken, and by whom?_____
   _____

3. Name: _____
   Address: _____
   City, State, ZIP: _____
   Telephone: _____
   Nature and Extent of Injury: _____
   _____
   Where was the injured party taken, and by whom?_____
   _____

SILVER LAKE WATER AND SEWER DISTRICT

ELECTRICAL SAFETY PROGRAM

REVISION HISTORY

Revision 1 – February 2023; Document created.

PURPOSE AND SCOPE

Silver Lake Water and Sewer District (SLWSD) is committed to providing a safe and healthy work environment and to protecting employees from injury or death caused by uncontrolled electrical hazards in the workplace. The purpose of SLWSD's Electrical Safety Program is to establish work policies, practices, and procedures to train employees in basic electrical hazard recognition and safe work practices. This program applies to qualified and non-qualified employees who are exposed to electricity as part of their job.

OSHA's Control of Hazardous Energy Standard states that employers must implement safety-related work practices to prevent electrical shock or other injuries resulting from either direct or indirect electrical contact.

The National Fire Protection Association (NFPA) 70E: Standard for Electrical Safety in the Workplace, requires employers to implement and document an overall Electrical Safety Program. NFPA 70E is the tool SLWSD uses to meet this OSHA requirement. It will help to evaluate electrical risk and provide the basis for this Electrical Safety Program that directs activity appropriate for electrical hazards, voltage and energy level, and circuit conditions.

One major element of an Electrical Safety Program is a Hazard Identification and Risk Assessment, to determine protective equipment needs including Personal Protective Equipment (PPE). This risk assessment must be done before any work is started within a shock or arc flash boundary. Two basic methods can be employed to complete the risk assessment:

- Use of NFPA 70E-2021 Article 130, Tables: 130.4(E)(a) or (b) for Shock Risk Assessment.
- Use of an Incident Energy Analysis Study.

SLWSD uses the results from an Incident Energy Analysis Study. This emphasis on risk assessment is also known as an Arc Flash Risk Assessment. This means there is potential for harm considered, based on the combination of severity and likelihood a failure could result in injury or damage to health.

STANDARDS

National Fire Protection Association (NFPA) 70E
OSHA Standards 29 CFR: 1910.331 to 1910.335, 1910.137

DEFINITIONS

Qualified person. A person who has successfully demonstrated the ability to solve problems relating to the subject matter, work, or project, either by:

• Possession of a recognized degree, certificate, or professional standing; or
• Extensive knowledge, training, and experience. WAC 296-800-099.

PROGRAM RESPONSIBILITIES

Management. Along with providing financial and leadership support, the management of SLWSD will assist the Program Administrator, supervisors, and employees with complying with this policy.

Program Administrator. The Program Administrator is responsible for:

- Identifying work tasks that need to be performed by a Qualified Employee.
- Conducting electrical safety inspections.
- Correcting electrical safety hazards as soon as possible.
- Ensuring all new electrical equipment and components comply with this program.
- Reviewing this program annually and revising if necessary.
- Maintaining a list of all Qualified Employees for specific tasks. (Appendix B).
- Conducting training for employees.

Supervisors. Supervisors are responsible for:

- Conducting periodic work inspections.
- Ensuring employees are provided with and use the appropriate PPE.
- Ensuring employees comply with all aspects of the Electrical Safety Program.

Employees. An employee will only work on electrical equipment if he/she is a qualified worker, meaning he/she has been trained and authorized to perform work on deenergized electrical equipment and components. Employees are responsible for:

- Wearing the appropriate PPE when working with or around electrical equipment.
- Reporting electrical safety hazards to the supervisor of the Program Administrator.
- Following the safe work practices outlined in this program.
- Visually inspecting electrical equipment, tools, and cords before each use.
- Completing all required training.

Qualified Person. Per NFPA 70E, Article 100, SLWSD employees shall be categorized as "Qualified" or "Unqualified" and must observe appropriate approach limitations when working within the arc flash boundary distance. A qualified person is someone who has demonstrated skills and knowledge related to the construction and operation of electrical equipment and installations and has received safety training to identify the hazards and reduce the associated risk.

Persons that do not meet the criteria of Qualified persons are considered Unqualified persons.

Qualified employees shall be trained to select an appropriate test instrument and shall demonstrate how to use a device to verify the absence of voltage, including interpreting indications provided by the device. The training shall include information that enables the employee to understand all the limitations of each test instrument that might be used.

A Qualified person shall be trained and knowledgeable in the construction and operation of equipment or a specific work method and be trained to identify and avoid the electrical hazards that might be present with respect to that equipment or work method.

Qualified persons shall also be familiar with the proper use of the special precautionary techniques, applicable electrical policies and procedures, PPE, insulating and shielding materials, and insulated tools and test equipment. A person can be considered qualified with respect to certain equipment and methods but still be unqualified for others.

Qualified persons permitted to work within the limited approach boundary (as discussed further below) shall, at a minimum, be additionally trained in all of the following:

- Skills and techniques necessary to distinguish exposed energized electrical conductors and circuit parts from other parts of electrical equipment.
- Skills and techniques necessary to determine the nominal voltage of exposed energized electrical conductors and circuit parts.
- Approach distances specified in Incident Energy Analysis Study and the corresponding voltages which the qualified person will be exposed to.
- Employees will be capable of reading and understanding the attached PPE matrix, and listed approach boundaries and hazard risk category tables, which are necessary to perform the task safely.
- Employees will be capable of finding the incident energy available for the work they are performing and selecting the appropriate PPE to match the incident energy analysis results.

GENERAL WORK PRACTICES

All electrical equipment will have the manufacturer's name, trademark, or other descriptive marking, which identifies the organization responsible for the product. The equipment will also have its operating voltage, current, wattage or other rating clearly marked on it.

EXTENSION CORDS AND POWER STRIPS

Employees must be aware of the hazards associated with the misuse of extension cords and power strips. All power strips must be UL listed and used according to the manufacturer's guidelines.

Choosing an Appropriate Extension Cord. SLWSD has a variety of extension cords available for employee use. Employees will select an extension cord that can handle the electricity requirement for any connected tools or equipment. All employees will adhere to the following guidelines when choosing an appropriate extension cord:

- Lights and fans (1-13 amperage rating). Employees may use a 25-150 foot long extension cord with 14 gauge wire. Avoid the use of 16-gauge electrical cords.
- Small electrical hand-held tools, such as drills and sanders (14-15 amperage rating); may use a 25-100 foot long extension cord with 14 gauge wire, or a 150 foot cord with 12-10 gauge wire.
- Large electrical tools such as shop vacuums, circular saws, table saw, and space heaters (16-20 amperage rating); may use a 25-100 foot long extension cord with 12-10 gauge wire. Do not use an extension cord longer than 100 feet with large electrical tools.

SAFE WORK PRACTICES FOR EXTENSION CORDS AND POWER STRIPS

The following safe work practices will be followed at all times, by all employees, when using an extension cord or power strip:

- No employee will plug in or unplug a power strip or extension cord with wet hands.
- Power strips will only be used in office settings.
- Grounding prongs will never be removed from the end of any extension cord or power strip. No strip or cord with a missing grounding prong shall be plugged into outlets.
- All extension cords and power strips will be inspected before use. If any defects are found, the cord or strip will be removed from service.
- If and when extension cords or power strips are used, they will not be:
    - Run through holes in walls, ceilings, or floors.
    - Run through doorways or windows without appropriate protection.
    - Used in areas where vehicles, forklifts, or other equipment could drive over the cord.
    - Fastened with staples or hung in a way that could damage the insulation.
    - Used for more than 90 days.

If it is necessary to run an extension cord through a doorway (for example, work completed outdoors with no outlet), the cord will be protected using high contrast tape or coverings and will not be left out overnight. Employees must get approval from the Program Administrator before an extension cord can be used in this manner.

CIRCUIT OVERLOAD

To reduce the possibility of overloaded circuits, SLWSD's employees will only plug in one device per outlet. Employees will not use splitters, multi-plug adapters, etc. without direct permission from the Program Administrator. If you have a concern that a circuit may be overloaded, you are to contact your supervisor or the Program Administrator as soon as possible.

TOOLS

The following requirements shall be adhered to at all times:

- All electrical tools will be stored in a clean, dry place when not in use.
- Employees will not carry electrical tools by the cord or yank cords from the wall.
- If a tool is unintentionally deenergized, due to a circuit breaker or GFCI, it must be removed from service until the cause of de-energization is discovered.
- All tools will have grounding prongs. Any tool without a grounding prong will be removed from service.
- All electrical tools will be inspected before use. If any defects are found, the tool will be removed from service until it can be repaired or replaced.
- Fiberglass ladders will be used when working around or on electrical equipment or wires.

GUARDING

All electrical systems must be guarded to prevent contact with live conductors. The following requirements will be adhered to at all times:

- All electrical distribution panels, breakers, disconnects, switches, and junction boxes will be completely enclosed.
- Live parts to electrical equipment operating at 50 volts or more must be guarded, to prevent contact and prevent damage.
- All electrical receptacles and cover plates will be kept intact and in good condition.
- All electrical panels will be easily accessible at all times and a minimum of three feet of clearance shall be maintained on all sides.

WORKING NEAR POWER LINES

Both overhead and underground power lines present electrical hazards. The following procedures shall be adhered to when working near power lines:

- Remain at least 10 feet away from overhead power lines.
- If the voltage is greater than 50,000 volts, add four more inches of safe distance for each 10,000 volts beyond 50,000.
- When working around high voltage lines, ground all equipment that may become energized.

- Call Washington's "Call Before You Dig" phone number 811 at least 48 hours before any digging. Once underground power lines have been identified, add an additional 18-inch clearance on either side of the marking or flag. Do not dig in this clearance area. If it is required to dig within the clearance area, SLWSD will use an outside contractor to perform the work.

ADDITIONAL SAFETY PRECAUTIONS

The following additional safety precautions shall be adhered to at all times:

- If a circuit breaker trips or blows a fuse more than once, it shall be investigated and corrected by a qualified employee or contractor before being cleared for continued use.
- All areas with electrical equipment shall be properly illuminated.
- Housekeeping duties will not be performed in an area if there is a possibility of contact with an electrical hazard unless there are protective shields, barriers or if insulated materials are used to protect the employee.
- Safety signs that warn employees about any electrical hazards shall be displayed prominently when a hazard is present.

ELECTRICAL WORK PERMITS

WORK DEENERGIZED WHERE FEASIBLE

Live parts to which an employee might be exposed shall be put into an electrically safe work condition by a Qualified Person before an employee works on or near them unless the employer can demonstrate that deenergizing introduces additional or increased hazards or is infeasible due to equipment design or operational limitations. Energized parts that operate at less than 50 volts to ground, shall not be required to be deenergized if there is no increased exposure to electrical burns or to explosions, due to electric arcs.

If live parts are not placed in an electrically safe work condition (for the reasons of increased or additional hazards or infeasibility) work to be performed shall be considered energized electrical work and shall be performed by Qualified Persons using a written work permit.

ELEMENTS OF WORK PERMIT

The energized electrical work permit shall include, but not be limited to, the following items:

- A description of the circuit and equipment to be worked on and their location. a justification for why the work must be performed in an energized condition.
- A description of the safe work practices to be employed.
- Results of the shock hazards analysis.
- Determination of shock protection boundaries. Results of the flash hazard analysis.
- The Flash Protection Boundary

- The necessary Personal Protective Equipment to safely perform the assigned task.
- Methods employed to restrict the access of Unqualified Persons from the work area. Evidence of completion of a job briefing, including a discussion of any job-specific hazards.
- Energized work approval (authorizing management, safety officer, or director, etc.) signature(s).

EXEMPTIONS TO WORK PERMITS

Work performed on or near live parts by Qualified Persons related to tasks such as testing, troubleshooting, voltage measuring, etc., shall be permitted to be performed without an energized electrical work permit, provided appropriate safe work practices and Personal Protective Equipment are used.

ELECTRICAL APPROACH DISTANCES AND BOUNDARIES

SLWSD personnel shall use the District's "Arc Flash Incident Energy Study" (Appendix A) to determine the electrical approach distances and boundaries for a particular piece of electrical equipment.

Arc Flash is a discharge of electrical energy (explosion) that occurs when electrical current travels from a conductor through the air to another conductor or ground (an Arc Fault). This unintended electrical pathway during an Arc Flash can produce temperatures in excess of 35,000 °F (19,400 °C) at the points of the arc. Electrical energy released during the arc flash can vaporize the metal conductors into a gas, expanding it with explosive force.

The Electrical Safety Program was developed to minimize the risk to SLWSD employees from safety and health hazards in the workplace related to the discharge of electrical energy.

The shock protection boundaries identified as Limited, and Restricted -Boundaries are applicable to the situation in which approaching personnel are exposed to live parts. Calculated Incident Energy values are used to set approach distances and boundaries. These boundary distances and the associated incident energy levels are unique to each electrical point in the system. Some equipment will have a larger flash protection boundary while other equipment will have a smaller boundary.

Only Qualified Persons shall perform testing work (use of test equipment, multimeters, etc.) on or near live parts operating at 50 volts or more.

Unqualified Persons shall not be permitted to enter spaces that are accessible to qualified employees only, unless the electric conductors and equipment involved are in electrically safe working conditions.

- **Arc Flash Boundary (ARC):** - is the distance at which an electrical arc can flash outward, which may endanger employees working on electrical equipment.

- **Arc Flash Protection Boundary (AFB):** If an arc flash occurred, this boundary is where an employee would be exposed to a curable second-degree burn (5 J/cm2, 1.2 calories/cm2). Within the AFB, the burns an employee would be exposed to are more severe than a second-degree burn.

  Flash hazard analysis results are used to protect personnel from the possibility of being injured by an arc flash. The analysis determines the Flash Protection Boundary and the Personal Protective Equipment that people within the Flash Protection Boundary shall use.

  At voltage levels above 600 volts, the Flash Protection Boundary is the distance at which the incident energy equals 5 J/cm2 (1.2 cal/cm2.

- **Limited Approach**: An approach limit at a distance from an exposed live part where a shock hazard exists. A shock protection boundary is only to be crossed by Qualified Persons and is not to be crossed by Unqualified Persons unless escorted by a Qualified person.

  Where one or more Unqualified Persons are working, at or close to, the Limited Approach Boundary, the designated person in charge of the workspace where the electrical hazard exists shall cooperate with the designated person in charge of the Unqualified Person(s) to ensure that all work can be done safely. This shall include advising and warning him or her to stay outside of the Limited Approach Boundary.

  Where there is a need for an Unqualified Person(s) to cross the Limited Approach Boundary, a Qualified Person shall advise the Unqualified Person of the possible hazards and continuously escort the Unqualified Person(s) while inside the limited Approach Boundary. Under no circumstance shall the escorted Unqualified Person(s) be permitted to cross the Restricted Approach Boundary.

- **Restricted Approach**: An approach limit at a distance from an exposed live part where there is an increased risk of shock.

  No Qualified Person shall approach or take any conductive object closer to exposed energized electrical conductors or circuit parts live parts operating at 50 volts than the Restricted Approach Boundary set forth in "Arc Flash Incident Energy Study" unless any of the following apply:

  The Qualified Person is insulated or guarded from the live parts operating at 50 volts or more (insulating gloves or insulating gloves and sleeves are considered insulation only with regard to the energized parts upon which work is being performed).

  The live part operating at 50 volts or more is insulated from the Qualified Person and from any other conductive object at a different potential.

  Under no circumstance shall the Unqualified Person(s) be permitted to cross the Restricted Approach Boundary.

PERSONAL AND OTHER PROTECTIVE EQUIPMENT

Following guidelines of NFPA 70E, SLWSD employees shall be categorized as "Qualified" or "Unqualified" and must observe appropriate approach limitations when working within the arc flash boundary distance. Proper Personal Protective Equipment (PPE) is required when working within the Arc Flash Boundary Distance.

NFPA 70E-2021, Article 130.7(A) requires that employees use and employers provide proper PPE for the tasks being performed. NFPA 70E, Table H.3 provides guidance for the selection of PPE based on calculated incident energy exposure.

Where it has been determined that work will be performed within the Flash Protection Boundary, the flash risk analysis shall determine the incident energy exposure of the worker (in calories per square centimeter). The incident energy exposure level shall be based on the working distance of the employee's face and chest areas from a prospective arc source for the specific task to be performed. Arc-rated (AR) clothing and Personal Protective Equipment (PPE) shall be used by the employee, based on the incident energy exposure associated with the specific task. PPE must be rated for a minimum Arc Thermal Performance Value (ATPV) over the potential incident energy exposure associated with the task.

Recognizing that incident energy increases as the distance from the arc flash decreases, additional PPE shall be used for any parts of the body that are closer than the distance at which the incident energy was determined as an alternative, the PPE requirements of NFPA 70E 130.7(C) shall be permitted to be used in lieu of the detailed flash hazard analysis approach:

- General Employees working in areas where electrical hazards are present shall be provided with, and shall use, protective equipment that is designed and constructed for the specific part of the body to be protected and for the work to be performed.

- Protective equipment shall be maintained in a safe, reliable condition. The protective equipment shall be visually inspected before each use.

- Personal Protective Equipment (PPE).

    1. **General**

    When an employee is working within the Flash Protection Boundary, he/she shall wear protective clothing and other Personal Protective Equipment in accordance with NFPA 70E.

    2. **Movement and Visibility**

    When arc-rated (AR) clothing is worn to protect an employee, it shall cover all ignitable clothing and shall allow for movement and visibility.

3. **Head, Face, Neck, and Chin Protection**

Employees shall wear nonconductive head protection wherever there is a danger of head injury from electric shock or burns due to contact with live parts or from flying objects resulting from electrical explosion. Employees shall wear nonconductive protective equipment for the face, neck, and chin whenever there is a danger of injury from exposure to electric arcs of flashes or from flying objects resulting from electrical explosion.

4. **Eye Protection**

Employees shall wear protective equipment for the eyes whenever there is danger of injury from electric arcs, flashes, or from flying objects resulting from electrical explosion.

5. **Hearing Protection**

Employees shall wear hearing protection whenever working within the Arc Flash Boundary.

6. **Body Protection**

Employees shall wear arc rated (AR) clothing wherever there is possible exposure to an electric arc flash above the threshold incident-energy level for a second-degree burn. 5 J/cm2 (1.2 cal/cm2). Such clothing can be provided as shirt and trousers, or as coveralls, or as a combination of jacket and trousers, or, for increased protection, as coveralls with jacket and trousers. Various weight fabrics are available. Generally, the higher degree of protection is provided by heavier weight fabrics and/or by layering combinations of one or more layers of AR clothing. In some cases, one or more layers of AR clothing are worn over flammable, non-melting clothing.

7. **Hand and Arm Protection**

Employees shall wear rubber insulating gloves where there is danger of hand and arm injury from electric shock, due to contact with live parts. Hand and arm protection shall be worn where there is possible exposure to arc flash burn.

8. **Foot and Leg Protection**

Where insulated footwear is used as protection against step and touch potential, dielectric overshoes shall be required. Insulated soles shall not be used as primary electrical protection.

Per NFPA 70E 130.7(10)(e) Foot Protection - Leather footwear or dielectric footwear or both provide some arc flash protection to the feet and shall be used in all exposures greater than 4 cal/cm2 (16.75 J/cm2).

The following PPE categories are from NFPA 70E, Table 130.7(C)(15)(c):

Category 1
Arc-Rated Clothing, Minimum Arc Rating of 4 cal/cm2 (see Note 1)

- Arc-rated long-sleeve shirt and pants of arc-rated coverall.
- Arc-rated face shield (see Note 2) or arc flash suit hood.
- Arc-rated jacket, parka, rainwear, or hard hat liner (AN).

Protective Equipment

- Hard hat.
- Safety glasses or safety goggles (SR).
- Hearing protection (ear canal inserts).
- Heavy duty leather gloves (see Note 3).
- Leather footwear (AN).

Category 2
Arc-Rated Clothing, Minimum Arc Rating of 8 cal/cm2 (see Note 1)

- Arc-rated long-sleeve shirt and pants of arc-rated coverall.
- Arc-rated flash suit hood or arc-rated face shield (see Note 2) and arc-rated balaclava.
- Arc-rated jacket, parka, rainwear, or hard hat liner (AN).

Protective Equipment

- Hard hat
- Safety glasses or safety goggles (SR)
- Hearing protection (ear canal inserts)
- Heavy duty leather gloves (see Note 3)
- Leather footwear (AN)

Category 3
Arc-Rated Clothing, Minimum Arc Rating of 25 cal/cm2 (see Note 1)

- Arc-rated long-sleeve shirt (AR)
- Arc-rated pants (AR)
- Arc-rated coverall (AR)
- Arc-rated arc flash suit jacket (AR)
- Arc-rated arc flash suit pants (AR)
- Arc-rated arc flash suit hood
- Arc-rated gloves (see Note 1)
- Arc-rated jacket, parka, rainwear, or hard hat liner (AN)

Protective Equipment

- Hard hat
- Safety glasses or safety goggles (SR)
- Hearing protection (ear canal inserts)
- Leather footwear

Category 4
Arc-Rated Clothing Selected so That the System Arc Rating Meets the Required Minimum Arc Rating of 40 cal/cm2 (see Note 1)

- Arc-rated long-sleeve shirt (AR)
- Arc-rated pants (AR)
- Arc-rated coverall (AR)
- Arc-rated arc flash suit jacket (AR)
- Arc-rated arc flash suit pants (AR)
- Arc-rated arc flash suit hood
- Arc-rated gloves (see Note 1)
- Arc-rated jacket, parka, rainwear, or hard hat liner (AN)

Protective Equipment

- Hard hat
- Safety glasses or safety goggles (SR)
- Hearing protection (ear canal inserts)
- Leather footwear

AN: As needed (optional). AR: As required. SR: Selection required.

Note 1: Arc rating, is defined in Article 100.
Note 2: Face shields are to have wrap-around guarding to protect not only the face but also the forehead, ears, and neck, or alternatively, an arc-rated arc flash suit hood is required to be worn.
Note 3: Other types of hearing protection are permitted to be used in lieu of or in addition to ear canal inserts provided they are worn under an arc-rated arc flash suit hood.

EMPLOYEE TRAINING

Qualified Workers.

At a minimum, Qualified Workers must be trained on the following:

- The hazards associated with electrical equipment.
- Electrical safety practices and procedures (lockout/tagout) for doing deenergized work.
- Safe work practices that must be followed when working around or with electrical tools or equipment.
- How to distinguish exposed live parts from other parts of electrical equipment.
- How to properly inspect and use the appropriate PPE.
- The location of the electrical breaker panels and fuse boxes.

Unqualified Workers.

Unqualified Workers will receive general electrical safety awareness training on how to recognize, evaluate and avoid electrical hazards and training on all SLWSD's electrical safety practices.

Training will occur before an employee begins work in a new area and when an employee does not comply with safe work practices. Periodic evaluations will occur.

Training will be documented in Lucity Asset Management program.

PERIODIC PROGRAM REVIEW

The Program Administrator will review the Electrical Safety Program and procedures annually.

ARC FLASH INCIDENT ENERGY STUDY

Incident energy analysis study shall be updated when changes occur in the Electrical Distribution System that could affect the results of the analysis, or the calculation methods and requirements are changed per NFPA 70E. The incident energy analysis shall also be reviewed for accuracy at intervals not-to-exceed five years. (NFPA 70E, 130.5(G).

SILVER LAKE WATER AND SEWER DISTRICT

EXCAVATION SAFETY PROGRAM

At Silver Lake Sewer and Water District we are dedicated to the safety of our workforce. This program aims to communicate relevant information and procedures so that employees are prepared to work safely in or near excavations.

SCOPE

Employees are at risk of being injured or even killed during excavation work. This written program applies to all employees who work in or near excavations. District employees are exposed to excavation hazards during the following activities:

- Underground Utility repair and installation work.

ROLES AND RESPONSIBILITIES

EMPLOYER

It is the responsibility of the O&M Manager to oversee the Excavation Safety Program, including any required emphasis and/or resources for required tools, equipment, and training, as well as funding for equipment maintenance or replacement. District Supervisors are responsible for immediately correcting any unsafe practices or conditions and stopping the work if necessary until it can be done safely.

It is also the District's responsibility to ensure that all workers understand and adhere to the procedures outlined in this program.

COMPETENT PERSON

A Competent Person must be assigned to every excavation deeper than 4 feet. The Competent Person must be able to recognize hazards and make safety determinations about the excavation, including recognizing soil types, reading tabulated data, performing calculations necessary to determine appropriate safeguarding methods (e.g., benching, sloping, shoring, shielding, etc.) in a trench given all the variables for the excavation, as well as anticipate any hazards related to soil stability and changes from water intrusion, surcharge, vehicle activity, etc. They must also know when conditions or activities warrant consultation with the District Engineer.

Using their knowledge and authority, the Competent Person will oversee all aspects of the excavation and provide instructions to ensure the safety of all other employees. They will be responsible for following and documenting (where appropriate) all applicable procedures.

At the District, all employees who work in or near excavations receive Competent Person training.

EMPLOYEE

It is the responsibility of all trained employees to follow the safety policies and procedures outlined in this program as well as any direction provided by Competent Person(s). Employees must inform the Competent Person in charge of the excavation, a supervisor, or a member of management of any unsafe or hazardous conditions or practices that may cause injury to either themselves or others, or if they are unclear about the proper procedures to follow at any point.

It is of the utmost importance that no one proceeds with work if they are unsure about procedures or believe there is a safety risk.

EXCAVATION SAFETY PROCEDURES

BEFORE EXCAVATING

All surface encumbrances and underground installation that reasonably may be expected to be encountered during the excavation work, will be located and evaluated for potential hazards prior to the opening of the excavation.

- At least two (2) business days before excavation of any kind, you must call 811 in Washington to determine the utility locations.
- Excavation below the level of the base or footing of foundations or retaining walls should not occur unless the District Engineer has approved it and provided parameters for the appropriate use of protective systems.

The Competent Person will:

- Inspect the excavation site.
- Determine the soil type (A, B, C, or stable rock) using recognized methods. (See Appendix A for methods).
- Determine appropriate type of protection system and associated methods for use.
- Determine location(s) for equipment, debris or spoil, traffic control, and any other planning to ensure operations can be completed safely.
- Assess the atmosphere inside the excavation. If a hazardous atmosphere is present or could develop over the course of work, appropriate atmospheric testing and/or monitoring will occur. (See "Hazardous Atmospheres" section for more information).

DURING THE EXCAVATION

PROTECTION FROM CAVE-INS

All excavations over 4 feet deep are to be sloped, benched, shored, shielded, or otherwise designed to protect employees. As a best practice, excavations less than 4 feet in depth should be effectively protected when ground movement or other hazards may be expected.

Any protective system for an excavation over 20 feet must be designed by a registered Professional Engineer (PE). The District Engineer shall be consulted for such excavations.

ACCESS/EGRESS

Adequate means of access and egress shall be provided, primarily using a sloped soil ramp or ladder. A ladder is required for any excavation over four (4) feet with no more than 25 feet of lateral travel required by employees to reach it.

HAZARDOUS ATMOSPHERES

Adequate precautions shall be taken to prevent employee exposure to harmful atmospheres while working in excavations. Appropriate precautions will include the use of atmospheric testing and monitoring equipment and providing adequate ventilation and proper respiratory protection equipment. Every effort will be made to maintain acceptable atmospheric conditions at all times, including continuous atmospheric monitoring in areas where hazardous atmospheres could be expected to develop over time. At no time will an employee enter a hazardous atmosphere in an excavation. All efforts shall be made to eliminate the hazards before work will continue.

INSPECTION

In addition to inspection prior to excavating, the Competent Person shall perform routine inspections of the excavation for evidence of a situation that could result in a possible cave-in, indication of failure of the protective system, hazardous atmosphere, or other dangerous conditions. Inspections will take place at the following times:

- At least daily
- Throughout the shift as needed
- After every rain event or other occurrence that might increase hazards of the excavation

If the Competent Person finds evidence of a hazard during inspection, they will remove all exposed employees from the area until all necessary precautions have been taken to ensure their safety.

RAIN AND WATER INTRUSION

Employees shall not work in excavations in which water is accumulating unless adequate precautions have been taken to protect them from hazards. The Competent Person on the jobsite shall be responsible for eliminating or controlling water accumulation, as well as evaluating the impact of water accumulation on the stability of the excavation itself.

ADJACENT STRUCTURES

Where the stability of adjoining buildings, walls, or other structures is endangered by the excavation operations, support systems such as shoring, bracing, or underpinning shall be provided to ensure the stability of the structure for the protection of the employee. Excavation below the level of the base or footing of foundations or retaining walls should not occur unless one of the above-mentioned systems is in place or the District Engineer has deemed the excavation safe.

USE OF HEAVY EQUIPMENT

District employees will follow established guidelines for employee use of Backhoes, Trackhoe, Front End Loaders, Dump Trucks and the Vactor Truck on excavation sites.

Only trained and authorized employees shall operate District Backhoes, Trackhoe, Front End Loader, Dump Trucks, and the Vactor Truck. Seat belts are required on all heavy equipment while driving on public roadways.

Training will be provided by the Safety Officer as needed. The Supervisor will give authorization for operation to those employees who are required to operate the equipment as a part of their job assignment.

Training will include a hands-on demonstration of operational skills and information about the following topics:

- Inspections
- Function and proper use of controls
- Loading/unloading practices
- Traveling speed
- Importance of maintaining adequate clearances
- How to safety leave the vehicle
- Refueling procedures
- Pedestrians/passenger safety
- Safe load handling
- Maintenance
- Appropriate PPE (including prohibition of using sunglasses while working around excavations-clear safety glasses only)

Pre-trip and Post-trip inspection reports are required on all CDL Vehicles. Forms are completed digitally via tablet.

FALL HAZARDS

Any excavation or trench with a fall hazard of greater than 10 feet must be guarded with a standard guardrail system or employees must be otherwise protected from falls via a Fall Protection system.

ADJACENT LOADS

Superimposed loads in the vicinity of the trench can increase the pressure on the excavation faces. Any equipment, spoil, or other materials must be kept at least two (2) feet from the edge of the excavation. As a best practice, they should be kept as far away as practical.

VEHICLE TRAFFIC

Vehicle traffic can impact soil stability; whenever vehicle traffic is in the vicinity of a trench, the Competent Person must determine if the surcharge (or extra pressure/vibrations) from the traffic will contribute to trench collapse or failure of any shoring/shielding equipment in use. Proper work zone and traffic control practices will be followed in accordance with District policy and compliance with the Manual for Uniform Traffic Control Devices (MUTCD). This will include proper use of signs, cones and/or barricades, and flagger as necessary to protect the work zone.

WORKING WITH EQUIPMENT

Employees should avoid being in the excavation during use of the backhoe or the lowering of materials or equipment into the trench. Under no circumstances should an employee be directly under a suspended load.

PPE

All employees will wear proper Personal Protective Equipment (PPE) while working in any construction zone including excavation. This will include, but is not limited to, a hard hat, orange warning vest, steel-toed shoes, and any other appropriate PPE.

PROTECTION METHODS

The District uses methods to protect employees who perform work in excavations. All protection systems are designed and installed according to applicable regulation, manufacturer specifications, and/or instructions from the District Engineer.

In WA State, regulations include:

- WAC 296-155-657, and
- Appendix A (Soil Classification Methods)
- Appendix B (Benching and Sloping),
- Appendix C (Aluminum Hydraulic Shoring)
- Appendix D) (Shielding)

A copy of any information used in determining the design/parameters of a protective system (such as manufacturer's information, tabulated data, or other information provided by a registered PE must be kept on-site at the excavation and then retained by the District.

APPENDIX A: SOIL CLASSIFICATION METHODS

SOIL TYPES

Type A

Cohesive soils with an unconfined compressive strength of 1.5 ton per square foot (tsf) (144 kPa) or greater. Examples of cohesive soils are:

- Clay, silty clay, sandy clay, clay loam and, in some cases, silty clay loam and sandy clay loam. Cemented soils such as caliche and hardpan are also considered Type A.

No soil is Type A if:

- The soil is fissured; or
- The soil is subject to vibration from heavy traffic, pile driving, or similar effects; or
- The soil has been previously disturbed; or
- The soil is part of a sloped, layered system where the layers dip into the excavation on a slope of 4 horizontal to 1 vertical (4H.1V) or greater; or
- The material is subject to other factors that would require it to be classified as a less stable material.

Type B

Cohesive soil with an unconfined compressive strength greater than 0.5 tsf (48 kPa) but less than 1.5 tsf (144 kPa) or granular cohesionless soils including:

- Angular gravel (similar to crushed rock), silt, silt loam, sandy loam and, in some cases, silty clay loam and sandy clay loam.
- Previously disturbed soils except those which would otherwise be classed as Type C soil.
- Soil that meets the unconfined compressive strength or cementation requirements for Type A, but is fissured or subject to vibration, or:

    - Dry rock that is not stable
    - Material that is part of a sloped, layered system where the layers dip into the excavation on a slope less steep than 4 horizontal to 1 vertical (4H.1V), but only if the material would otherwise be classified as Type B.

Type C

Cohesive soil with an unconfined compressive strength of 0.5 tsf (48 kPa) or less, granular soils including gravel, sand, and loamy sand, submerged soil or soil from which water is freely seeping, submerged rock that is not stable, or material in a sloped, layered system where the layers dip into the excavation or a slope of 4 horizontal to 1 vertical (4H.1V) or steeper.

CLASSIFICATION

The classification of soils must be done by a competent person and be made based on the results of at least one visual and one manual analysis. If, after classifying a deposit, the properties, factors, or conditions affecting its classification change in any way, it must be evaluated by a competent person and reclassified as necessary to reflect the changed circumstances.

Potential testing methods are listed below:

VISUAL TESTING

Visual analysis is conducted to determine qualitative information regarding the excavation site in general, the soil adjacent to the excavation, the soil forming the sides of the open excavation, and the soil taken as samples from excavated material.

- Observe samples of soil that are excavated and soil in the sides of the excavation. Estimate the range of particle sizes and the relative amounts of the particle sizes. Soil that is primarily composed of fine-grained material is cohesive material. Soil composed primarily of coarse-grained sand or gravel is granular material.
- Observe soil as it is excavated. Soil that remains in clumps when excavated is cohesive. Soil that breaks up easily and does not stay in clumps is granular.
- Observe the side of the opened excavation and the surface area adjacent to the excavation. Crack-like openings such as tension cracks could indicate fissured material. If chunks of soil spall off a vertical side, the soil could be fissured. Small spalls are evidence of moving ground and are indications of potentially hazardous situations.
- Observe the area adjacent to the excavation and the excavation itself for evidence of existing utility and other underground structures, and to identify previously disturbed soil.
- Observe the opened side of the excavation to identify layered systems. Examine layered systems to identify if the layers slope toward the excavation. Estimate the degree of slope of the layers.
- Observe the area adjacent to the excavation and sides of the open excavation for evidence of surface water, water seeping from the sides of the excavation, or the location of the level of the water table.
- Observe the area adjacent to the excavation and the area within the excavation for sources of vibration that may affect the stability of the excavation face.

MANUAL TESTING

Manual analysis of soil samples is conducted to determine quantitative as well as qualitative properties of soil and to provide more information in order to classify soil properly.

- Mold a moist or wet sample of soil into a ball and attempt to roll it into threads as thin as 1/8-inch in diameter. Cohesive material can be successfully rolled into threads without crumbling. For example, if at least a two-inch (50 mm) length of 1/8-inch thread can be held on one end without tearing, the soil is cohesive. If the soil is dry and crumbles on its own or with moderate pressure into individual grains or fine powder, it is granular (any combination of gravel, sand, or silt). If the soil is dry and falls into clumps which break up into smaller clumps, but the smaller clumps can only be broken up with difficulty, it may be clay in any combination with gravel, sand, or silt. If the dry soil breaks into clumps which do not break up into small clumps and which can only be broken with difficulty, and there is no visual indication the soil is fissured, the soil may be considered unfissured.
- The thumb penetration test can be used to estimate the unconfined compressive strength of cohesive soils. (This test is based on the thumb penetration test described in American Society for Testing and Materials (ASTM) Standard designation D2488-"Standard Recommended Practice for Description of Soils (Visual—Manual Procedure).") Type A soils with an unconfined compressive strength of 1.5 tsf can be readily indented by the thumb; however, they can be penetrated by the thumb only with very great effort. Type C soils with an unconfined compressive strength of 0.5 tsf can be easily penetrated several inches by the thumb and can be molded by light finger pressure. This test should be conducted on an undisturbed soil sample, such as a large clump of spoil, as soon as practicable after excavation to keep to a minimum the effects of exposure to drying influences. If the excavation is later exposed to wetting influences (rain, flooding), the classification of the soil must be changed accordingly.
- Estimates of unconfined compressive strength of soils can also be obtained by use of a pocket penetrometer or by using a hand-operated shear vane.

- A drying test can be performed to differentiate between cohesive material with fissures, unfissured cohesive material, and granular material. The procedure for the drying test involves drying a sample of soil that is approximately one inch thick (2.54 cm) and 6 inches (15.24 cm) in diameter until it is thoroughly dry.
    - If the sample develops cracks as it dries, significant fissures are indicated.
    - Samples that dry without cracking are to be broken by hand. If considerable force is necessary to break a sample, the soil has significant cohesive material content. The soil can be classified as an unfissured cohesive material, and the unconfined compressive strength should be determined.
    - If a sample breaks easily by hand, it is either a fissured cohesive material or a granular material. To distinguish between the two, pulverize the dried clumps of the sample by hand or by stepping on them.
        - If the clumps do not pulverize easily, the material is cohesive with fissures.
        - If they pulverize easily into very small fragments, the material is granular.

NOTE: IN A LAYERED SYSTEM, THE SYSTEM MUST BE CLASSIFIED IN ACCORDANCE WITH ITS WEAKEST LAYER. HOWEVER, EACH LAYER MAY BE CLASSIFIED INDIVIDUALLY WHERE A MORE STABLE LAYER LIES UNDER A LESS STABLE LAYER.

APPENDIX B: BENCHING AND SLOPING

BENCHING

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

The District uses benching systems in accordance with the below:

Since most of the District's Utility work is located in roadways and limited right-of-way areas, this method does not apply to our work.

SLOPING

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

For excavations up to 20 feet, slopes cannot exceed the following ratios:

Soil Type	Ratio (H:V)
Stable Rock	Vertical (90°)
Type A	3:4 (53°)
Type B	1:1 (45°)
Type C	1½:1 (34°)

THE DISTRICT USES SLOPING SYSTEMS IN ACCORDANCE WITH THE BELOW:

SINCE MOST OF THE DISTRICT'S UTILITY WORK IS LOCATED IN ROADWAYS AND LIMITED RIGHT-OF-WAY AREAS, THIS METHOD DOES NOT APPLY TO OUR WORK.

APPENDIX C: ALUMINUM HYDRAULIC SHORING

SHORING

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

The District uses shoring systems in accordance with the information below:

For most District shoring applications, a wide variety of Hydraulic Speed Shoring is available for use. There are various sized hydraulic jacks for a wide variety of excavations. The District uses Femform Board in conjunction with the speed shoring. **Refer to all Tabulated Data when using these shoring systems.**

APPENDIX D: SHIELDING

SHIELDING

A structure that is able to withstand the forces imposed on it by a cave-in and thereby protect employees within the structure. Shields can be permanent structures or can be designed to be portable and moved along as work progresses. Additionally, shields can be either premanufactured or job-built in accordance applicable regulations. Shields used in trenches are usually referred to as "trench boxes" or "trench shields."

The District uses shielding systems in accordance with the below:

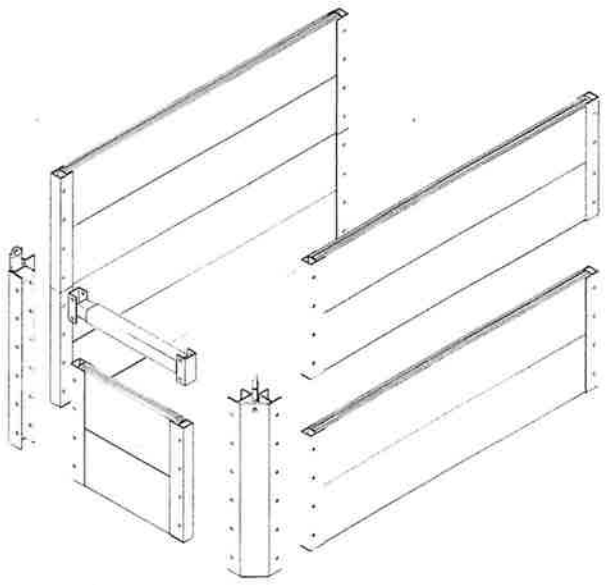
The use of an adjustable Aluminum System called “Maps” is utilized. Modular Aluminum Panel Shields (Maps) is a Speed Shore product that can be customized for a wide variety of excavations up to 10’ in depth. It is a “build a box” system that is customized for different excavations. **Refer to all Tabulated Data when using these shielding systems.**

EMPLOYEE TRAINING

All employees must be instructed on the provisions of this Plan and be trained in safe procedures for performing their duties in or near excavations.

TABULATED DATA

MODULAR ALUMINUM PANEL SHIELDS - "MAPS"



April 16, 2009

SPEED SHORE®
CORPORATION

3330 S. SAM HOUSTON PKWY E. HOUSTON, TEXAS 77047
Tel: (713) 943-0750 U.S.A. Toll Free: (800) 231-6662 Fax: (713) 943-8483

WARNING

EXCAVATION PROCEDURES MAY BE VERY DANGEROUS

- **A TRAINED *COMPETENT PERSON* SHALL: SUPERVISE ALL EXCAVATION OPERATIONS, ENSURE THAT ALL PERSONNEL ARE WORKING IN SAFE CONDITIONS, AND HAVE THOROUGH KNOWLEDGE OF THIS TABULATED DATA. THE *COMPETENT PERSON* SHALL HAVE THE AUTHORITY TO STOP WORK WHEN IT IS UNSAFE FOR WORKERS TO ENTER AN EXCAVATION.**

- **ALL PERSONNEL SHALL BE TRAINED IN CORRECT EXCAVATION PROCEDURES, PROPER USE OF THE PROTECTIVE SYSTEM AND ALL SAFETY PRECAUTIONS.**

- **EXCAVATIONS AND PROTECTIVE SYSTEMS SHALL BE INSPECTED AT LEAST DAILY AND WHENEVER THERE IS A CHANGE OF SOIL, WATER OR OTHER JOB SITE CONDITIONS.**

- **ALL LIFTING AND PULLING EQUIPMENT, INCLUDING CABLES, SLINGS, CHAINS, SHACKLES AND SAFETY HOOKS SHALL BE EVALUATED FOR SUITABILITY AND CAPACITY, AND SHALL BE INSPECTED FOR DAMAGE OR DEFECTS PRIOR TO USE.**

- **ALL INSTALLATION AND REMOVAL OF SHORING AND SHIELDING SHALL BE FROM ABOVE GROUND ONLY.**

- **DO NOT ALLOW PERSONNEL TO ENTER AN EXCAVATION THAT IS NOT PROPERLY SHORED, SHIELDED OR SLOPED.**

- **PERSONNEL SHALL ALWAYS WORK WITHIN THE SHORING AND SHIELDING. PERSONNEL SHALL NOT STAND ON THE EDGE OF AN UNSHORED EXCAVATION.**

- **ALL PERSONNEL SHALL ENTER AND EXIT EXCAVATIONS ONLY WITHIN SHIELDED OR SHORED AREAS.**

SPEED SHORE'S "MANUFACTURER'S TABULATED DATA" IS A GENERAL SET OF GUIDELINES AND TABLES TO ASSIST THE ***COMPETENT PERSON*** IN SELECTING A SAFETY SYSTEM AND THE PROPER SHORING OR SHIELDING EQUIPMENT. THE ***COMPETENT PERSON*** HAS SOLE RESPONSIBILITY FOR JOB SITE SAFETY AND THE PROPER SELECTION **AND INSTALLATION AND REMOVAL OF THE SHORING OR SHIELDING EQUIPMENT.**

THIS TABULATED DATA IS NOT INTENDED TO BE USED AS A JOB SPECIFIC EXCAVATION SAFETY PLAN, BUT SHALL BE USED BY THE ***COMPETENT PERSON*** TO SUPPLEMENT HIS TRAINING, HIS EXPERIENCE AND HIS KNOWLEDGE OF THE JOB CONDITIONS AND SOIL TYPE.

SPEED SHORE CORPORATION

SPEED SHORE
TABULATED DATA

1.0 SCOPE

1.1 Speed Shore's Tabulated Data complies with the OSHA Excavation Standards as stated in the Code of Federal Regulations 29, Part 1926, Subpart P - Excavations, Section 1926.652(c)(2). The contractor's competent person in the selection of Speed Shore Modular Aluminum Panel Shields, MAPS, shall only use this data. The ***competent person*** shall be experienced and knowledgeable in trenching and excavation procedures, soil identification and in the use of Speed Shore Aluminum Panel Shields.

1.2 Employers shall train all personnel involved in the installation, removal and use of MAPS and advised of appropriate safety procedures.

1.3 Table MAPS-1 is based upon safety requirements stated in CFR 29, Part 1926 and applicable portions of CFR 29, Part 1910. The ***competent person*** shall know and understand the requirements of those standards before using this data.

1.4 Whenever there is a variance between this Tabulated Data and CFR 29, Part 1926, Subpart P - Excavations, this Tabulated Data shall take precedence. Whenever a topic, subject, or issue is not contained in this Tabulated Data, the ***competent person*** shall refer to CFR 29, Part 1926, Subpart P - Excavations.

1.5 This data refers to the Code of Federal Regulations, 29, Parts 1910 and 1926. Where states have their own state OSHA plan, refer to similar regulations in the current construction rules published by the state office of Occupational Health and Safety.

1.6 Table MAPS-1 shall be used only in excavations with soil conditions as noted. For other soil and excavation conditions and depths, site-specific engineered designs are required. Contact Speed Shore Corporation for assistance

1.7 This Tabulated Data is applicable for standard products manufactured exclusively by Speed Shore and may only be used with Speed Shore manufactured products. Any modification of Speed Shore products not specifically authorized by Speed Shore Corporation voids this data.

2.0 DEFINITIONS (RE: CFR 29, Part 1926.32 Definitions) - RESTATED FOR EMPHASIS

2.1 1926.32 (F) "competent person" means one who is capable of identifying existing and predictable hazards in the surroundings or working conditions which are unsanitary, hazardous or dangerous to employees; and who has authorization to take prompt corrective measures to eliminate them.

2.2 1926.32 (p) "Shall" means mandatory.

3.0 SOIL CLASSIFICATIONS

3.1 In order to use the data presented in Table MAPS-1 the soil type, or types, in which the excavation is cut shall first be determined by the ***competent person*** according to the OSHA soil classifications as set forth in CFR 29, Part 1926, Subpart P, Appendix A.

3.2 Table MAPS-1 are also reference Type C-60 soil (see 3.3 for definition).

3.3 Type C-60 soil is a moist, cohesive soil or a moist dense granular soil, which does not fit into the OSHA Type A or Type B classifications, and is not flowing or submerged. This material can be cut with near vertical sidewalls and will stand unsupported long enough to allow the shields to be properly installed. The ***competent person*** must monitor the excavation for signs of deterioration of the soil as indicated by, but not limited to, freely seeping water or flowing soil entering the excavation around or below the MAPS. An alternate design for less stable Type C soil may be required where there is evidence of deterioration.

3.4 Water flowing into an excavation, from either above or below ground, will cause a decrease in the stability of the soil. Therefore, the ***competent person*** shall take action to prevent water from entering the excavation and promptly remove any water that accumulates in the excavation. Closer monitoring of the soil is required under wet conditions, particularly in the less cohesive (weaker) soil conditions. A small amount of water, or flowing conditions may downgrade the soil classification to a less stable classification. A large amount of water, or flowing conditions will downgrade all soils to O.S.H.A. Type C. Speed Shore shoring and shielding systems may be used safely in wet conditions when the excavation is monitored by the ***competent person.*** Example: When repairing a leak in utility lines, it is often difficult or even impossible to keep water out of the excavation.

4.0 PRESENTATION OF INFORMATION

4.1 Information presented in tabular form in Table MAPS-1 is for use in OSHA. Types A, B and C soils, and for use in Type C-60 soil (see 3.3 for definition).

4.2 Table MAPS-1 is not considered adequate when loads imposed by structures or by stored material adjacent to the excavation weigh in excess of the load imposed by 3 feet of soil surcharge. The term "adjacent" as used here means the area within a horizontal distance from the edge of the excavation equal to the depth of the excavation.

4.3 Using Table MAPS-1, the ***competent person*** determines the maximum depth the MAPS may be used.

5.0 ASSEMBLY

5.1 A competent person before assembly shall inspect all MAPS components.

5.2 Any damage shall be evaluated and repairs made under the direction of a registered professional engineer. All missing or damaged components shall be replaced with genuine Speed Shore parts.

5.3 All lifting and pulling equipment, (including cables, slings, chains, shackles and safety hooks) used to handle shields or components shall be evaluated for lifting capacity, and inspected for damage or defects, prior to use, by experienced personnel and shall meet OSHA requirements.

5.4 Tag lines or other approved safety devices shall be utilized to keep employees away from loads handled by lifting equipment.

5.5 PINS: Each two foot high panel shall be pinned to each end member using two pins, unless a horizontal joint occurs in the end member at the panel.

5.6 END MEMBERS: All horizontal joints in the end members shall occur at the mid-height of a two-foot panel. The two foot high panel shall be pinned to the two butting end members using two pins above the joint and two pins below the joint.

5.7 MAPS PANELS: A system shall consist of 2, 3 or 4-sided configurations.

5.8 Adjustable legs or end members can be used for supporting the shield to a maximum of 2' height off the bottom of the trench. See section 7.4 for limitations

5.9 End Members can be stacked to increase the height of the system. Panels must be staggered across the stacked End Members to bridge the system.

5.10 Spreaders can be vertically spaced up to a maximum of three feet.

5.11 All assembly of the MAPS system shall be done in a safe area. This can be the area adjacent to the excavation or assembly of the MAPS system from the top down in the excavation. No personnel shall be in an unprotected area of the excavation during assembly.

6.0 INSPECTION

6.1 The competent person must evaluate the soils to assure the rated capacity of the MAPS is not exceeded by the lateral pressure of the soil. Soils shall be evaluated in accordance with Part 3.0.

6.2 The ***competent person*** shall monitor all phases of the assembly, installation and use of this product to evaluate and eliminate methods, which could endanger employees utilizing this product.

6.3 The ***competent person*** must perform daily inspections of the MAPS and accessories. Any deficiencies must be promptly corrected with out exposure to personnel.

6.4 Inspections shall be conducted as necessary for hazards associated with water accumulation, changing soil conditions, or changing site weather conditions.

7.0 SAFETY SPECIFICATIONS

7.1 Employees shall be protected from loose or falling material. MAPS must always be used in a manner that loose or falling soil cannot enter over the top or through the end of the shield. End protection may be required. Spoil piles must be kept back from the edge of the excavation at least 2 feet.

7.2 Employees shall not enter or exit shields through unprotected areas and shall remain in shields at all times while working.

7.3 Employees shall not be in or under a shield while it is being lifted or moved.

7.4 Bottom of MAPS may be a maximum of 2 feet above the bottom of the trench if there are no signs of deterioration of the trench face below or at the end of the shield. This may be accomplished by the use of the adjustable legs furnished with the MAPS, END MEMEBERS, or as per O.S.H.A. standards as stated in the Code of Federal Regulations 29, Part 1926, Subpart P - Excavations, Section 1926.652 (g)(2).

7.5 Use of the spreader system for any purpose other than supporting the sidewall panels, or for pulling them forward is prohibited without written permission from the manufacturer.

7.6 The sides of the excavation should be cut vertical and narrow to prevent lateral movement of the MAPS. The width of the excavation shall be no wider than the width of the shield plus 12 inches. If soil conditions do not allow the sides of the excavation to be cut vertical and narrow, the competent person shall install the shield in a safe manner to restrict lateral movement or other hazardous movement of the shield in the event of the application of sudden lateral loads. The competent person shall make the final determination to ensure lateral movement of the shield has been controlled.

7.7 Only use Speed Shore supplied standard spreaders.

7.8 Water shall be prevented from entering the excavation and any water that does accumulate in the excavation shall be pumped out. See sections 3.4 and 6.4.

7.9 Contact Speed Shore for any non-typical use of the MAPS.

8.0 EXAMPLE TO ILLUSTRATE THE USE OF TABLES MAPS-1:

Problem: The excavation for water tap is 6 feet deep in soil that has been classified by the competent person to be Type C-60 soil. The contractor requires four-sided protection, area of 6' x 10'. Which MAPS may be used?

Studying Table MAPS-1 shows that an MAPS-0210 is adequate down to 16' deep and MAPS-0206 to 45' deep. Using four 8' end members, 6 each MAPS 0210 and 6 each MAPS-0206, the contractor will be able to assemble a 6' x 10' four sided box that is rated to 16' deep in C-60 soil.

TABLE MAPS-1

MODEL	PANEL SIZE (FEET)		PANEL CAPACITY P.S.F.	MAXIMUM DEPTH RATING FOR SPOIL TYPE (FEET)				PANEL WEIGHT APPX. POUNDS
	HEIGHT	LENGTH		A-25	B-45	C-60	C-80	
MAPS-0203	2	3	12,000	50	50	50	50	36
MAPS-0204	2	4	6,400	50	50	50	50	49
MAPS-0205	2	5	4,500	50	50	50	50	62
MAPS-0206	2	6	2,700	50	50	45	34	76
MAPS-0208	2	8	1,500	50	33	25	19	102
MAPS-0210	2	10	960	36	21	16	12	129
MAPS-0212	2	12	660	24	14	11	8	155
MAPS-0214	2	14	570	21	12	9	7	180
MAPS-0216	2	16	420	15	9	7	5	205

Notes to table MAPS-1.

(1) This table is applicable to 4-sided boxes, 3-sided boxes, and 2-sided boxes. Open sides must be supported by spreaders.

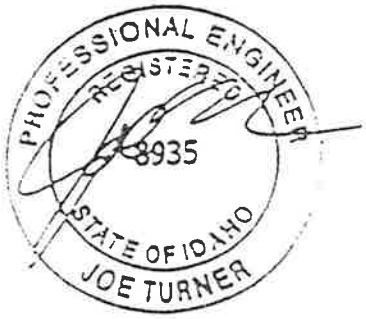
(2) Maximum bottom spreader clearance for 2-sided and 3-sided boxes is 34". Spreaders shall be spaced apart vertically no more than 36"on center.

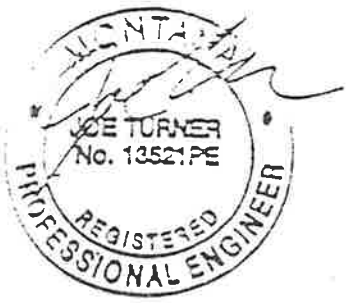
(3) Weights are approximate.

SPEED SHORE CORPORATION

SPEED SHORE™

PIONEERING TRENCH SAFETY





United Rentals

Trench Safety

1-800-392-2228

SPEED SHORE TABULATED DATA

November 15, 2000

3331 S. Sam Houston Pkwy E., Houston, Texas 77047
(713) 943-0750 U.S.A. Toll Free (800) 231-9662 Fax: (713) 943-8453

SPEED SHORE®

PIONEERING TRENCH SAFETY

SPEED SHORE TABULATED DATA

MODULAR PANEL SHIELDS

February 1, 1996

7002 Easthaven, P.O. Box 262591, Houston, Texas 77207-2591
(713) 943-0750 U.S.A. Toll Free: (800) 231-6662 Fax: (713) 943-8483

SPEED SHORE
TABULATED DATA

1.0 SCOPE

1.1 Speed Shore's Tabulated Data complies with the O.S.H.A. standards as stated in the Code of Federal Regulations 29, Part 1926, Subpart P - Excavations, Section 1926.652(c)(2). This data shall only be used by the contractor's ***competent person*** in the selection of Speed Shore Modular Panel Shields. The ***competent person*** shall be experienced and knowledgeable in trenching and excavation procedures, soil identification and in the use of Speed Shore Modular Panel Shields.

1.2 All personnel involved in the installation, removal and use of Modular Panel Shields shall be trained in their use and advised of appropriate safety procedures.

1.3 Table MPS-1 is based upon requirements stated in CFR 29, Part 1926 and applicable portions of CFR 29, Part 1910. The ***competent person*** shall know and understand the requirements of those parts before using this data.

1.4 Whenever there is a variance between this Tabulated Data and CFR 29, Part 1926, Subpart P - Excavations, this Tabulated Data shall take precedence. Whenever a topic or subject is not contained in this Tabulated Data, the ***competent person*** shall refer to CFR 29, Part 1926, Subpart P - Excavations.

1.5 This data refers to the Code of Federal Regulations, 29, Parts 1910 and 1926. In states that have their own state O.S.H.A. refer to similar regulations in the current rules published by the state office of Occupational Health and Safety.

1.6 Table MPS-1 shall be used only in excavations with soil conditions as noted. For other soil and excavation conditions nd depths, site-specific engineered designs are required. Contact Speed Shore Corporation for assistance.

1.7 This Tabulated Data is applicable for standard products manufactured exclusively by Speed Shore and may only be used with Speed Shore-manufactured products. Any modification of Speed Shore products not specifically authorized by Speed Shore Corporation voids this data.

2.0 DEFINITIONS (RE: CFR 29, Part 1926.32 Definitions) - RESTATED FOR EMPHASIS

2.1 1926.32 (F) ***"Competent person"*** means one who is capable of identifying existing and predictable hazards in the surroundings or working conditions which are unsanitary, hazardous or dangerous to employees; and who has authorization to take prompt corrective measures to eliminate them.

2.2 1926.32 (p) "Shall" means mandatory.

3.0 SOIL CLASSIFICATIONS

3.1 In order to use the data presented in Table MPS-1 the soil type, or types, in which the excavation is cut shall first be determined by the ***competent person*** according to the O.S.H.A. soil classifications as set forth in CFR 29, Part 1926, Subpart P, Appendix A.

3.2 Table MPS-1 is also for use in Type C-60 soil (see 3.3 for definition).

3.3 Type C-60 soil is a moist, cohesive soil or a moist, dense, granular soil which does not fit into Type A or Type B classifications, and is not flowing or submerged. This material can be cut with near vertical sidewalls and will stand unsupported long enough to allow the shields to be properly installed. The ***competent person*** must monitor the excavation for signs of deterioration of the soil as indicated by, but not limited to, freely seeping water or flowing soil entering the excavation around or ow the Trench Shield. An alternate design for less stable Type C soil may be required where there is evidence of deterioration.

3.4 Water flowing into an excavation, from either above or below ground, will cause a decrease in the stability of the soil. Therefore, the ***competent person*** shall take action to prevent water from entering the excavation and promptly remove any water that accumulates in the excavation. Closer monitoring of the soil is required under wet conditions, particularly in the less cohesive (weaker) soil conditions. A small amount of water, or flowing conditions may downgrade the soil classification to a less stable classification. A large amount of water or flowing conditions will downgrade all soils to O.S.H.A. Type C. Speed Shore shoring and shielding systems may be used safely in wet conditions when the excavation is monitored by the ***competent person***. Example: When repairing a leak in utility lines, it is often difficult or even impossible to keep water out of the excavation.

4.0 PRESENTATION OF INFORMATION

4.1 Information is presented in tabular form in Table MPS-1 for use in O.S.H.A. Type A, B and C soils, and for use in Type C-60 soil (see 3.3 for definition).

4.2 Table MPS-1 is not considered adequate when loads imposed by structures or by stored material adjacent to the trench weigh in excess of the load imposed by 3 feet of soil surcharge. The term "adjacent" as used here means the area within a horizontal distance from the edge of the trench equal to the depth of the trench.

4.3 Using Table MPS-1, the ***competent person*** determines the maximum depth the Modular Panel Shields may be used.

5.0 ASSEMBLY

5.1 The Modular Panel Shields shall be inspected by a ***competent person*** before assembly.

5.2 All damage shall be evaluated and repairs made under the direction of a registered professional engineer. All missing or damaged components shall be replaced with genuine Speed Shore parts.

5.3 All lifting and pulling equipment, (including cables, slings, chains, shackles and safety hooks) used to handle shields or components shall be evaluated for lifing capacity, and inspected for damage or defects, prior to use by experienced operators and shall meet O.S.H.A. requirements.

5.4 **PINS:** Each two feet high panel shall be pinned to each end member using two pins, unless a horizontal joint occurs in the end member at the panel.

5.5 **END MEMBERS:** All horizontal joints in the end members shall occur at the mid-height of a two feet high panel. The two feet high panel shall be pinned to the two butting end members using two pins above the joint and two pins below the joint.

6.0 INSPECTION

6.1 The ***competent person*** must evaluate the soils to assure the rated capacity of the Modular Panel Shield is not exceeded by the lateral pressure of the soil. Soils shall be evaluated in accordance with Part 3.0.

6.2 The ***competent person*** shall monitor all phases of the assembly, installation and use of this product to evaluate and eliminate methods which could endanger employees utilizing this product.

6.3 Daily inspections of the Modular Panel Shields and accessories must be performed by the ***competent person*** and deficiencies corrected.

6.4 Inspections shall be conducted as necessary for hazards associated with: water accumulation, changing soil conditions or changing site weather conditions.

7.0 SAFETY SPECIFICATIONS

7.1 Employees shall be protected from loose or falling material. Modular Panel Shields must always be used in a manner that loose or falling soil cannot enter over the top or through the end of the shields. End panels may be required. Spoil piles must be kept back from the edge of the excavation at least 2 feet.

7.2 Employees shall not enter or exit excavations through unprotected areas and shall remain in Modular Panel Shields at all times while working.

7.3 Employees shall not be in or under a Modular Panel Shield while it is being lifted or moved, except when being moved by the employees inside the shield.

7.4 Bottom of Modular Panel Shields may be a maximum of 2 feet above the bottom of the trench if there are no signs of deterioration of the trench face below or at the end of the shield, and the shields are supported to prevent movement.

7.5 The sides of the excavation should be cut vertical and narrow to prevent lateral movement of the Modular Panel Shields. The width of the excavation shall be no wider than the width of the shield plus 12 inches.

7.6 Contact Speed Shore for any non-typical use of the Modular Panel Shields.

TABLE MPS-1

PANEL MODEL	SIZE		CAPACITY	MAXIMUM DEPTH FOR SOIL TYPES				WEIGHT PER PANEL
	HEIGHT	LENGTH						
	FT.	FT.	P.S.F.	A-25	B-45	C-60	C-80	*pounds*
MPS 23	2	3	12,000	477	266	200	150	33
MPS 24	2	4	6,400	253	143	106	80	44
MPS 26	2	6	2,700	105	59	45	34	67
MPS 28	2	8	1,500	57	33	25	19	90
MPS 210	2	10	960	36	21	16	12	113
MPS 212	2	12	660	24	14	11	8	135

NOTES:

1. THIS TABLE IS APPLICABLE TO 4-SIDED BOXES, 3-SIDED BOXES AND 2-SIDED BOXES. OPEN SIDES MUST BE SUPPORTED BY SPREADERS.

2. MAXIMUM BOTTOM SPREADER CLEARANCE FOR 2-SIDED AND 3-SIDED BOXES IS 34 INCHES. SPREADERS SHALL BE SPACED APART VERTICALLY NO MORE THAN 36 INCHES O.C.

3. A SURCHARGE LOADING OF 3 FEET OF SOIL SPOIL PILE IS INCLUDED IN THE DEPTH RATINGS.

SPECIFICATIONS FOR MODULAR ALUMINUM PANEL SHIELDS

The following are minimum acceptable specifications:

Units specified herein shall be a fully adjustable, personnel protective devices specifically designed and professionally engineered to provide excavation safety protection for workers. These units shall be in full compliance with all applicable Federal Occupational Safety and Health Administration (OSHA) Regulations.

Panel

Equipment shall meet or exceed Speed Shore's Modular Aluminum Panel Shield Model:

MODEL	SHIELD CAPACITY - PSF	DIMENSIONS OVERALL	APPROX. WT./LBS	A	B	C(60)	C
MPS-23	12,000	2' x 3'	36	24	24	24	24
MPS-24	6,400	2' x 4'	49	24	24	24	24
MPS-26	2,700	2' x 6'	76	24	24	24	24
MPS-28	1,500	2' x 8'	102	24	24	20	14
MPS-210	960	2' x 10'	129	24	24	16	12
MPS-212	660	2' x 12'	155	24	14	11	8

All bidders under these specifications shall furnish with this bid proposal written certification of rated capacity and/or manufacturer's tabulated data referring to the Modular Aluminum Panel Shield to be furnished. Said certification and/or tabulated data shall be attested to by a Registered Professional Engineer (R.P.E.).

CONSTRUCTION

EXTERIOR PANEL

1. Extruded 6005-T5 aluminum alloy in consideration of weight, strength, flexural properties, and non-corrosive characteristics.
2. Each panel should have a section modulus of 4.45 in^3.
3. Each panel shall be fabricated from two aluminum extruded members with a minimum thickness of 2 1/2" and minimum height of 12", and welded together to achieve a height of 24".
4. Each wall of the shield shall be foam filled to prevent accumulation of water, dirt and debris.
5. Each panel shall be fabricated such that it can be assembled with a tongue in groove design with the tongue on top of the each panel and the matching groove on the bottom of each adjoining panel, for easy alignment.
6. Each panel shall be stamped with the manufacturer's name.
7. Each panel shall be supplied with four pins and keepers.
8. Each pin shall have a diameter of 1/2" and a length of 4 1/4".

END MEMBERS

1. Extruded 6061-T6 aluminum alloy in consideration of weight, strength, flexural properties, and non-corrosive characteristics.
2. Each member shall have a minimum thickness 1/4" and have 9/16" hole drilled to accomidate the pinning of panels, crossbraces, and lifting lugs.
3. Each individual end member shall be available in lengths of 2', 4', 6', 8', and 10'.
4. Each pin shall have a diameter of 1/2" and a length of 4 1/4".

CROSS-BRACES

Pin Type Cross Braces:

1. Each cross brace of this type shall consist of one oversleeve with one innersleeve.
2. Cross braces shall utilize a minimum of three positive lock settings for adjusting the width of the device through its travel; this is to accommodate excavations of varying widths.

3. Telescoping cross members shall be interchangeable to facilitate modification of the shield by exchanging the cross braces. Cross braces for the modification shall be available for purchase, individually.
4. Each cross brace shall be fitted with one steel locking pin having a diameter no less than 1" fabricated from round stock 1144 or equal. Pins shall have permanently attached safety keepers.
5. Each cross brace shall be held into place by four pins and keepers.
6. Each pin shall have a diameter of 1/2" and a length of 4 1/4".

Screw Type Cross Braces:

1. Cross braces of this type shall have right handed and left handed Acme screw threads, being 1 1/4 #5 threads on either end for adjusting the width of the device through its travel; this is to accommodate excavations of varying widths.
2. Each cross brace shall be fabricated from 2.5" Schedule 80 pipe.
3. Each cross brace shall have two handles such that the brace can be put into place and used to turn the brace achieve to the width needed for application.
4. Each cross brace shall be held into place by four pins and keepers.
5. Each pin shall have a diameter of 1/2" and a length of 4 1/4".

LIFTING LUGS

1. Each lifting lug shall be pinned to the top of each end member such that the unit can be properly handled.
2. Four lugs shall be required such that the unit can be properly handled.
2. Each lifting lug shall be held in place by one pin and keeper.
3. Each pin shall have a diameter of 1/2" and a length of 4 1/4".

PARTS AND SERVICE

1. Replacement parts must be available for shipment within ten working days of Purchase Order.
2. Parts List will be furnished upon request.

PRODUCT LIABILITY

The manufacturer under these specifications shall be required to carry a minimum one million dollars product liability insurance policy with bid award being contingent upon proof of coverage.

EXPERIENCE

Experimental product not acceptable; the manufacturer under these specifications may be required to furnish documented proof of professional expertise and competence in manufacturing trench safety products for a minimum of ten years. We reserve the right to request from the apparent successful manufacturer a client list for the purpose of obtaining references on quality of products furnished and service history.

DELIVERY

Delivery of all equipment, features and accessories specified herein is to be made within thirty days after receipt of Purchase Order.

WARRANTY

The successful bidder under these specifications shall furnish a minimum one year warranty on all parts and labor.

TRAINING

The manufacturer under these specifications shall provide installation instructions, recommended uses and maintenance instructions to the solicitor upon delivery of the units.

PATENT, TRADEMARK, COPYRIGHT OR TRADE SECRET INDEMNIFICATION

Supplier shall indemnify Customer for any loss, damage, expense or liability including, but not limited to, court costs and attorneys' fees that may result by reason of any infringement or claim of infringement of any patent, trademark, copyright, trade secret or other proprietary right relating to products furnished pursuant to this purchase. Supplier will defend and/or settle at its own expense any action brought against Customer to the extent that it is based on a claim that products furnished to Customer by Supplier pursuant to this purchase infringe any patent, trademark, copyright, trade secret or other proprietary right. Supplier shall also refund to Customer any amount paid pursuant to this purchase, if any Products should become unusable as a result of any such infringement or claim.

SPEED SHORE MODULAR ALUMINUM PANEL SHIELD (MAPS)

BASIC ASSEMBLY INSTRUCTIONS

GENERAL GUIDELINES

- Gather all panels, end members, lifting lugs (4), pins, keepers, and spreaders required to be certain all necessary components are on hand.
- A minimum of four pins and keepers should be connected to each panel and spreader.
- End members can be used as legs by raising panels up to 2 feet.
- Spreaders can be spaced apart up to 3 feet.
- End members can be stacked to increase the height of the system. However, panels must stagger across the stacked end members to bridge the system.

TWO SIDED CONFIGURATION (Spreaders on two sides)

1. Gather all components needed for your job application which include panels, end members, adjustable spreaders, lifting lugs, pins, and keepers.
2. Adjust the spreaders to the necessary width for the excavation.
3. Begin by assembling one corner end member and one panel.
4. Stabilize the system by assembling the spreaders on one open end and attach another end member on the other side of the spreader.
5. Once the system is stable, stack and connect panels on both sides to the height required.
6. Connect spreaders and 2 end members on the last open end.
7. Pin the lifting lugs inside the top of all four (4) corner end posts.

FOUR SIDED CONFIGURATION (Panels on all sides)

1. Assemble 2 panels to one end member creating an "L" shape. Stack panels until desired height is reached on these two sides. Attach end members to both ends of the "L" shape.
2. Stack and pin panels on a third side to the required height. This third side should be the longer side of the system. Attach the last end member to the panels on the third side.
3. Slide the panels between the end members on the final side.
4. Pin the lifting lugs inside the top of all four (4) corner end posts.

THREE SIDED CONFIGURATION (Spreaders on one side)

1. Follow assembly guidelines for FOUR SIDED except the final side will use spreaders instead of panels

SILVER LAKE WATER AND SEWER DISTRICT

FALL PROTECTION PROGRAM

INTRODUCTION

Employees who work or walk on elevated surfaces where there may be a fall hazard must have an approved method of protection from falls. Permanent types of protection, such as guardrails, walls, or covers for surface openings should typically be present. Work activities such as maintenance, construction, or inspection work may take workers to areas or situations where permanent protection is not present. In those cases, and any others, an adequate form of fall protection is required.

RESPONSIBLITIES

Management:

- Operations & Maintenance Manager and Supervisors oversee compliance, training, and proper use of safety equipment for fall protection.
- Provide initial training and refresher training when there is a change in the fall protection regulations, new fall protection equipment is purchased, and when any deficiencies are noted in the fall protection procedures.
- Assist employees under their supervision in becoming familiar with, and in adhering to, the program and any relevant regulations.

Employees:

- Follow the procedures of this program and all applicable fall protection work plans.
- Inspect their equipment daily, prior to use at each job site.
- Be familiar with all the fall protection equipment that they use.
- Report to their Supervisor any fall protection equipment, facility, structure, or work practice that poses a fall hazard to themselves or others.

SEWAGE LIFT STATION METHOD OF FALL RESTRAINT/FALL ARREST NOTE:

1) Silver Lake Water and Sewer District's below ground stations are equipped with UCL flush mount sleeves to accept the UCL system offset mast for fall protection.
2) Silver Lake Water and Sewer District's above ground stations have the UCL flush mount sleeves for the wet wells for confined space entry/fall protection.
3) The Miller Mightylite RL Series Self Retracting Lifeline Winch with retrieval shall be used with the UCL system or tripod.
4) See the wet well/manhole section of the Fall Protection Program.

This program overlays all necessary work at the following locations:

*****Indicates a below ground station.*

164th	16331 35th AVE SE	
180th	3917 180th ST SE	
Brasswood	8018 East Lowell Larimer Road	
Bakerview	N/A	
Cathcart Crossing	N/A	
Larimer 1	5314 Lowell-Larimer RD	
Larimer 2	6002 Lowell-Larimer RD	
Creekside	12400 58th ST SE	
Pioneer Trails*	3501 125th PL SE	
Sector 7*	13301 78th AVE SE	**Note**: No fall protection required – stairs.
Silver Firs*	15412 52nd AVE SE	
Station #2*	11616 51st AVE SE	
Station #3*	6231 134th PL SE	
Station #4	10500 35th AVE SE	
The Highlands #1	12811 66th AVE SE	
The Highlands #2	12400 68th AVE SE	
Highlands East	12601 71st AVE SE	
Thomas Lake	3915 138th ST SE	
The Point	10607 45th AVE SE	
Valmont	3807 99th ST SE	
Waldenwood*	10900 51st AVE SE	**Note**: No fall protection required – stairs.
Woodlands East	4101 105th PL SE	
Woodlands North*	4011 102nd PL SE	

SEWAGE LIFT STATION WET WELL CLEANING FALL PROTECTION

At a number of District Lift Stations, the Wet Wells are configured so that a large hatch lid section opens up for access to perform maintenance work. On these styles of wet wells, a portable/temporary Fall Protection system is utilized. These portable rail type systems use a multi-directional baseplate that accepts different lengths of two-bar safety railing to protect workers from the open lid while working.

Locations this system is used:

1. The Point
2. Highlands 1
3. Woodlands East
4. Valmont
5. Station #2
6. Station #4
7. 180th Street Lift Station
8. Thomas Lake Lift Station

The Fall Protection system is located at each of these sites and ready for deployment as needed.

FALL PROTECTION PROGRAM FOR "SEWAGE WET WELLS/MANHOLES"

METHOD OF FALL RESTRAINT/FALL ARREST

1) Class 3 full body harness.
2) Tripod with three-way winch system with recovery, or;
3) UCL Safety System.
4) Top man at all times.
5) Confined Space procedures and forms shall be used for all sewage wet wells and manholes in the District.
6) See detailed procedures in the Confined Space Entry section of this Safety Manual.

CORRECT PROCEDURE FOR ASSEMBLY AND DISASSEMBLY OF ALL FALL PROTECTION SYSTEMS

1) Put Class 3 approved full-body harness on.
2) Set tripod/UCL up over manhole and attach Miller RL Series Self Retracting Lifeline.
3) After tripod or UCL System is set up, attach cable to top pulley and hook to Dee ring on back of harness and lower into manhole.
4) When finished with job in confined space, disassemble by reversing above instructions.
5) See detailed procedures in the Confined Space Entry section of this manual.

METHOD OF REMOVAL OF INJURED WORKERS

1) Top man calls **911** and uses Tripod/UCL System to recover injured worker from manhole.
2) All rescues must occur without entering the confined space.

PROCEDURE FOR TRAINING

1) Training will be performed by the Safety Officer annually, and at a Safety meeting on procedures and equipment.
2) Annually at a Safety meeting, each crewmember will use their harness and PPE for Confined Space Entry entering a space.
3) Web based OSHA computer review training on Fall Protection for all crew personnel annually.

FALL PROTECTION FOR SCISSOR LIFTS

The District's Scissor Lift must have all guardrails in place to prevent workers from falling. In addition, workers must wear a full body harness and use a retracting lifeline when using the lift.

- Only trained workers are allowed to operate the Scissor Lift.
- Training will occur every three years for certification.
- Use lift only on flat surfaces.

FALL PROTECTION LOCK OUT PROCDURE FOR THE UCL HITCH MOUNT SYSTEM ON A MOTOR VEHICLE

- This UCL System utilizes the Utility Truck's receiver hitch as the anchorage point. The system pins into the receiver hitch on back of the vehicle.
- When using the UCL Hitch Mount System for Fall Protection, complete all appropriate forms, prior to entry. The entrant will have the vehicle keys removed from the host vehicle and placed in his pocket, while the entry and procedures are completed. After the work has been completed, the entrant is unhooked from UCL System, and the keys can be placed back into the vehicle.

SILVER LAKE WATER AND SEWER DISTRICT

FIRE PREVENTION PROGRAM

INTRODUCTION

This is the District's Fire Prevention and Inspection program. This program covers all District facilities including reviewing all new building construction and renovations to ensure compliance with applicable state, local, and national, fire and life safety standards.

Fire prevention measures are intended to reduce the incidence of fires by eliminating opportunities for ignition of flammable materials.

FLAMMABLE AND COMBUSTIBLE MATERIALS

A. Substitution: Relatively safe materials sometimes may substitute flammable liquids in order to reduce the risk of fires. Any substituted material should be stable and nontoxic and should either be nonflammable or have a high flashpoint.

B. Storage: Flammable and combustible liquids require careful handling at all times. The proper storage of flammable liquids within a work area is very important in order to protect personnel from fire and other safety and health hazards.

1. **Cabinets:** Not more than 120 gallons of Class I, Class II, and Class IIIA liquids may be stored in a storage cabinet. Of this total, not more than 60 gallons may be Class I and II liquids. Not more than three such cabinets (120 gallons each) may be located in a single fire area except in an industrial area.

TABLE 1. MAXIMUM ALLOWABLE CAPACITY OF CONTAINERS AND PORTABLE TANKS

	Flammable Liquids		Combustible Liquids		
Container Type	**Class 1A**	**Class 1B**	**Class 1C**	**Class II**	**Class III**
Glass or approved plastic	1 pint	1 quart	1 gallon	1 gallon	1 gallon
Metal (Other than DOT drums)	1 gallon	5 gallons	5 gallons	5 gallons	5 gallons
Safety Cans	2 gallons	5 gallons	5 gallons	5 gallons	5 gallons
Metal drums (DOT specs.)	60 gallons	60 gallons	60 gallons	60 gallons	60 gallons
Approved portable tanks	660 gallons	660 gallons	660 gallons	660 gallons	660 gallons

(1) Nearest metric size is also acceptable for the glass and plastic

(2) One gallon or nearest metric equivalent size may be used if metal and labeled with their contents

2. **Containers:** The capacity of flammable and combustible liquid containers will be in accordance with Table 1.
3. **Storage Inside Buildings**: Where approved storage cabinets or rooms are not provided, inside storage will comply with the following basic conditions:
    a. The storage of any flammable or combustible liquid shall not physically obstruct a means of egress from the building or area.
    b. Containers of flammable or combustible liquids will remain tightly sealed except when transferred, poured, or applied. Remove only that portion of liquid in the storage container required to accomplish a particular job.
    c. If a flammable and combustible liquid storage building is used, it will be a one-story building devoted principally to the handling and storing of flammable or combustible liquids. The building will have 2-hour fire-rated exterior walls having no opening within 10 feet of such storage.

d. Flammable paints, oils, and varnishes in 1- or 5-gallon containers, used for building maintenance purposes, may be stored temporarily in closed containers outside approved storage cabinets or room if kept at the job site for less than 10 calendar days.

C. Ventilation: Every inside storage room will be provided with a continuous mechanical exhaust ventilation system. To prevent the accumulation of vapors, the location of both the makeup and exhaust air openings will be arranged to provide, as far as practical, air movement directly to the exterior of the building and if ducts are used, they will not be used for any other purpose.

D. Elimination of Ignition Sources: All nonessential ignition sources must be eliminated where flammable liquids are used or stored. This a list of some of the more common potential ignition sources:

- Open flames, such as cutting and welding torches, furnaces, matches, and heaters-these sources should be kept away from flammable liquids operations.
- Cutting or welding on flammable liquids equipment should not be performed unless the equipment has been properly emptied and purged with a neutral gas such as nitrogen.
- Chemical sources of ignition such as D.C. motors, switched, and circuit breakers-these sources should be eliminated where flammable liquids are handled or stored. Only approved explosion-proof devices should be used in these areas.
- Mechanical sparks - These sparks can be produced as a result of friction. Only non-sparking tools should be used in areas where flammable liquids are stored or handled.
- Static sparks - These sparks can be generated as a result of electron transfer between two contacting surfaces. The electrons can discharge in a small volume, raising the temperature to above the ignition temperature. Every effort should be made to eliminate the possibility of static sparks. Also, proper bonding and grounding procedures must be followed when flammable liquids are transferred or transported.

E. Removal of Incompatibles: Materials that can contribute to a flammable liquid fire should not be stored with flammable liquids. Examples are oxidizers and organic peroxides, which, on decomposition, can generate large amounts of oxygen.

F. Flammable Gases: Generally, flammable gases pose the same type of fire hazards as flammable liquids and their vapors. Many of the safeguards for flammable liquids also apply to flammable gases, other properties such as toxicity, reactivity, and corrosively also must be considered. Also, a gas that is flammable could produce toxic combustion products.

FIRE EXTINGUISHERS

A portable fire extinguisher is a "first aid" device and is very effective when used while the fire is small. The use of fire extinguisher that matches the class of fire, by a person who is well trained, can save both lives and property. Portable fire extinguishers must be installed in workplaces regardless of other firefighting measures. The successful performance of a fire extinguisher in a fire situation largely depends on its proper selection, inspection, maintenance, and distribution.

A. Classification of Fires and Selection of Extinguishers: Fires are classified into four general categories depending on the type of material or fuel involved. The type of fire determines the type of extinguisher that should be used to extinguish it.

1. **Class A** fires involve materials such as wood, paper, and cloth which produce glowing embers or char.
2. **Class B** fires involve flammable gases, liquids, and greases, including gasoline and most hydrocarbon liquids which must be vaporized for combustion to occur.
3. **Class C** fires involve fires in live electrical equipment or in materials near electrically powered equipment.

4. **Class D** fires involve combustible metals, such as magnesium, zirconium, potassium, and sodium.

Extinguishers will be selected according to the potential fire hazard, the construction and occupancy of facilities, hazard to be protected, and other factors pertinent to the situation.

B. Location and Marking of Extinguishers: Extinguishers will be conspicuously located and readily accessible for immediate use in the event of fire. They will be located along normal paths of travel and egress. Wall recesses and/or flush-mounted cabinets will be used as extinguisher locations whenever possible.

- Extinguishers will be clearly visible. In locations where visual obstruction cannot be completely avoided, directional arrows will be provided to indicate the location of extinguishers and the arrows will be marked with the extinguisher classification.
- If extinguishers intended for different classes of fire are located together, they will be conspicuously marked to ensure that the proper class extinguisher selection is made at the time of a fire. Extinguisher classification markings will be located on the front of the shell above or below the extinguisher nameplate. Markings will be of a size and form to be legible from a distance of 3 feet.

C. Condition: Portable extinguishers will be maintained in a fully charged and operable condition. They will be kept in their designated locations at all times when not being used. When extinguishers are removed for maintenance or testing, a fully charged and operable replacement unit will be provided.

D. Mounting and Distribution of Extinguishers: Extinguishers will be installed on hangers, brackets, in cabinets, or on shelves. Extinguishers having a gross weight, not exceeding 40 pounds, will be so installed that the top of the extinguisher is not more than 3-1/2 feet above the floor.

Extinguishers mounted in cabinets or wall recesses or set on shelves will be placed so that the extinguisher operating instructions face outward. The location of such extinguishers will be made conspicuous by marking the cabinet or wall recess in a contrasting color that will distinguish it from the normal decor.

Extinguishers must be distributed in such a way that the amount of time needed to travel to their location and back to the fire does not allow the fire to get out of control. Washington Industrial Safety and Health Act (WISHA) requires that the travel distance for Class A and Class D extinguishers not exceed 75 feet. The maximum travel distance for Class B extinguishers is 50 feet because flammable liquid fires can get out of control faster than Class A fires. There is no maximum travel distance specified for Class C extinguishers, but they must be distributed on the basis of appropriate patterns for Class A and B hazards.

E. Inspection and Maintenance: Once an extinguisher is selected, purchased, and installed, it is the responsibility of the company to oversee the inspection, maintenance, and testing of fire extinguishers. This testing is to ensure that they are in proper working condition and have not been tampered with or physically damaged.

FIRE SAFETY INSPECTIONS/HOUSEKEEPING

First line supervisors and Safety Committees are responsible for conducting work site surveys at least annually. These surveys should include observations of worksite safety and housekeeping issues and should specifically address proper storage of chemicals and supplies, unobstructed access to fire extinguishers, and emergency evacuation routes. Also, they should determine if an emergency evacuation plan is present in work areas and that personnel are familiar with the plan.

EMERGENCY EGRESS

Every exit will be clearly visible, or the route to it conspicuously identified in such a manner that every occupant of the building will readily know the direction of escape from any point. At no time will exits be blocked.

Any doorway or passageway which is not an exit or access to an exit, but which may be mistaken for an exit, will be identified by a sign reading "Not An Exit" or a sign indicating it’s actual use (i.e., "Storeroom"). A

readily visible sign will mark exits and accesses to exits. Each exit sign (other than internally illuminated signs) will be illuminated by a reliable light source providing not less than 5 foot-candles on the illuminated surface.

FACILITIES DESIGN AND REVIEW

Facilities will be designed in a manner consistent with health and safety regulations and standards of good design. The company will ensure that there is appropriate health and safety review of facility concepts, designs, and plans. A formal design review process is currently in place for all new construction efforts.

OCCUPANT EMERGENCY PLAN FOR PERSONS WITH DISABILITIES

The first line supervisor is assigned the responsibility to assist Persons with Disabilities (PWD) under their supervision. The supervisor will choose an alternate assistant. The role of the two assistants is to report to their assigned person, and to either assist in evacuation or assure that the PWD is removed from danger.

The company will train Supervisors, alternates, and the person with a disability on available escape routes and methods. A list of persons with disabilities is kept in the Office of Health and Safety. The Emergency coordinators, emergency monitors, OHS, the Office of Personnel Management, and the PWD Committee update this list.

Visitors who have disabilities will be assisted in a manner similar to that of employees. The host of the person with disabilities will assist in their evacuation.

EMERGENCIES INVOLVING FIRE

A. Fire Alarms: In the event of a fire emergency, a fire alarm will sound for the building.

B. Evacuation Routes and Plans: Each facility shall have an Emergency Evacuation plan. All emergency exits shall conform to NFPA standards.

Should evacuation be necessary, go to the nearest exit or stairway and proceed to an area of refuge outside the building. Most stairways are fire resistant and present barriers to smoke if the doors are kept closed.

Do not use elevators. Should the fire involve the control panel of the elevator or the electrical system of the building, power in the building may be cut and you could be trapped between floors. Also, the elevator shaft can become a flue, lending itself to the passage and accumulation of hot gases and smoke generated by the fire.

C. Emergency Coordinators: Emergency Coordinators will be responsible for verifying personnel have evacuated from their assigned areas.

FIRE EMERGENCY PROCEDURES

IF YOU DISCOVER A FIRE:

1. Activate the nearest fire alarm or begin the alarm process.
2. Notify the fire department by dialing 9-911 or 911. Give your location, the nature of the fire, and your name.
3. Notify your Emergency Coordinator and other occupants:
    - Ron Berger
    - Chris Stecher
    - Tom Gaffney
    - Brady Osborn

FIGHT THE FIRE ONLY IF:

1. The fire department has been notified of the fire.
2. The fire is small and confined to its area of origin.
3. You have a way out and can fight the fire with your back to the exit.
4. You have the proper extinguisher, in good working order, AND know how to use it.
5. If you are not sure of your ability or the fire extinguisher's capacity to contain the fire, leave the area. "If in doubt, GET OUT"

IF YOU HEAR A FIRE ALARM:

1. Evacuate the area. Close windows, turn off gas, and close doors as you leave.
2. Leave the building and move away from exits and out of the way of emergency operations.
3. Assemble in your designated area.
4. Report to the monitor so he/she can determine that all personnel have evacuated your area.
5. Remain outside until competent authority (Physical Security, Office of Health and Safety, or your supervisor) states that it is safe to re-enter.

EVACUATION ROUTES:

1. Learn at least two escape routes, and emergency exits from your area.
2. Never use an elevator as part of your escape route.
3. Learn to activate your fire alarm system.
4. Learn to recognize alarm sounds or the alarm process.
5. Take an active part in fire evacuation drills.

1. CONSTRUCTION TYPE

TYPE II N, FULLY SPRINKLERED

2. ALLOWABLE VS ACTUAL AREA

OCCUPANCY GROUPS	ACTUAL AREA	ALLOWABLE AREA* (TABLE 5B)	RATIO (ACTUAL/ALLOWABLE)
B – OFFICE AREAS	12,771 SF	12,000 X 1.72 X 3 = 61,920 SF	0.2063
S-3 – VEHICLE STORAGE AND MAINTENANCE AREAS	14,814 SF	12,000 X 1.72 X 3 = 61,920 SF	0.2392
F-1 – METER REPAIR SHOP	1287 SF	12,000 X 1.72 X 3 = 61,920 SF	0.0208
A-3 – MEETING ROOM	1270 SF	9,100 X 1.72 X 3 = 46,956 SF	0.0271
TOTALS	30,142 SF	232,716 SF	0.4934 = LESS THAN 1.0

* ALLOWABLE AREA = AREA FROM TABLE 5B + 72% INCREASE FOR SEPERATION ON 3 SIDES > 60' + 3x INCREASE FOR SPRINKLERS IN 1 STORY BLDG = AREA (5B) X 1.72 X 3

OCCUPANCY / EXITING LEGEND

OCCUPANCY GROUPS

- A-3 MEETING ROOM
- B OFFICE
- F-1 METER REPAIR SHOP
- S-3 VEHICLE STORAGE & MAINTENANCE

RATED ASSEMBLIES

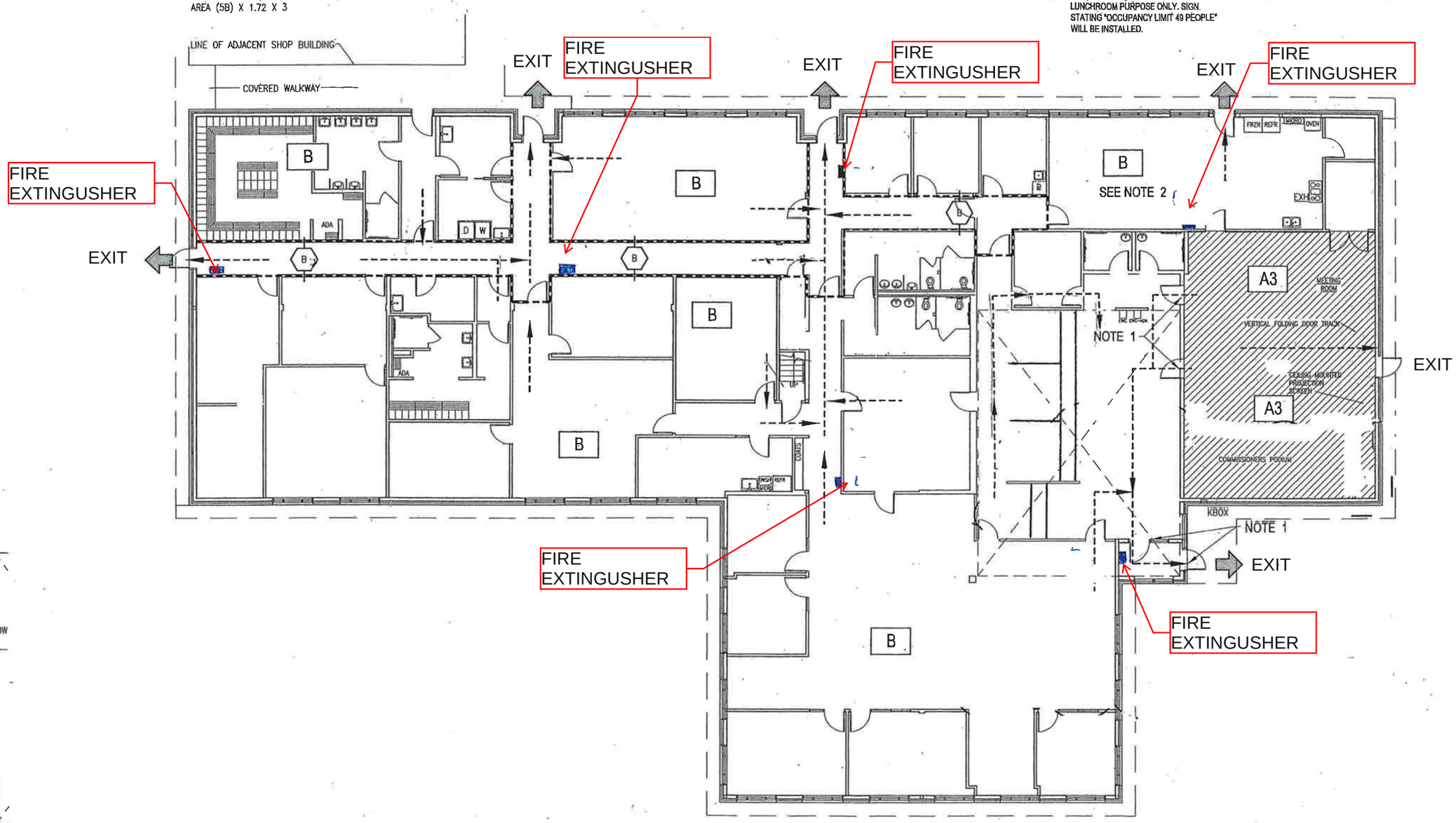
- A: 1-HR OCCUPANCY SEPARATION W 8" CMU WALL U.B.C. TABLE 7-B, ITEM 6
- B: 1-HR CORRIDOR SEPARATION WA U.L. DESIGN NO. U-435

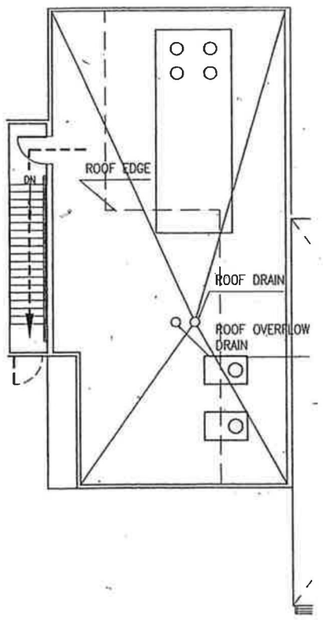
EXIT PATH

- FROM INTERIOR SPACES
- EXTERIOR EXITS

NOTE 1 PANIC HARDWARE

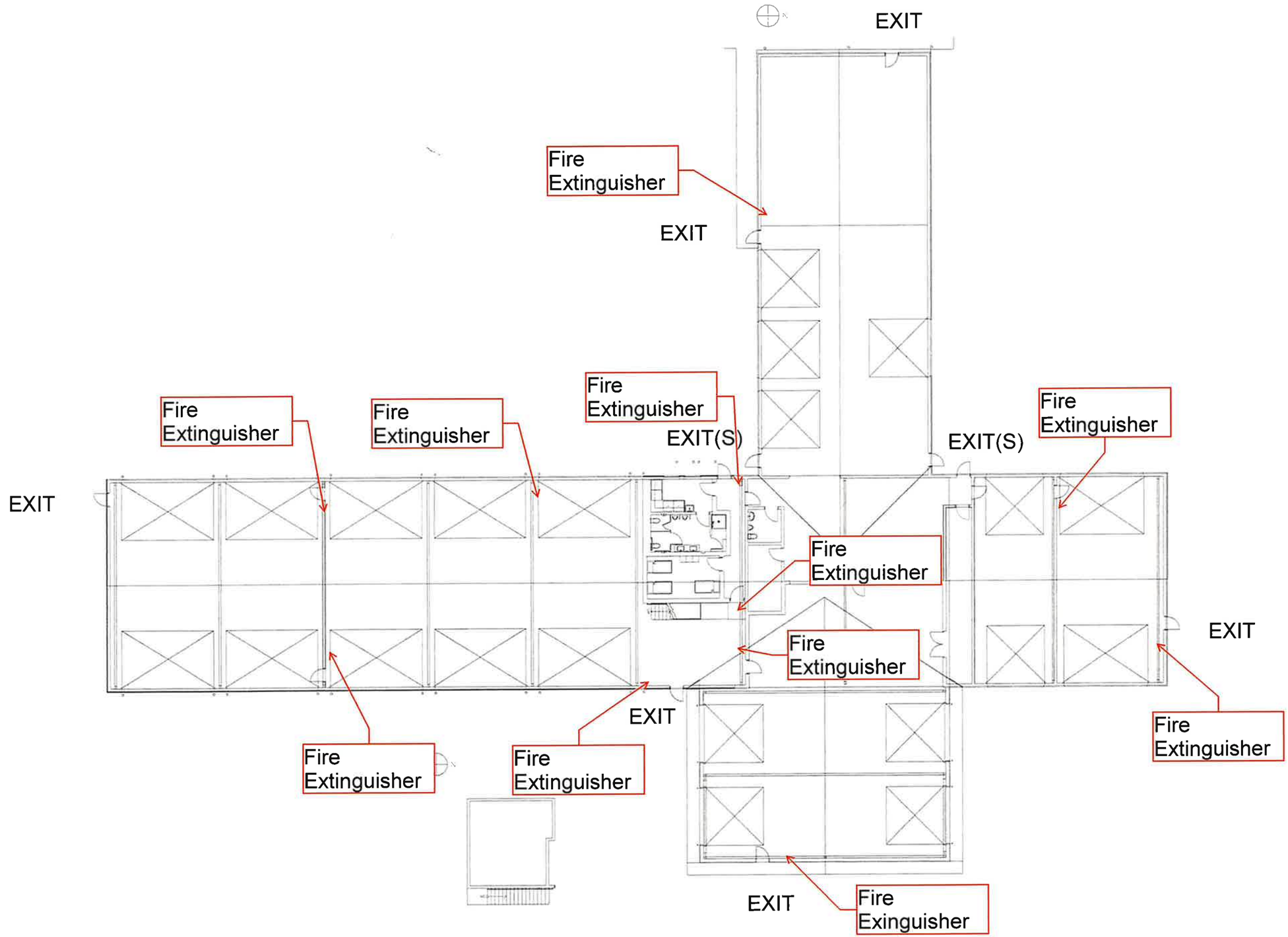
NOTE 2 LUNCHROOM WILL BE USED FOR LUNCHROOM PURPOSE ONLY. SIGN STATING "OCCUPANCY LIMIT 49 PEOPLE" WILL BE INSTALLED.

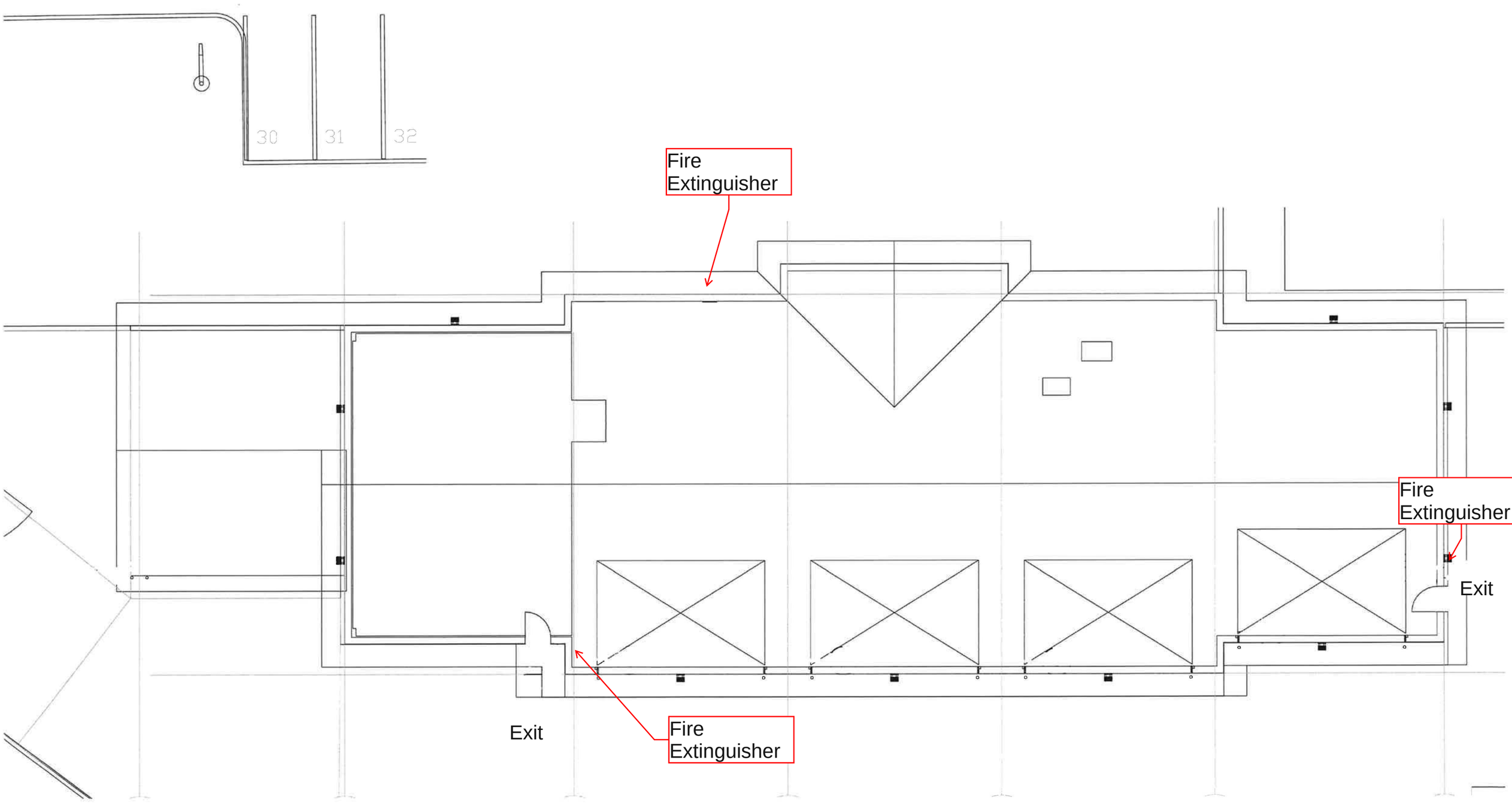




MECH. EQUIPMENT (ROOF TOP)

FIRST FLOOR PLAN


EXIT
Fire Extinguisher
EXIT
Fire Extinguisher
Fire Extinguisher
Fire Extinguisher
EXIT(S)
EXIT(S)
Fire Extinguisher
EXIT
Fire Extinguisher
Fire Extinguisher
EXIT
EXIT
Fire Extinguisher
Fire Extinguisher
EXIT
Fire Exinguisher


30
31
32
Fire
Extinguisher
Fire
Extinguisher
Exit
Fire
Extinguisher
Exit

SILVER LAKE WATER AND SEWER DISTRICT

HAZARD COMMUNICATION PROGRAM

COMPANY POLICY

To make sure that all information about the dangers of all hazardous chemicals used by the Silver Lake Water and Sewer District are known by all employees, the following hazardous information program has been established:

The employees of the Silver Lake Water and Sewer District will participate in the Hazard Communication Program. These Safety Data Binders are available in the crew quarters on the southeast wall and is available to all employees. There are also duplicate copies located in the shop next the first aid kit across from the restroom. The binders are yellow and have black lettering. Due to the number of chemical products at the District, four SDS binders are utilized at each location. The SDS binders are set up with a cross reference index to locate products by using the manufacturer name or product name to locate the SDS sheet. The binders are labeled A-F, G-N, O-R and S-Z. Each binder has an index located in the front of the binder.

CONTAINER LABELING

All containers received for use will be verified by the safety officer and clearly labeled as to contents, appropriate hazard warning, and name and address of the manufacturer.

The Safety Officer will review the company labeling procedures every 12 months and update as required.

SAFETY DATA SHEET (SDS)

The Safety Officer is responsible for establishing and monitoring the company SDS Program. This employee will make sure procedures are developed to obtain the necessary SDS's and will review incoming SDS's for new or significant health and safety information. This employee will see that any new information is passed on to affected employees. If the SDS is not available, immediately contact the Safety Officer.

EMPLOYEES TRAINING AND INFORMATION

The Safety Officer is responsible for the company employee-training program. They will make sure that the program elements listed below are carried out.

The Silver Lake Water and Sewer District will have all new employees attend a Health & Safety Orientation that includes the following information and training:

- An overview of all requirements contained in the Hazard Communications Standard.
- Hazardous chemicals present at his/her workplaces.
- Steps the company has taken to reduce or prevent exposure to hazardous chemicals.
- How to read SDS labels and review hazard information.
- Location of the SDS file and written Hazard Communication Program

- Annual training for the SDS Hazard Communication Program will be provided online by OSHA.

For all new chemical hazards, each employee shall be given information and training as outlined above.

APPENDIX I

HAZCOM SECONDARY CONTAINER LABELING

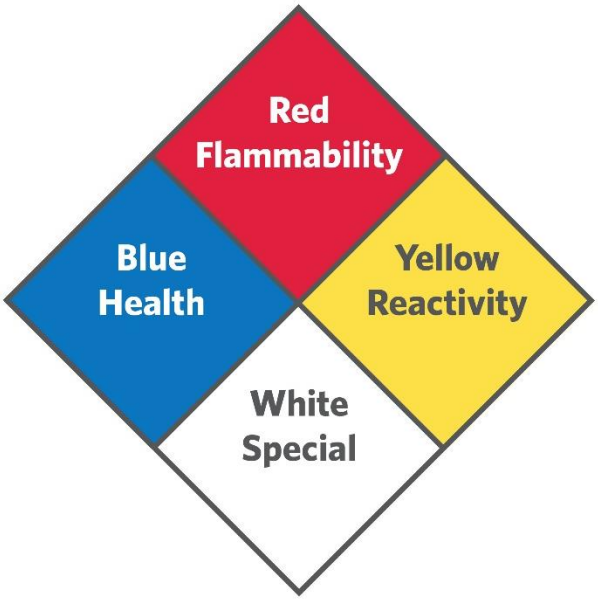
HAZARDOUS MATERIAL IDENTIFICATION SYSTEM (HMIS)

CATEGORY	RATING	SEVERITY OF HAZARD	DESCRIPTION OF RISK
Health (Blue)	0	Minimal Hazard	No significant risks to health
	1	Slight Hazard	Irritation or minor reversible injury possible
	2	Moderate Hazard	Temporary injury may occur
	3	Serious Hazard	Major injury likely unless avoided or protected
	4	Severe Hazard	Life threatening, major or permanent damage may result from single or repeated exposure
Flammability (Red)	0	Minimal Hazard	Normally stable, will not burn unless heated
	1	Slight Hazard	Flammable materials w/flash points at/above 200°F
	2	Moderate Hazard	Flammable materials w/flash points at/above 100°F
	3	Serious Hazard	Materials with flash points between 73°F-100° F
	4	Severe Hazard	Very flammable w/flash points below 73° F
Reactivity (Yellow)	0	Minimal Hazard	Normally stable, even under fire; will not react with water
	1	Slight Hazard	Normally stable but can become unstable at high temperatures or pressure. May react with water but will not explode
	2	Moderate Hazard	Is unstable and will undergo violent chemical change, also may react with water
	3	Serious Hazard	Strong shock of heat may detonate. Very unstable
	4	Severe Hazard	May detonate at normal temperatures or pressures
Specific (White)	*	*	*Depends on task performed. For example, Personal Protective Equipment (PPE) required. (See SDS for details)

APPENDIX I (CONT.)

HAZCOM SECONDARY CONTAINER LABELING

NATIONAL FIRE PROTECTION AGENCY (NFPA)



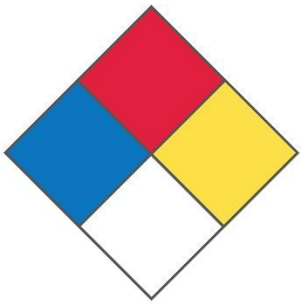
Identification of Health Hazard Color Code: BLUE		Identification of Flammability Color Code: RED		Identification of Health Hazard Color Code: YELLOW	
Type of Possible Injury		Susceptibility of Materials to Burning		Susceptibility to Release of Energy	
Signal		Signal		Signal	
4	Materials that, under emergency conditions, can be lethal	4	Materials which will rapidly or completely vaporize at atmospheric pressure and normal ambient temperature, or which are readily dispersed in air and which will burn readily	4	Materials that in themselves are readily capable of detonation or of explosive decomposition or explosive reaction at normal temperature and pressures, are shock sensitive and react explosively with water
3	Materials that, under emergency conditions, can cause serious or permanent injury.	3	Liquids and solids that can be ignited under almost all ambient temperature conditions.	3	Materials that in themselves are capable of detonation or explosive reaction but require a strong initiating source or which must be healed under confinement before initiation, are shock sensitive or which react explosively with water.
2	Materials that, under emergency conditions, can cause temporary incapacitation or residual injury.	2	Materials that must be moderately heated or exposed to relatively high ambient temperature before ignition can occur.	2	Materials that readily undergo violent chemical change at elevated temperatures and pressures. Also, materials which may react violently with water or which may form potentially explosive mixtures with water.

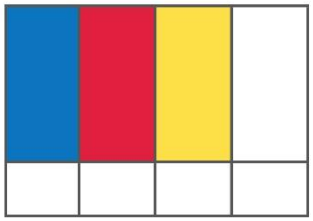
1	Materials that, under emergency conditions, can cause significant irritation.	1	Material that must be preheated before ignition can occur.	1	Materials that in themselves are normally stable, but which can become unstable at elevated temperatures and pressures, or which may react vigorously with water. Also, materials that change or decompose with exposure to air, light, or moisture.
0	Materials that, under emergency conditions, would offer no hazard.	0	Materials that will not burn.	0	Materials that in themselves are normally stable, even under fire exposure conditions, and which are not reactive with water.

SPECIAL (WHITE)	
W	**REACTS VIOLENTLY OR IN A DANGEROUS MANNER WITH WATER**
Ð	**REQUIRES SPECIAL DISPOSAL**
OX	**SUBSTANCE YIELDS OXYGEN TO SUPPORT COMBUSTION REACTS TO OXIDIZE FUELS OR COMBUSTIBLES**
COR	**ACID, ALKALI OR OTHER MATERIALS THAT WILL CAUSE SEVERE DAMAGE TO LIVING TISSUE**
	MATERIALS POSSESSING RADIOACTIVITY HAZARDS

☢

The identification systems are focused on the hazards of the materials under fire or spill conditions. This system is used only for the storage of chemicals and may be set up in a number of different designs. The color and number codes are as described above. The hazard number ratings will be either inserted into, or placed next to or below, the corresponding-colored box. Examples of the various identification systems that may be seen on bottles, drums, or other containers are shown below.



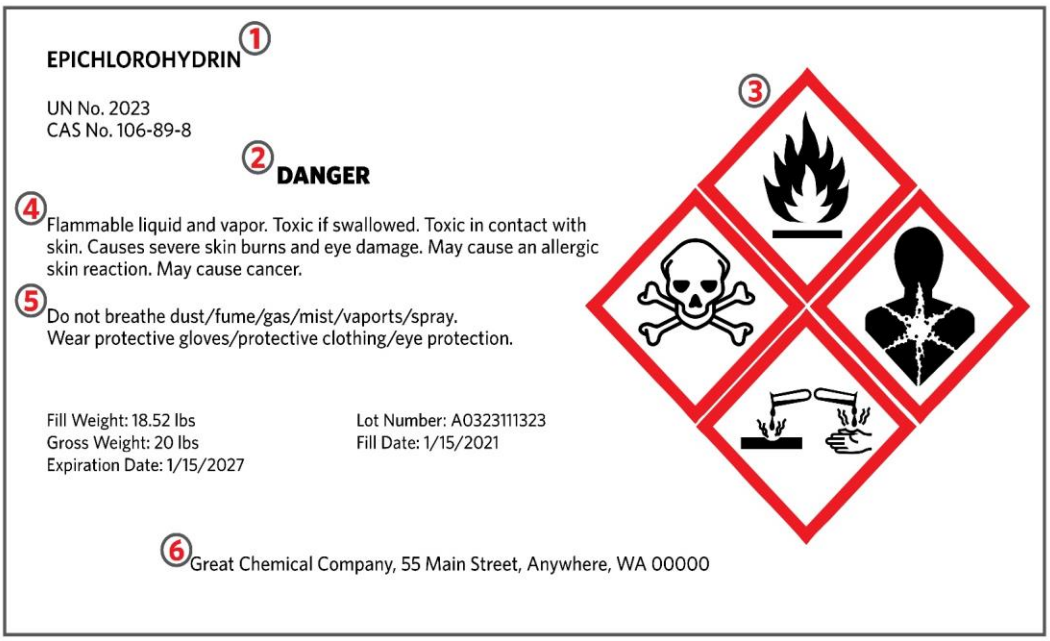


APPENDIX I (CONT.)

HAZCOM SECONDARY CONTAINER LABELING

GLOBALLY HARMONIZED SYSTEM (GHS)

1. **PRODUCT IDENTIFIER:** The product name or an identifying number that can be cross-referenced to the corresponding SDS, as well as to the list of hazardous chemicals that are required to be maintained as part of a written Haz-Com program.
2. **SIGNAL WORDS:** Words used to indicate the relative level of the severity of the hazard. The only two signal words that should be used are "Danger" and "Warning". Words like "Caution" or "Beware" will no longer be allowed after the effective date. "Danger" should be the signal word that is used for more severe hazards, while "Warning" should be used for hazards that are less severe.
3. **HAZARD STATEMENTS:** A relatively short statement assigned to a specific hazard class and category that describes the nature of the hazard(s) of a chemical, including where appropriate, the degree of the hazard. Examples of hazard statements include "Pressurized container: May burst if heated", or "May be harmful if inhaled."
4. **PRECAUTIONARY STATEMENTS:** Phrases that list recommended measures that should be taken to minimize or prevent adverse effects resulting from exposure to a hazardous chemical or improper storage or handling. An example of a precautionary statement would be "Do not eat, drink, or smoke when using this product."
5. **PICTOGRAMS:** Icons that appear in a small red box. There are eight different pictograms, and one or more might appear on a label. Each one helps you quickly identify the specific type of hazard associated with the product.
6. **SUPPLIER INFORMATION:** The name, address, and phone number for the chemical manufacturer, importer, or other responsible party.



APPENDIX II (SDS & PICTOGRAM TRAINING KEY)

SDS

Section 1 | Identification: Identifies the chemical on the SDS as well as recommended uses. Provides contact information of the supplier (i.e., name, address, phone number, importer, etc.).

Section 2 | Hazard(s) Identification: Identifies the hazards of the chemical and the appropriate warning information. Includes hazard classification & category, signal word, hazard statement, pictogram(s), precautionary statement.

Section 3 | Composition: Identifies the ingredients contained in the product.

Section 4 | First-Aid Measures: Describes the initial care that should be given by untrained responders to exposure/accident.

Section 5 | Fire-Fighting Measures: Provides recommendations for fighting a fire caused by the chemical.

Section 6 | Accidental Release Measures: Provides information on appropriate response to spills, leaks, or releases. Includes containment and cleanup practices to prevent exposure to people, property, or environment. Distinguishes between large and small spills.

Section 7 | Handling and Storage: Provides guidance on the safe handling practices and conditions for safe storage.

Section 8 | Personal Protective Equipment/Exposure Controls: Includes exposure limits, engineering controls, and PPE requirements.

Section 9 | Physical and Chemical Properties: Identifies physical and chemical properties associated with the substance or mixture (appearance, odor, flash point, flammability, viscosity, etc.)

Section 10 | Stability and Reactivity: Describes the reactivity hazards and chemical stability. Broken into three parts: reactivity, chemical stability, and other.

Section 11 | Toxicological Information: Identifies toxicological and health effects or indicates that data is not available. Provides information on likely routes of exposure (inhalation, ingestion, skin, and eye contact).

Section 12 | Ecological Information: Provides information to evaluate the environmental impact of the chemical if it were released.

Section 13 | Disposal Considerations: Provides guidance on proper disposal practices, recycling, or reclamation of the chemical, as well as safe handling practices. Section should reference Section 8 (PPE).

Section 14 | Transport Information: Provides guidance on classification information for shipping and transportation of hazardous chemicals by air, road, rail, or sea.

Section 15 | Regulatory Information: Identifies the safety, health, and environmental regulations specific for this product that is not indicated in any other section of the SDS.

Section 16 | Other Information: Indicates when the SDS was created or when the last known revision was made. May also state where changes have been made on previous versions.

Pictograms

Health Hazard

- Carcinogen
- Mutagenicity
- Reproductive Toxicity
- Respiratory Sensitizer
- Target Organ Toxicity
- Aspiration Toxicity

Flame

- Flammables
- Pyrophorics
- Self-Heating
- Emits Flammable Gas
- Self-Reactives
- Organic Peroxides

Exclamation Mark

- Irritant (skin and eye)
- Skin Sensitizer
- Acute Toxicity (harmful)
- Narcotic Effects
- Respiratory Tract Irritant
- Hazardous to Ozone Layer (Non-Mandatory)

Gas Cylinder

- Gases under pressure

Corrosion

- Skin Corrosion/burns
- Eye Damage
- Corrosive to Metals

Exploding Bomb

- Explosives
- Self-Reactives
- Organic Peroxides

Flame over Circle

- Oxidizers

Environment (Non-Manditory)

- Aquatic Toxicity

Skull & Crossbones

- Acute Toxicity (fatal or toxic)

SILVER LAKE WATER AND SEWER DISTRICT

HEARING CONSERVATION PROGRAM

POLICY STATEMENT

Silver Lake Water and Sewer District's policy is to protect employees' hearing and effectively manage or eliminate hazardous noise exposures. Based upon monitoring results, a continuing Hearing Conservation Program (HCP) is established to meet these objectives.

RESPONSIBILITIES

The Safety Officer has been designated to administer the overall HCP. Administrative responsibilities include:

- Coordination and supervision of noise exposure monitoring.
- Identification of employees to be included in the HCP.
- Coordination and supervision of Audiometric Program.
- Supervision of hearing protector selection.
- Development of policies relating to the use of hearing protectors.
- Supervision of employee training programs.
- Coordination and supervision of record keeping.
- Evaluation of overall program.

All employees being assigned or working in designated noise areas, whose noise exposures equal or exceed the action level of 85 dBA (8-hour time-weighted average) will be included in the program. These exposures will be determined by actual monitoring or with representative data. Employees are required to fully participate in the program outlined in this policy as a condition of employment. Employees must wear the provided ear protection devices, when working in posted noise areas. Each employee exposed to sound levels equal to or in excess of 85 dBA, will be:

- Given a baseline audiogram prior to assignment and an annual audiogram thereafter. The testing is provided at no cost to the employee.
- Provided with a choice of suitable ear protectors, and encouraged to use them. Wearing of ear protection is mandatory for employees working in areas where noise exposure exceeds 90 dBA (8-hour time-weighted average).
- Notified of the results of noise exposure monitoring when their exposure is determined to be 85 (8-hour time-weighted average) or greater.
- Notified of any abnormal audiogram indicating a standard threshold shift.
- Provided annual training and information.

PROGRAM REQUIREMENTS

1) **Noise Monitoring**

A noise survey indicated that noise levels exceeding 85 dBA were measured on specific jobs. The noise exposure levels and areas/sources are listed in the attached noise level study.

Additional noise monitoring will be conducted whenever employee exposures are expected to change (equipment changes, plant modifications, engineering control installations, etc.). The District performs periodic noise level testing.

Employees in all areas will be included in the Hearing Conservation Program, see results of the noise study to evaluate job assignment.

2) **Audiometric Testing**

Baseline and annual audiometric testing will be performed. A copy of the standard will be provided to the testing center. The testing center will provide, or make available, records regarding the background sound pressure levels in their audiometric testing rooms.

New employees-will be provided with an appropriate audiometric pre-employment examination (baseline). Annual hearing examinations will be provided and are required for all field staff.

Exposure to workplace noise is not allowed for 14 hours prior to baseline examinations (ear protectors may be used in lieu of 14 hours noise-free). Audiometric testing results provided by the testing center will be reviewed to ensure the appropriate follow-up actions are taken.

If a standard threshold shift (an average shift in either ear of 10 dB or more at 2,000, 3,000, or 4,000 Hz) is identified, the employee will be:

- notified of the threshold shift within 21 days of this determination;
- informed of the need for further evaluation or retesting if a medical problem is suspected;
- required to wear hearing protection;
- refitted or retrained in the use of hearing protection; and
- referred for additional audio logical or medical testing, if appropriate, and informed of the need for this testing, the purpose and outcome, and whether shift may not be related to use of hearing protectors.

3) **Hearing Protection**

Hearing protection is required to be worn by employees when exposure exceeds 90 dBA, in an 8-hour time-weighted average. (See Noise Survey attached to back of this section or speak to your Safety Officer).

4) **Noise Signs**

Company policy requires all work areas where noise exposures may exceed 85 dBA, to be posted with noise warning signs at all entrances to these areas. All employees in the HCP will wear ear protection when working in posted areas.

5) **Employee Training**

Participation in an annual training program is required for employees exposed to noise at or above 85 dBA TWA. The training will include information on:

- The effects of noise on hearing.
- The purpose and use of hearing protectors, and the advantages and disadvantages of the various types.
- Instructions in selection, fitting, use, and care of hearing protectors.
- The purpose of audiometric testing and an explanation of test procedures.
- Contents of 29 CFR 1910.95, Occupational Noise Exposure.
- Contents of 29 CFR 1910.20, Access to Medical & Exposure Records.

A copy of the noise standard and the written training and instructional materials will be made available to employees upon request. Records of training will be maintained.

6) **Record Keeping**

Audiometric program records are maintained and filed the in medical file and will be provided to employees upon request. Records applicable to employee monitoring and exposure records will be retained as follow:

- Employee audiometric test records (baseline and annual audiogram, retests, test room background levels, and audiometer calibration records) are maintained for the duration of affected employees' employment.
- Noise exposure measurement records are maintained for two years.

Listen
Audiology Services, Inc.

Amy Johnson, AuD, CCC-A, C/PS-A
Doctor of Audiology
listenaudiology@comcast.net

7008 153rd Pl SE, Snohomish, WA 98296
Phone: 360-303-0390
www.listenaudiology.com

Silver Lake Water & Sewer District

-Noise Study-

January 10 & 20, 2023

Introduction

The purpose of this noise survey was to evaluate noise levels and exposures for employees of Silver Lake Water and Sewer District, located in Bothell, WA. Amy Johnson, AuD, CCC-A, conducted dosimetry studies on January 10 and January 20, 2023. Specifically, the objectives were to evaluate occupational noise exposures for the WISHA hearing conservation program.

Methodology & Interpretations

Noise levels were recorded with three Quest NoisePro DL Personal Dosimeters and a Quest 2700 Type 2 sound level meter. The equipment was calibrated prior to and immediately following monitoring and were programmed according to the Washington State Hearing Loss Prevention standard (WAC 296-87) as listed below in Table 1. Batteries were checked and replaced as needed. All equipment was within manufacturer specifications traceable to the national bureau of standards. Measurements were recorded near the workers ear level.

Table 1: Dosimetry Settings

Weighting	A-weighted
Response	Slow
Criterion Level	90dB
Threshold Level	80dB
Exchange Rate	5dB

The Washington State Department of Labor and Industries/WISHA Guidelines state that all employees must be included in a hearing conservation program if exposed to a TWA of 85dBA or greater, 50% dose, or a single exposure in excess of 115dBA. The complete regulatory requirements are outlined in Table 2. These guidelines are designed to guard against unnecessary hearing damage (See WAC 296-817).

Table 2: Department of Safety and Health Thresholds

Noise Level	**Requirements**
85dBA – 8-hour TWA	Enroll workers in Hearing Loss Prevention Program (HLPP) o Hearing protection required o Baseline and Annual Audiometric Testing o Educational Training
90dBA – 8-hour TWA	Use of feasible noise controls Enroll workers in HLPP
115dBA – greater than 1 second in duration	Use of hearing protection, regardless of 8-hour TWA Signs posted in work areas warning of exposure
140dBC – less than 1 second in duration	Use of hearing protection, regardless of 8-hour TWA

DISCLAIMER:The sample results are reflective of conditions existing at the site on the day sampled. The exposure assessment should be representative of workers who perform the operation with the same equipment and under similar work practice and environmental conditions. Changes in process, equipment, or environment could result in an increase in worker exposures and personal exposures should be surveyed again at that time. Exposures at or above Washington State regulatory limits should be addressed swiftly to prevent possible injury or illness. It is the employer's responsibility to address overexposures, implement necessary controls, initiate scheduling of required periodic monitoring, and otherwise comply with the regulatory standards. The Department of Labor and Industries enforces safety and health standards and employers are subject to citation and penalty for non-compliance.

Results

TABLE 3: PERSONAL DOSIMETRY STUDIES with Quest NoisePro DL

Date	Job Title	Employee/ Equipment	Run Time (Hr:Min)	Est. 8-Hour TWA	Time over 115dBA (sec)
1/10/23	Utility Worker	Jeff Enns **(Vactor Truck) #74**	7:25	76.7dBA	0
1/10/23	Utility Worker	Payton Flude **(Vactor Truck) #74**	7:20	85.2dBA	0
1/10/23	Utility Worker (Apprentice)	Travis Koenen **(Vactor Truck)#74**	7:18	89.2dBA	0.26
1/20/23	Utility Worker II	Mike McDaniels (**Vactor Truck) #73**	5:08	79.8dBA	0
1/20/23	Utility Worker I	Collin Keefover (**Vactor Truck) #73**	5:04	72.3dBA	0

TABLE 4: SOUND LEVEL METER MEASUREMENTS with Quest 2700

Date	Location	Equipment	Loudness Level (dBA)
1/10/23	Headquarters	Generator	104-107 inside 92-94 outside door open 75-77 outside door closed
1/10/23	Headquarters	Temporary Small Propane Generator	88.7-89.4
1/10/23	164th Lift Station	Propane Generator	75-78.4
1/10/23	180th Lift Station	Diesel Generator	78-85
1/10/23	Silver Firs Lift Station	Propane Generator	76-83
1/10/23	Reservoir/Booster 2	Diesel Generator	94-97 inside 70-74 outside door closed
1/10/23	Highlands East	Diesel Generator	73-84.6
1/10/23	Highlands 2	Diesel Generator	74-95
1/10/23	Highlands 1	Propane Generator	77-84
1/10/23	Lift Station 3	Propane Generator	98-101 inside 74-79 outside door closed
1/10/23	Creekside Lift Station	Diesel Generator	80.7–91.8

1/10/23	Reservoir 4	Diesel Generator	98-99.1 inside 74-78 Hallway
1/20/23	Reservoir 4	Pump 1	86-7.5
1/20/23	Reservoir 4	Pump 3	88-89.1
1/10/23	Medlum Temporary	Diesel Generator	92-96
1/10/23	Pioneer Trails	Diesel Generator	93-99.7
1/10/23	Walden Wood	Diesel Generator	100-102.7 inside 70.1-73 outside
1/10/23	Larimer 2	Propane Generator	74-83
1/10/23	Larimer 1	Diesel Generator	80-82
1/10/23	The Point	Diesel Generator	69.4-98.6
1/10/23	Lift Station 4	Diesel Generator	78-98.9
1/10/23	Woodlands East	Propane Generator	74-81.2
1/10/23	Woodlands North	Propane Generator	81-86
1/10/23	Valmont	Diesel Generator	68-101.4
1/10/23	Reservoir 3	Diesel Generator	74-104
1/20/23	Reservoir 3	Pump	70-75
1/20/23	Lift Station 2	Large Portable Generator	97-98.2
1/20/23	Lift Station 2	Generator	101-105.5
1/20/23	Lift Station 2	Pump Station	90-97
1/20/23	Sector 7	Pump Station	93-95.2
1/20/23	Sector 7	Generator	98-107
1/20/23	Headquarters	Jumping Jack	107
1/20/23	Headquarters	John Deere Rider 1550	81-95
1/20/23	Headquarters	Red Max Backpack Blower	84-97
1/20/23	Headquarters	CAT Loader	83-87
1/20/23	Headquarters	Plate Compactor	104-111
1/20/23	Headquarters	Easement Cleaner	77-99
1/20/23	Headquarters	Double Drum Roller	81-87
1/20/23	Headquarters	Large Stihl Cutoff Saw	93-98 101-106 cutting
1/20/23	Headquarters	Wash Bay	86-89
1/20/23	Headquarters	Honda Snow Blower	87-94
1/20/23	Headquarters	Water Flushing	79-80

Summary

Results from the personal dosimetry studies and sound level meter readings document that Utility Workers have a varied exposure to noise depending on the day and tasks/equipment involved. Two of the Utility Workers dosimetry studies revealed 8-hour TWA's that meet or exceed the 85dBA Action Level (standard +/- 2dB margin of error). This requires all workers in these positions and/or near this work area to participate in an effective hearing conservation program as outlined and mandated by WISHA.

Regarding hearing protection, it is generally recommended that earmuffs or earplugs be worn when exposed to noise between 85-99dBA and both types when exposed to static noise above 100dBA. Please note that "doubling-up" i.e., wearing plugs and muffs, results in an additional 5dB protection (not the sum of both types). Taking into consideration the employees' TWA, hygiene, convenience, and comfort, the following hearing protection devices would be appropriate options for employees of Silver Lake Water and Sewer District's Hearing Conservation Program:

- Rubber Flanged (banded/corded style) – these are a good option for employees who tend to have sporadic noise exposure and cannot insert foam plugs with clean hands due to nature of their work.
- Earmuffs
- Foam plugs (if clean hands are available)

All the above HPD's should have a NRR of no less than 24 (adequate protection without "overprotecting"). This calculation is based on a "real world" field-tested method, which assumes real protection is equal to approximately one-half of the labeled NRR. Lastly, I would recommend that person's in highly visible and managerial-type positions serve as role models for the prevention of noise induced hearing loss.

For a complete and detailed explanation of the required WISHA Hearing Loss Prevention Program, please refer to *Chapter 296-817 WAC*. In brief, the following is a requirement by law:

- Document current noise exposures from all equipment and machinery in the workplace, as well as any other sources of noise in the work area.
- Protecting employees from noise exposure by using feasible noise controls
- Providing a minimum of 2 styles of hearing protection (more as needed for special exceptions) along with enforcing/ensuring employees are using their HPD's 100% of the time when working in noise.
- Annual training about hearing loss prevention.
- Annual hearing testing provided at no cost to the employees.
- Evaluating your hearing loss prevention program periodically and making appropriate corrections as needed.

Silver Lake Water District

-Noise Study-

December 4, 2009

Introduction

The purpose of this noise survey was to evaluate area noise levels for employees of Silver Lake Water District. Pam Kutscher, CAOHC Technician, measured noise levels throughout the facility in addition to running two personal dosimetry studies. Specifically, the objectives were to evaluate occupational noise exposures for the WISHA hearing conservation program.

Methodology

Noise levels were recorded with two Quest NoisePro DL Personal Dosimeters and a Quest 2700 Type 2 Sound Level Meter. The equipment was calibrated prior to and immediately following the measurement session; batteries were checked and replaced as needed. All equipment was within manufacturer specifications traceable to the national bureau of standards. Measurements were recorded near the workers ear level.

Interpretations

The Washington State Department of Labor and Industries/WISHA Guidelines state that all employees must be included in a hearing conservation program if exposed to a TWA of 85dBA or greater, 50% dose, or a single exposure in excess of 115dBA. These guidelines are designed to guard against unnecessary hearing damage (See WAC 296-62-09015).

Results

TABLE 1: SOUND EXPOSURE PROFILING

AREA	NOISE LEVEL (dBA)	COMMENTS/NOTES
Backhoe	74.9-89.7	Idling & Full Throttle
Booster Station #2	90.9-92.4	
Chainsaw	108.2-108.6	
Compressor (for jackhammers)	94-95	
Electric Cut-Off Saw	100.5-101.3	
Gas Cut-Off Saw	103.7-105.8	
Highlands 1 Generator	94.8-100.7	
Highlands 2 Generator	80.4-96.4	
Hydraulic Hammer F550	93.7-94.2	
Jackhammer	109.8-110.1	1 running
Jackhammers	112.4-112.6	2 running together
Lawnmower	96.2	
Leaf Blower	97.5-98	
Onan 175 Gen Set	97.2-98.3	
Pioneer Trails Lift Station	93.5-94.2	Hand and Auto Full Run
Reservoir #3 Generator	98.6-102.1	
Trakhoe	64.8-81.9	Idling & Full Throttle, window open and closed
Vactor Truck #38	84.6-89.2	Idle
Vactor Truck #38	90.2-97.4	Full Throttle
Vactor Truck #38	99-104.7	Sucking Dirt
Waldenwood Lift Station	76.7-100.4	Peak when starting up
Weed eater	100.3-101.4	

TABLE 2: PERSONAL DOSIMETRY STUDY with Quest NoisePro DLs

(Please see Attachment A for raw dosimetry data)

Employee	Position	Run Time	(Estimated) 8-Hour Dose	(Estimated) 8-Hour TWA
Jeff Enns	Utility Worker	05:17:53	101.3%	90.1dBA
Andrew Fisher	Utility Worker	05:25:37	39.3%	83.3dBA

Summary and Conclusion

The results from this study indicate that employees of Silver Lake Water District are exposed to hazardous noise levels throughout the facility and while working with the majority of their heavy equipment. The personal dosimetry studies indicated work with the vactor truck and jetting sewer lines exposes employees to consistent exposure over 85dBA. The personal dosimetry study involving Pump Stations and Generators was slightly lower but, taking into account the Standard Margin of Error (+/- 2dB), this exposure also exceeds the 85dBA Action Level. Based on today's recordings, full employee participation in a hearing conservation program as dictated in the Washington Administrative Code 296-817 is required.

In regards to hearing protection, it is generally recommended that earmuffs or earplugs be worn when exposed to noise between 85-99dBA and both types when exposed to static noise above 100dBA. Please note that "doubling-up" i.e. wearing plugs and muffs, results in an additional 5dB protection (not the sum of both types).

Taking into consideration the noise levels recorded today, hygiene, convenience, and comfort, the following hearing protection devices would be appropriate options for employees involved in the company's Hearing Conservation Program:

- Premolded with string/cord
- Semi-Insert (banded-style)
- Ear-muffs
- Foam Plugs

Again, doubling-up (i.e. foam plugs with earmuffs) when exposed to static noise above 100dBA is strongly recommended. Lastly, I would recommend that person's in highly visible and managerial-type positions serve as role models for the prevention of noise induced hearing loss.

Which should I buy?

What's the best hearing protection?

I'm getting into woodworking and spend about 10 hours a week using my router, planer and table saw. I'd like to hold on to my hearing. Should I buy earmuffs or earplugs?

Both offer adequate hearing protection; the key is selecting a protector that's comfortable and convenient so you'll actually use it.

Disposable foam earplugs that you twist, then let expand into your ear, are the very best because they block the ear canal completely. They're cheap (as little as 10¢ a pair purchased in quantity), unobtrusive and lightweight. But I personally can't get used to these; they feel like insulation stuffed into my ears. And they're *so* effective that they make me feel disconnected from my surroundings. I need to hear some of the whine of the router and whir of the circular saw to know that I'm not forcing or binding the tool. Jaw movement can dislodge them, they're tough to use when you have an earache and, of course, you need to remember to replenish your supply. But if your ears are very sensitive and the feel doesn't bug you, these might be right for you.

Earmuffs generally don't block quite as much noise, some people consider them hot and clunky, and if you have glasses or long hair they may not seal completely—but I'm partial to them. They offer adequate protection, and wearing them is second nature now. (When they're not in use, I automatically prop mine up and out of the way atop my head like Mickey Mouse ears.) They serve as ear warmers in chilly weather, and more than once they've absorbed the impact of a blow that would otherwise have been absorbed by my noggin.

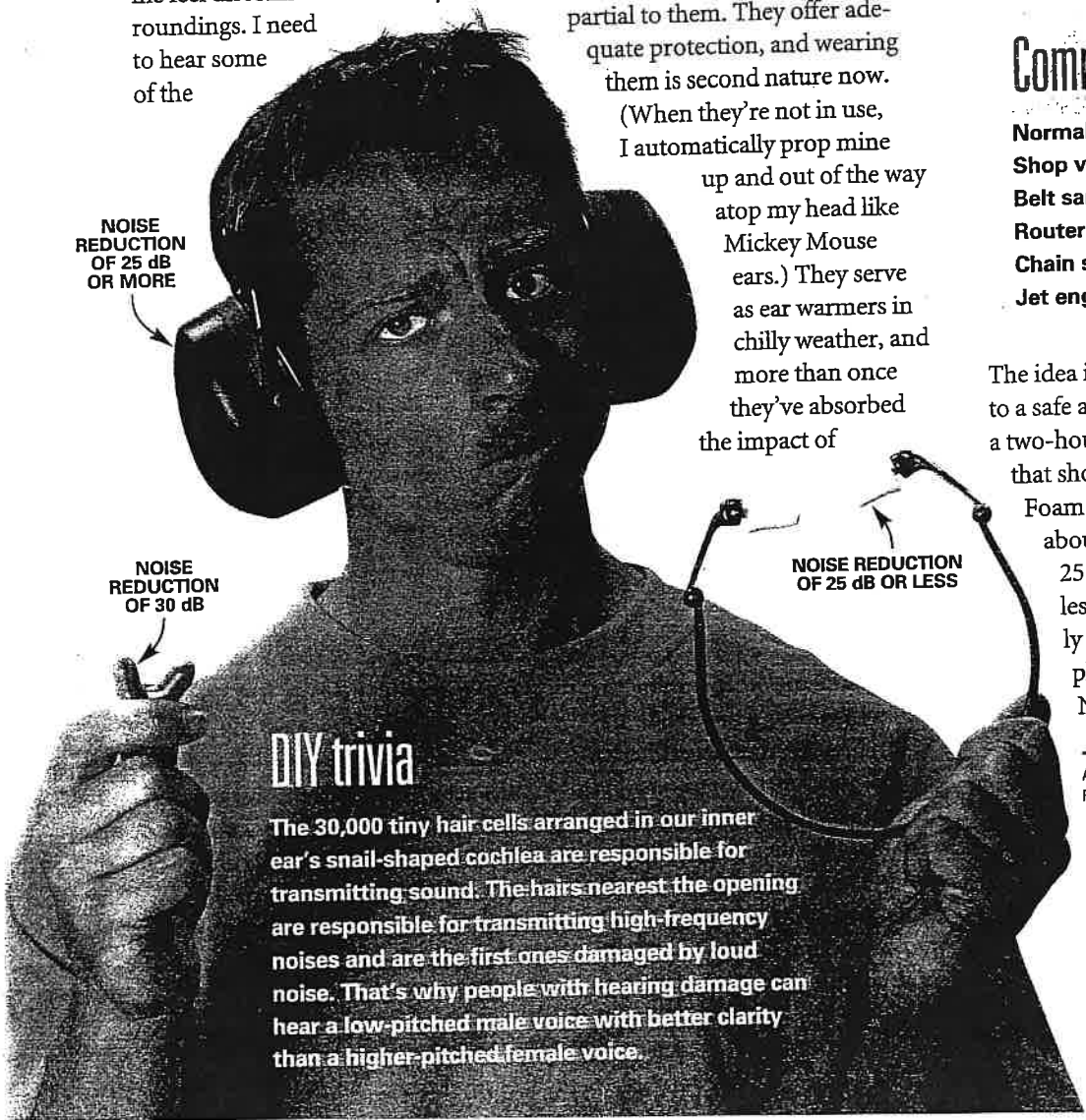
Reusable molded earplugs, often on a cord or headband, offer the least protection of the group. But they're lightweight and cheap, so it's convenient to keep a couple of extra pairs around. And even if they're not the best performers, they're adequate for most situations.

Hearing protectors have a noise reduction rating (NRR) printed on the package. Noise is measured in decibels (dB); each 10 dB jump reflects a *doubling* of the noise level.

Common sound levels

Normal conversation	**60 dB**
Shop vacuum, table saw	**95 dB**
Belt sander, jigsaw	**100 dB**
Router, circular saw	**110 dB**
Chain saw, nail gun	**120 dB**
Jet engine, pain threshold	**140 dB**

The idea is to get the noise reduced to a safe and comfortable level; for a two-hour stint in your workshop, that should be less than 90 dB. Foam plugs offer an NRR of about 30 dB; earmuffs about 25 dB; molded plugs slightly less than 25 dB. For extremely loud operations, wear both plugs *and* muffs to attain an NRR of 35 db or more.



DIY trivia

The 30,000 tiny hair cells arranged in our inner ear's snail-shaped cochlea are responsible for transmitting sound. The hairs nearest the opening are responsible for transmitting high-frequency noises and are the first ones damaged by loud noise. That's why people with hearing damage can hear a low-pitched male voice with better clarity than a higher-pitched female voice.

Art Direction • BECKY PFLUGER
Photography • RAMON MORENO

SILVER LAKE WATER AND SEWER DISTRICT

HEAT STRESS PROGRAM

PURPOSE

The purpose of this program is to provide procedures and safe work practices for employees required to work in high-heat conditions in the summer months. Working in hot environments lowers the mental alertness and physical performance of individuals, which sometimes causes workers to overlook safety procedures or divert attention from hazardous tasks.

SCOPE

All covered workers will participate in the Heat Exposure Plan. The provisions in the plan will apply:

For outdoor work from May 1 through September 30. Hazardous heat varies depending on factors like humidity and clothing worn. For the purposes of this plan, workers are exposed to "hazardous heat" when the temperature thresholds for the associated clothing type noted below are met or exceeded:

Non-breathable clothing (e.g., vapor barrier clothing, chemical resistant suits, etc.)	52 °F
Double-layer clothing (e.g., shirt and jacket or sweatshirt)	77 °F
All other clothing	89 °F

HAZARD MITIGATION

The following practices should be observed to help alleviate heat stress:

Hydration

- Encourage workers who work in hot weather to drink liquids regularly, even when not thirsty. At least 1 cup of water every 15 minutes is recommended rather than a large amount after hours of sweating.

- At least 1 quart of cool water per worker per hour will be made available.

- The District supplies each field employee with a 32-ounce water bottle and each employee is responsible to check that it is filled.

- Workers should avoid drinks with caffeine before or during work in hot weather.

Breaks & Cool-Down

- Take regular breaks from the sun. When temperatures exceed 89 °F, employees must be provided with a 10-minute break, in a cool or shaded area, every two hours.

- Wear lightweight, loose-fitting, light-colored, breathable (e.g. cotton) clothing and a hat.

- Loosen or remove clothing that restricts cooling.

Acclimatization

- Adjusting to work in heat takes approximately 14 days. During this time, employees should be closely monitored for signs and symptoms of heat illness.

- Allow workers to acclimatize by starting slower and working up to a normal pace.

- When temperatures meet or exceed 89 °F, effective communication with field employees will be established such that employees are able to reliably contact supervisors when needed.

- Try to do the heaviest work during the cooler parts of the day.

- If exertion causes someone's heart to pound or makes them gasp for breath, become lightheaded, confused, weak or faint, they should STOP all activity and get into a cool area or at least into the shade, and rest. All District trucks are equipped with air conditioning that can be used to cool employees.

Training

Ensure that supervisors are trained upon hire and annually thereafter to occur typically in the spring:

- Recognize the environmental and job-specific factors that can lead to Heat-Related Illnesses.

- Implement all necessary controls to mitigate the risk of Heat-Related Illnesses.

- Respond to Heat-Related Illnesses in the workplace.

Ensure that workers are trained upon hire and annually on the following topics:

- The signs and symptoms of Heat-Related Illnesses, including dehydration and how to respond.
- How to recognize the environmental and job-specific factors that can lead to Heat-related Illnesses.
- How different personal factors can make workers more susceptible to Heat-Related Illnesses, including the use of drugs and alcohol.
- How to follow all necessary controls to mitigate the risk of Heat-Related Illnesses.
- The importance of hydration, why to drink frequent small amounts of water, and how sufficient amounts of cool drinking water will be provided to workers.
- The importance of removing heat-trapping PPE and outer clothing during breaks and other environmental risk factors.
- How workers will be provided with sufficient space to rest in shaded areas or cool climate-controlled areas when signs and symptoms of Heat-Related Illnesses are present or when scheduled for a cool-down break.
- The importance of acclimatization and how the acclimatization schedule will be implemented.
- How to notify supervisors of Heat-Related Illnesses in the workplace.
- How the employer will respond to Heat-Related Illnesses in the workplace.

Heat Stroke or Heat Exhaustion?

The two major heat-related illnesses are heat exhaustion and heat stroke. Heat exhaustion, if untreated, may progress to deadly heat stroke. **Heat stroke is very dangerous and frequently fatal.** If workers show symptoms, *always take this seriously* and have them take a break and cool down before returning to work. ***Stay with them***. If symptoms worsen or the worker does not recover within about 15 minutes, call 911 and have them transported and medically evaluated. ***Do not delay transport***.

How do you tell the difference?

The telling difference is mental confusion or disorientation in ALL heat stroke victims. You can ask these 3 questions: What is your name? What day is this? Where are we? If a worker can't answer these questions, assume it is Heat Stroke.

What are the symptoms of heat exhaustion and heat stroke?

Heat Exhaustion	Heat Stroke
• Heavy sweating • Exhaustion, weakness • Fainting / Lightheadedness • Paleness • Headache • Clumsiness, dizziness • Nausea or vomiting • Irritability	• Sweating may or may not be present • Red or flushed, hot dry skin • Any symptom of heat exhaustion but more severe • Confusion / Bizarre behavior • Convulsions before or during cooling • Collapse • Panting / rapid breathing • Rapid, weak pulse • Note: May resemble a heart attack

What do you do if someone is suffering from heat exhaustion or heat stroke?

Heat Exhaustion	Heat Stroke (medical emergency)
• Move the worker to a cool, shaded area to rest; **do not leave them alone.** • Loosen and remove heavy clothing that restricts evaporative cooling. • Give cool water to drink, about a cup every 15 minutes. • Fan the worker, spray with cool water, or apply a wet cloth to their skin to increase evaporative cooling. • Recovery should be rapid. Call 911 if they do not feel better in a few minutes. • Do not further expose the worker to heat that day. Have them rest and continue to drink cool water or electrolyte drinks.	• Get medical help immediately, call 911 and transport as soon as possible. • Move the worker to a cool, shaded area and remove clothing that restricts cooling. • Seconds count – Cool the worker rapidly using whatever methods you can. For example, immerse the worker in a tub of cool water; place the worker in a cool shower; spray the worker with cool water from a garden hose; sponge the worker with cool water; or, if the humidity is low, wrap the worker in a cool, wet sheet and fan them vigorously. Continue cooling until medical help arrives. • If emergency medical personnel are delayed, call the hospital emergency room for further instruction. • Do not give the worker water to drink until instructed by medical personnel.

Heat Stress Check List

- Does the worksite have temperature extremes (above 85 degrees in higher humidity, above 89-95 degrees in lower humidity) that may cause heat stress?

- Do employees do heavy labor or wear heavy protective clothing?

- Make sure employees have access to adequate drinking water at all times.

- Employees are allowed work breaks during prolonged heavy labor.

- Ensure workers have access to shade during breaks or an air-conditioned truck to cool down.

- Make sure employees have been trained on the symptoms of heat-related illness (heat exhaustion and heat stroke).

- Make sure employees are trained on first aid measures for heat-related illness.

See WRD 11.20 – Application of Standards to Address Heat-Related Illness in Outdoor Environments for additional information.

SILVER LAKE WATER AND SEWER DISTRICT

LADDER SAFETY PROGRAM

HAZARDS

Portable ladders are one of the handiest, simplest tools we use. Although ladders are uncomplicated, planning and care are required to use them safely. Each year in the U.S., accidents involving ladder cause an estimated 300 deaths and 130,000 injuries requiring emergency medical care.

The hazards associated with ladders include:

- Falls from ladders;
- Struck by falling ladders;
- Struck by materials falling from ladders;
- Tripping over ladders;
- Lifting heavy ladders;
- Striking persons or objects when carrying ladders;
- Contact with electrical equipment.

Accident Prevention Tips:

- Do not hand carry loads on a ladder.
- Do not use a ladder if the combined weight of you and your equipment exceeds the rated limit listed on the ladder.
- Do not try reaching so far that you lose your balance - *move the ladder*.
- Non-skid feet or spurs may prevent a ladder from slipping on a hard, smooth surface.
- Do not stand on the ladder's top three rungs.
- The base should be spaced one foot away for every four feet it reaches up; called the "4 to 1 rule".
- Ladders used to reach a walking surface must extend at least three feet beyond the surface to which the ladder is used to access.
- Extension ladders need both locks holding to prevent overloading a rail.
- Step ladders should be securely spread open when used.
- When working on cylindrical objects like poles or columns, the top rung of portable ladders can be replaced with chain or rope to reduce rocking.
- Use a Ladder Inspection Checklist to remind yourself of what you should look out for in order to prevent accidents.

CONTROLS

The District policy on ladders covers use, inspection, repair, and disposal. The following practices should be used:

- Use the right ladder for the job.
- Employee's must be trained on ladder use prior to using them.
- Inspect the ladder before and after each use.
- Tag and remove defective ladders for repair.
- Get help moving heavy or long ladders.
- Make sure you are wearing the proper shoes, if they are wet or muddy, you could slip.
- Secure the top of the ladder as needed.
- In aisles or where there may be danger of traffic; *have someone hold the ladder*.
- Post a warning sign if necessary.
- Secure the top and bottom of the ladder when using it to access a platform.
- Face the ladder when ascending or descending; *maintain 3-point contact*.
- Hoist materials or attach them to a belt. Do not carry materials in your hands.
- Make sure only one person is on the ladder at a time.

INSPECTIONS

Ladders must be inspected by an inspection person when:

- Ladders are first put into service
    - Visually inspect for defects
    - Working parts
    - Rung or step connection to the side rails
- Damaged by impact or tip over
    - Visually inspect for defects
    - Rung or step connection to the side rails
    - Rivets for shear damage
    - Hardware connections
- Exposed to excessive heat such as fire
    - Visually inspect for defects
    - Use the "in-service use test" contained in the appropriate ANSI standard to test for deflection and strength characteristics.

MAINTENANCE

Regular maintenance of ladders includes:

- Inspecting for common defects such as broken rungs, split side rails, worn or broken safety feet, and oil or grease, which can make climbing surfaces difficult.

- Ensuring that any ladder with structural damage or other hazardous defect is immediately removed from service.
- Destroying ladders that cannot be safely repaired.
- Prohibit repairs such as, tying or binding with wire.
- Prohibit the painting of ladders, this can hide cracks or other weak points.

LADDER SELECTION

Portable ladders are designed as "one-man" equipment with proper strength to support the worker as well as his tools and materials. Ladders are constructed under four general classes:

- **Type 1A Industrial** – Heavy-duty with a maximum load capacity of 300 pounds.
- **Type 1 Industrial** – Heavy-duty with a maximum load capacity of 250 pounds.
- **Type 11 Commercial** – Medium-duty with a maximum load capacity of 225 pounds.
- **Type 111 Household** – Light-duty with a maximum load capacity of 200 pounds.

TRAINING

District employees will be trained to recognize ladder hazards and the procedures to minimize hazards. The competent person will train employees that use ladders in at least the following topics:

- The proper construction, use, placement, and care in handling ladders.
- The maximum intended load capacities of ladders that are used.

The District will train new employees, and retrain employees as necessary, to make sure they know and understand the content of the original training.

SILVER LAKE WATER AND SEWER DISTRICT

LOCK-OUT/TAG-OUT PROGRAM

SCOPE

This program covers the operation, service and maintenance of equipment or machines when the startup or release of stored energy could cause injury or death to an employee.

PURPOSE

The purpose of the lock-out/tag-out program is to protect all employees by means of lockout devices or tag-out devices. These devices will be attached to machines, equipment, or systems to prevent unexpected energization, startup, or release of any stored energy. This program further establishes minimum requirements to control this hazardous energy and then describes steps that must be taken whenever lock-out/tag-out is performed.

Lock-out/Tag-out rules cannot stop serious accidents by themselves. It is the District's and District employee's commitment to a safe and healthy workplace, to follow set procedures that will prevent these serious accidents. A strong lock-out/tag-out program is a positive step toward providing a safer and healthier workplace.

DEFINITION

- **Lockout**. The placement of a lockout device on an energy-isolating device, in accordance with an established procedure, ensuring that the energy isolating device and equipment cannot be operated until the lockout device is removed.
- **Lockout device**. A device such as a lock, either key or combination type, to hold an energy-isolating device in the safe position and prevents the energizing of a machine or equipment.
- **Tagout**. The placement of a tagout device on an energy-isolating device, to indicate that the energy isolating device and the equipment being controlled may not be operated until the tagout device is removed.
- **Tagout device**. A prominent warning device, such as a tag and a means of attachment, which can be securely fastened to an energy-isolating device.
- **Energy source.** Any source of electricity, mechanical, pneumatic, chemical, thermal, or other energy source.
- **Energized.** Connected to an energy source or containing residual or stored energy.

AUTHORIZATION

The Safety Officer will be responsible for the District's lock-out/tag-out program and training. All trained maintenance employees will be authorized to lock-out and or tag-out any device he or

she is working on. Apprentice and seasonal employees will not be allowed to perform lock-out/tag-out procedures.

Employees who are affected by these lock-out/tag-out procedures shall receive instruction about the significance of the lock-out/tag-out procedures. Each new employee shall receive the same type of instruction.

RULES

Any employee removing any lock-out/tag-out device that is not theirs will be subject for disciplinary action, possible unpaid leave that will be determined by the General Manager.

- All employees not involved with servicing or maintenance of any machines or valves will be notified at the end of the day or first thing in the morning on the next working day, of any lockout devices in place. Notification shall be communicated in a timely manner.

Types of machine or devices that will require lock-out/tag-out will be: electric motors in water and sewer pump stations, any electrical device at a SLWSD facility, valves on water pump stations, and valves on or in sewer pump stations. Also included are vehicles such as dump trucks, backhoes, air compressor, pumps and general hand tools. The types of energy affected will be liquids, pneumatics, hydraulics, gravity, mechanical energy, and electrocution. All authorized individuals should seek assistance from a supervisor or manager if they have questions about specific energy sources.

LOCK-OUT/TAG-OUT PROCEDURES

1. The Authorized employee shall notify any effected employees that the lock-out/tag-out system is going to be utilized.
2. If a particular piece of equipment is operating, it must be shut down by normal stopping procedures.
3. The authorized employee must operate the switch, valve, or other energy-isolating device to make sure the equipment is isolated form it's energy source. Any stored energy, such as energy found in springs, rotating flywheels, hydraulic systems or compressed air or gas line, must be dissipated or restrained by either repositioning or bleeding off.
4. The authorized employee shall lockout and tag the energy-isolating device of the equipment or machine with their assigned lock.
5. If an energy-isolating device is not capable of being locked out, the utilization of a tag-out system shall be used.
6. Where a tag cannot be affixed directly to the energy isolating device, the tag shall be located as close as safely possible to the device, in a position that will be immediately obvious to anyone attempting to operate the device.
7. After ensuring that no personnel are exposed, the authorized employee shall complete another check to make sure that all energy sources have been disconnected.
8. The authorized employee should then once again operate the on/off or operating control to make certain the equipment will not operate (return controls to off position or neutral position after test).

9. When the repair or maintenance work involves more than one employee, or many employees for more than one shift, the employees' supervisor may complete Steps 1 through 8. In this situation, when the employee comes on the job, they must be shown the lock and tag, and their name must be entered on the tag(s). No lock or tag may be removed until each employee has crossed their name off as they leave the job because their work on it is finished.

At times some equipment must be tested while maintenance or repairs are being performed. Under those conditions, the following must be performed:

1. Clear the machine or equipment of all tools and materials that are nonessential items.
2. Make sure all employees are clear of the equipment and notify them that the machine will be energized.
3. The authorized employee shall remove the lock.
4. Energize and proceed with the testing or positioning.
5. De-energize all systems and complete the shut down procedures, before continuing any additional service or maintenance.

DE-ACTIVATING/DE-PRESSURIZING SEQUENCE (HYDRAULIC - MECHANICAL, AIR, STEAM, OR SIMILAR SYSTEMS)

1. Inform the shift supervisor and/or machine/equipment operator of the work to be done.
2. Identify the root valve(s) that will shut off the above-noted systems on which the maintenance or repairs are to be performed.
3. Lock and tag out the valve(s) in the closed position. Use a large wrench when closing a large gate valve to ensure complete closing.
4. Bleed off pressure by opening all downstream pressure relief valve(s).
5. In some cases, it may be necessary to "blank off" sections of the pipe.
6. In other cases, such as mechanically driven machines or equipment, it may be necessary to use chains, wedges, key blocks, adapter pins, self-locking fasteners, or other hardware to positively isolate, block, or secure the system from stored energy.

REMOVAL OF LOCK-OUT/TAG-OUT DEVICES

The locks are to remain in each assigned person's truck housed in the glove compartment. The District Electrician's vehicle has a large assortment of lock out tag out devices.

Each effected employee shall be responsible for his or her assigned lock, and to assure that the locks are not misused. If the lock becomes damaged in any way, contact the Safety officer for a replacement lock.

The District's tag-out devices are also of uniform size and shape and when applied, they must contain the date of application, the name of the authorized employee, the equipment that is being de-energized, and the name of the employee that has installed the lock out/tag out device. Additional tags are available upon request.

PROCEDURE FOR EQUIPMENT SHUT DOWN OR LOCK-OUT

- Remove keys, set brake, or remove battery cable and tag with 50# strap information tag.
- If working under front bucket on backhoes or under box on dump truck or Vactor debris body use safety supports.
- If a vehicle is placed out of service, remove keys, and place a red tag on the steering wheel stating that it is out of service. Sign your name and date notification tag along with vehicle issue. Report problem to your supervisor.

PROCEDURE FOR GENERAL TOOLS

- Tag tool being worked on with 50# strap and information tag.

FALL PROTECTION LOCK OUT PROCEDURE FOR THE UCL HITCH MOUNT SYSTEM ON A MOTOR VEHICLE

When using the UCL hitch mount system for Confined Space Entry, complete all Confined Space forms prior to entry. The Entrant will have the vehicle keys removed from the host vehicle and placed in his pocket while the entry and procedures are completed. After the permit is cancelled and Entrant is unhooked from UCL system the keys can be placed back into the vehicle.

Perform the same procedure while using the UCL system performing Fall Protection. A tailgate safety meeting form will be used, and procedure mentioned in the topics for discussion.

REQUIRED PERIODIC INSPECTIONS

The inspections will be documented and identify:

- Machines or equipment on which the energy control procedure was used;
- Date of the inspection;
- Employees included in the inspection;
- Name of employee heading the inspection;
- Documentation of the review between the inspector and each authorized employee regarding their responsibilities under the program;
- A review of the limitations of tags with each affected and authorized employee; and
- The adequacy of the locks, tags, and other securing devices.

Periodic inspections must be done to assure that the lock-out/tag-out procedure:

- Continues to be implemented properly;
- That employees are properly performing their responsibilities;
- Continues to be effective; and
- Periodic inspections will be performed at least yearly by the administrator of the program.

TRAINING

All employees will receive initial and supplementary training as needed to understand their responsibilities under this procedure fully. The training that each employee will receive is based on their job and the machine or equipment to be locked and tagged out, and the degree of knowledge relevant to hazardous energy that the employee must possess.

- **Authorized employees**, those who are charged with the responsibility for implementing the energy control procedures and performing the service and maintenance, will be instructed in:

    - The details about the hazardous energy sources' type and magnitude present in the workplace.
    - The methods and means necessary to isolate and control those energy sources (i.e., the elements of the energy control procedure(s).
    - Each employee shall receive annual Lexipol OSHA training for lock out/tag out training.

- **Affected employees** (usually machine operators or users) and **all other employees** will be instructed in how to:

    - Recognize when the control procedure is being implemented.
    - Understand the purpose of the procedure and the importance of not attempting to start up or use the equipment that has been locked or tagged out.

SILVER LAKE WATER AND SEWER DISTRICT

PERSONAL PROTECTIVE EQUIPMENT (PPE)

POLICY

The Personal Protective Equipment (PPE) Policy aims to protect employees from exposure to workplace hazards. PPE is not a substitute for more effective control methods, and its use will be prescribed by SLWSD only when other means of protection against hazards are not adequate or feasible. SLWSD has performed PPE Hazard Assessments to determine which jobs or tasks require the use of PPE.

ROLES AND RESPONSIBILITIES

SAFETY OFFICER

The Safety Officer is responsible for developing and implementing this PPE Policy. Duties include:

- Completing PPE Hazard Assessments for all jobs or tasks that may require the use of PPE;
- Performing reviews of PPE Hazard Assessments periodically, whenever the hazards of a job or task change, or when information indicates that the PPE requirements may need adjustment;
- Selecting and purchasing required/voluntary PPE;
- Developing training on the use and care of PPE;
- Maintaining training records; and
- Periodically evaluating the effectiveness of the PPE Policy and updating as needed.

SUPERVISORS/MANAGERS

SUPERVISORS/MANAGERS are responsible for supporting and enforcing this PPE Policy. Duties include:

- Training employees on the use, limitations, and maintenance of required/voluntary PPE for their jobs or tasks upon initial assignment and as needed;
- Documenting all training and returning to the Safety Officer;
- Distributing PPE to employees and replacing defective PPE as needed;
- Enforcing the use of required PPE for all jobs or tasks in their area of responsibility;
- Enforcing the proper care and maintenance of PPE by employees in their area of responsibility; and
- Informing the Safety Officer of any deficiencies observed with the PPE Policy.

EMPLOYEES

Employers are responsible for adhering to this PPE Policy. Failure to adhere to the PPE Policy may result in disciplinary action. Duties include:

- Actively participating in training regarding required PPE;
- Following all rules regarding required/voluntary PPE, including use, maintenance, and replacement;
- Asking questions regarding PPE if anything is unclear;
- Notifying the SUPERVISOR/MANAGER of damaged, defective, or lost PPE; and

- Providing feedback to the SUPERVISOR/MANAGER and/or Safety Committee Representative regarding the effectiveness of the PPE, including appropriateness, comfort, fit, etc.

PPE HAZARD ASSESSMENTS

The Safety Officer will conduct, or appoint others to conduct, PPE Hazard Assessments to identify what PPE is required or voluntary for each job and/or task in the facility. PPE Hazard Assessments will be documented and maintained with this policy at District Headquarters.

- **SILVER LAKE WATER AND SEWER DISTRICT**
- **15205 41ST AVE SE Bothell, WA**
- Ron Berger
- **May 15, 2023, and ongoing**

The Safety Officer will review PPE Hazard Assessments:

- If the hazards of a job or task change, such as if new equipment is added, or a job process is changed to include new hazards.
- When information indicates that the PPE requirements are ineffective, such as if an employee raises a concern, or a workplace accident occurs despite the use of the prescribed PPE.
- Periodically as appropriate for the nature of the hazards and workplace.
- See Appendix III

SELECTION AND PROCUREMENT OF PPE

The Safety Officer will select and procure all PPE identified by the PPE Hazard Assessments. Care will be taken to ensure that all PPE selected is of safe design, appropriate for the work performed, and comfortable for the user. Whenever possible, multiple types and sizes of PPE will be selected to allow for the best fit for employees.

Where applicable, only PPE that meets regulatory and/or consensus standards will be procured or accepted for use. See the Table below for references:

PPE Type	Applicable Standard	Notes
Eye and Face Protection	ANSI Z87.1-1989	
Head Protection	ANSI Z89.1-1986	
Foot Protection	ASTM F2413-05	
Hearing Protection	ANSI S3.19-1974	Employers should refer to the manufacturer's Noise Reduction Rating (NRR) to determine whether hearing protection is appropriate for employee noise exposure.
Respiratory Protection	N/A	Respirators are tested and approved by NIOSH's National Personal Protective Technology Laboratory.
PPE Type	**Applicable Standard**	**Notes**

Hand Protection	ANSI 105-2016 (Cut/Puncture/Abrasion Resistance) ASTM D120 (Rubber Insulating)	Glove selection should be based on the performance characteristics of the glove in relation to the task (e.g., cut- resistant, cold/heat resistant, electrically insulative, etc.). There
	ASTM F1060-08 (Thermal Resistance)	may be applicable standards for other types of gloves.
High Visibility Garments	ANSI 107-2010	Type 3 Garments
Flame Resistant Garments	NFPA 2112 NFPA 2113	
Fall Protection	ANSI Z359.1-2016	

TRAINING

INITIAL TRAINING

All workers who are required to wear PPE will receive training before their initial assignment of duties. Training will occur during new hire orientation, when hazards change, and when a new job/task is assigned that requires PPE. Training topics will include whether the PPE is required or voluntary, as well as the proper fit, use, care, maintenance of the PPE, and its limitations.

RETRAINING

Retraining will occur whenever any of the following occurs:

- An employee demonstrates or indicates a lack of the necessary understanding, motivation, and/or skills required to use the PPE (i.e., the employee is observed failing to use the required PPE or uses PPE improperly);
- Changes to the job, task, or environment make previous training affect PPE use; or
- The selection of PPE has changed such that training on fit, use, care, maintenance, and/or limitations is different.

DOCUMENTATION

All training and retraining will be documented and include the employee's name, the trainer's name, the training's dates, and the topics covered. Records can be found electronically under the safety section.

POLICY FEEDBACK

SLWSD encourages employees to ask questions and voice concerns about our Personal Protective Equipment Policy. Employees can submit questions or concerns without fearing retaliation to the Operations Manager or anonymously by report to the General Manager .

APPENDIX I

PERSONAL PROTECTIVE EQUIPMENT (PPE)

HAZARD ASSESSMENT CERTIFICATION FORM

Conduct a walk-through of each work area and job/task being surveyed. Identify the list of work activities in the area in the first column. Next, identify the potential exposure hazard(s) of each job/task in the second column. After control measures have been exhausted, determine what PPE is required in the third column if hazards are still present. Note that PPE is not a control method and is only a last-resort safety measure. Use a separate assessment form for each job/task and work area surveyed.

EMPLOYER NAME **SILVER LAKE WATER AND SEWER DISTRICT**	**COMPLETED BY** **RON BERGER**
ADDRESS **15205 41ST AVE SE BOTHELL, WA**	**DATE** **MAY 15, 2023**
AREA(S) SURVEYED All	**JOB/TASK(S)**

*This section must be completed to meet regulatory written certification requirements.

APPENDIX II

PERSONAL PROTECTIVE EQUIPMENT (PPE)

TRAINING INFORMATION

Information that is provided during employee training should be documented. Documentation proves that training is accurate, comprehensive, and that standardized information is provided to all employees. The chart below is one method for documenting PPE training information. Employers can choose to document the information provided during training in this template if it is not already captured elsewhere.

PPE TYPE	BRAND/MODEL	FIT INSTRUCTIONS	CARE/MAINTENANCE INSTRUCTIONS
Earplugs	Moldex Pura-Fit Disposable	• Roll the earplug in between fingers until it is compressed and narrow. • Use one hand to pull the top of your ear back to open the ear canal. • Insert the earplug. • Hold the earplug in the ear canal for 10-20 seconds until it expands completely.	Foam earplugs are disposable. No ongoing care is required.
Disposable Respirator	3M N95	No fit test is required and usage is voluntary; see Respiratory Protection Program for more information.	N95 masks are disposable. No ongoing care is required.

Safety Glasses	Nemesis	One size fits all.	Wipe with clean damp cloth. Replace when lens are scratched.
Safety Harness	3M- ExoFit	Sized to each employee and are fully adjustable.	Mild detergent and hand washing is recommended. Hang to air dry.

APPENDIX III

PERSONAL PROTECTIVE EQUIPMENT

HAND PPE

POTENTIAL HAZARD	EXAMPLE/TASKS	PPE
Contamination, OPIM, non-caustic chemicals	Sewer jetting, working on machinary	Nitrile gloves, hand sanitizer
Lacerations, needle sticks, OPIM	Cutting, sewer jetting	Cut resistant gloves
Burns, elecrical burns	Welding, grinding	Welding gloves, leather gloves, FR gloves
Chemical contamination	Changing drums of sodium hypochlorite	Chemical resistant gloves
Frostbite	Replacing meters in cold weather	Cold weather gloves

FOOT/LEG/TORSO PPE

POTENTIAL HAZARD	EXAMPLE/TASKS	PPE
Crushing, puncture, lacerations	Dropping a tool, stepping on a nail	Safety toe work boots
Frostbite	Working in a wet and cold enviroment	Waterproof boots
Lacerations, burns, electrical burns	Chainsaw, grinding, electrical work, welding	Chaps, coveralls, FR pants, welding gloves/jacket

HEAD/EYE/EAR PPE

POTENTIAL HAZARD	EXAMPLE/TASKS	PPE
Hearing damage, ear drum injury	Loud equipment, branches	Ear plugs, ear muffs, Sonetics
Eye injury	Flying debris, chemicals, welding	Safety glasses, faceshield, welding helmet, chemical goggles
Head injury	Overhead hazards, moving machinary/materials/tools	Hard hat
Blinding sunlight	Sunlight in eyes	Smoke/shaded safety glasses

RESPIRATORY PPE

POTENTIAL HAZARD	EXAMPLE/TASKS	PPE
Dust inhalation	Cutting/sanding wood	N95/KN95 mask, half-mask respirators
Chemical inhalation	Painting with TNEMEC paint	Half-mask respirator
Wildfire smoke	Wildfires from Canada/Oregon/Washington/California	N95/KN95 mask, half-mask respirators

LIFTING PPE

POTENTIAL HAZARD	EXAMPLE/TASKS	PPE
Back, arm, shoulder injury	Lifting a concrete box, lifting a pump	Back brace

SUN/HEAT/COLD EXPOSURE PPE

POTENTIAL HAZARD	EXAMPLE/TASKS	PPE
Heat stress/stroke	Getting overheated and dehydrated	Sun shade, water bottle, AC
Frostbite	Frozen fingers, frozen toes	Heater, water bottle (for warm liquids)
Sunburn	Burns to skin from working in direct sun	Sun block, protective hat

SLIPS/TRIPS/FALLS PPE

POTENTIAL HAZARD	EXAMPLE/TASKS	PPE
Slipping/trips/falls	Ice, wet surfaces, extension cords, leading edge	Safety shoes, full body harness, fall arrestor/restraint

STRUCK BY/CRUSHED/CAUGHT BETWEEN/TRAFFIC PPE

POTENTIAL HAZARD	EXAMPLE/TASKS	PPE
Struck by/crushed/caught between	Vehicle, backhoe, crane, roller, loader, dump bed	Hi-viz clothing, hard hat, safety toe boots

POTENTIAL HAZARD	EXAMPLE/TASKS	PPE

POTENTIAL HAZARD	EXAMPLE/TASKS	PPE

POTENTIAL HAZARD	EXAMPLE/TASKS	PPE

SILVERLAKE WATER AND SEWER DISTRICT

PROPANE SAFETY PROCEDURES FOR FILLING TANKS

INTRODUCTION

The primary purpose of this outline is to provide basic safety knowledge of propane cylinder handling and refueling operations.

LPG is a common name for Liquid Petroleum Gas. It is clean-burning and easily maintained. It is also highly flammable and must be handled safely.

PROPERTIES AND CHARACTERISTICS OF PROPANE

- Propane burns cleanly, has a high heat value, and has a high-octane rating.
- In its natural state, propane is colorless, odorless, and non-poisonous. A pungent chemical compound is added so it can be detected by smell.
- Propane is heavier than air and can accumulate in low lying areas.
- Propane can become an asphyxiate, when its vapors reduce the amount of breathable air in a confined space.
- Propane presents a freeze burn hazard if it's cold liquid contacts unprotected skin.
- Escaping propane can create a fire and explosion hazard.
- Wear safety glasses and gloves when working with propane tanks and cylinders.
- Consult the SDS on propane for more information about its properties and safety considerations.

EMERGENCY RESPONSE TO EXPOSURE

Check the SDS for more detailed actions.

Eye

- The gas phase is not expected to cause eye irritation.
- If liquid enters eyes, contact first aid, and flush eyes for 15 minutes.

Skin

- The gas is not irritating to the skin.
- If the liquid comes in contact with the skin, it can cause frostbite or burns.
- Non-toxic to internal organs if it gets on the skin.
- Soak the affected area in tepid water to alleviate the immediate effects and get medical attention.

Inhalation

- Acts as an asphyxiate by displacement of air.
- Move the person to fresh air.

GENERAL RULES

- Forklift cylinders should be filled or changed out only by trained personnel using proper safety procedures.
- You must stay in attendance of the portable tank during the entire filling procedure.
- Contact your supervisor if you have any safety concerns.
- Wear proper gloves and eye protection when performing propane transfer activities, including connecting, disconnecting, or filling a cylinder.
- Avoid contact with liquid propane, as it can cause frostbite.

Store portable tanks secured in an upright position. Never lay a propane cylinder on its side unless it is specifically designed to do so. Forklift cylinders are designed to be horizontal – when transporting keep upright if possible or if must lay down situate cylinder like it sits on forklift with pinhole at bottom so relief valve is at top remaining in vapor space.

INSPECT THE CYLINDER PRIOR TO FILLING

- Inspect the cylinder for leaks, corrosion, denting, bulging, fire damage, or evidence of rough usage.

    - Leaning or dented valve.
    - Dirt or debris buildup inside the valve opening.
    - Worn or damaged threads.

- Inspect the cylinder for retest date. Each cylinder must be re-qualified for continued use when 12 years have elapsed for the original cylinder test date.
- Inspect the valves, valve protection (guard), and foot ring.
- Inspect the pressure relief valve and date. A new pressure relief valve must be installed within 12 years of the cylinders manufacture date and every 10 years thereafter.
- If the cylinder fails any part of this inspection, **DO NOT FILL IT** until the cylinder and/or the valve have been repaired or replaced.

FILL THE CYLINDER

Ensure that the stationary propane storage tank and related equipment are in a safe operating condition. No ignition sources, including vegetation, within 25 feet of the point of transfer. Identify the location of the emergency stop. A prominent **NO SMOKING** sign should be posted in the refueling area.

1. Open the main liquid outlet valve on the storage tank. Turn left (counter-clockwise) until it is fully open.
2. Connect the hose-end valve to the cylinder fill valve by turning it to the right (clockwise). Use adapter if necessary. When this is secure, turn on tank valve.
3. Open the fixed maximum liquid level gauge.
4. Slowly open the hose-end valve.
5. Fill only until a steady white mist of fog is first emitted from the fixed maximum liquid level gauge. **NEVER OVERFILL A PROPANE CYLINDER.**
6. Close the hose-end valve. Close the portable tank valve.
7. Close the main liquid outlet valve on the storage tank.
8. Slowly loosen the hose-end valve or loosen the bleed valve on the side of the hose. Wait until the propane stops venting and the pressure is relieved, then completely disconnect the hose-end valve.
9. Return the propane hose to its hanger and securely lock it back into place.
10. For forklifts, portable tanks must be securely strapped back onto the forklift such that they do not move.
11. A legible Occupational Health and Safety Administration (OSHA) Hazard Communication Label must be affixed to each cylinder. This is the employer's responsibility.

PROPANE FILLING PROCEDURES

SILVER LAKE WATER AND SEWER DISTRICT

INSPECT TANK

TURN ON MAIN VALVE (COUNTERCLOCKWISE)

CONNECT THE HOSE-END VALVE TO THE CYLINDER FILL VALVE

OPEN THE FIXED MAXIMUM LIQUID LEVEL GAUGE

SLOWLY OPEN THE HOSE-END VALVE

FILL UNTIL A STEADY WHITE MIST OF FOG IS FIRST EMITTED

CLOSE THE HOSE-END VALVE

CLOSE THE PORTABLE TANK VALVE

CLOSE THE MAIN LIQUID OUTLET VALVE ON THE STORAGE TANK

SLOWLY LOOSEN THE HOSE-END VALVE OR USE BLEEDER VALVE

WHEN PRESSURE IS RELIEVED, COMPLETELY DISCONNECT THE HOSE-END VALVE

RETURN PROPANE HOSE TO HANGER AND LOCK IN PLACE UNDER THE LID

LOCKED POSITION

QUESTIONS?

SILVER LAKE WATER AND SEWER DISTRICT

RESPIRATORY PROTECTION PROGRAM

VOLUNTARY USE OF RESPIRATORS

This program outlines the requirements for voluntary use of respirators, as required in the Respirator Rule **WAC 296-842-11005**. If employees only use filtering-facepiece respirators and do so voluntarily (i.e., their use is not required based on applicable hazards in the workplace), a written program is not required. However, employers must still provide these employees with the information in **Table 2** in **WAC 296-842-11005.** Voluntary uses of filtering face-piece respirators (dust masks) are also exempt from the written respiratory requirements, medical evaluations, cleaning, storage, and maintenance requirements listed.

This program applies to all employees who voluntarily choose to use a respirator. It applies to both respirators supplied by employers or brought in by employees.

It will be determined that the use of a respirator does not itself create a hazard, that the proper type of respirator has been selected for use, that the employee is medically able to use the respirator, and that the respirator is cleaned, stored, and maintained so that it does not present a health hazard.

This program does not apply to the required use of respirators or to emergency or spill use of respirators.

Our Respirator Program Administrator is:

The Respirator Program Administrator/Safety Officer is responsible for overseeing and implementing this voluntary use Respiratory Protection program.

SAFE USE

The Program Administrator will determine if there are any factors of voluntary respirator use that will create a hazard for the user. These hazards will be eliminated before use of the respirator is permitted.

SELECTION

The Program Administrator will ensure that the respirator selection is appropriate for its intended use and contaminant.

MANDATORY INFORMATION

Each employee that voluntarily uses a respirator, including filter face pieces/dust masks, will be given a copy of the Advisory Information Form (attached). If other non-English speaking employees need to be included, an interpreter will read the document to the workers.

Attached: Appendix I – (Advisory Information Form)

MEDICAL EVALUATION

Employees who voluntarily use respirators must be physically able to perform the work while using the respirator. Accordingly, the company has the responsibility of ensuring that employees are medically fit and able to tolerate the physical and psychological stress imposed by respirator use, as well as the physical stress originating from job and workplace conditions. Employees will not be allowed to wear respirators (*except filtering face pieces/dust masks*) until a licensed health care professional (LHCP) has determined that they are medically able to do so.

Any employee refusing the medical evaluation cannot use a respirator.

Every employee of this company who will voluntarily wear a respirator will be provided with a medical evaluation before they are allowed to use the respirator. Employees are first required to fill out a questionnaire provided by Concentra. Completed questionnaires are confidential and will not be reviewed by management.

If the medical questionnaire indicates to our medical provider that a further medical exam is required, this will be provided at no cost to our employees by Concentra. We will get a recommendation from this medical provider on whether or not the employee is medically able to wear a respirator.

Additional medical evaluations will be done in the following situations:

- Our medical provider recommends it.
- Our respirator Program Administrator decides it is needed.
- An employee shows signs of breathing difficulty.
- Changes in work conditions that increase employee physical stress (such as high temperatures or greater physical exertion).

RESPIRATOR STORAGE, CLEANING, MAINTENANCE AND REPAIR

Respirators will be stored so that they are protected against damage, contamination, dust, sunlight, temperature extremes, excessive moisture, and damaging chemicals. When respirators are packed or stored, the face piece and exhalation valve will be stored in a manner that prevents deformation. Each respirator will be positioned so that it retains its natural configuration.

Respirators will be cleaned and sanitized according to manufacturer's recommendations or whenever they are visibly dirty (does not apply to paper dust masks which are disposed of daily). Respirators will be cleaned according to the attached instructions.

Attached: Appendix II (Respirator Cleaning Procedures Form)

All respirators will be inspected before and after every use and during cleaning. Respirators will be inspected for damage, deterioration or improper functioning and repaired or replaced as needed. Repairs and adjustments are done by staff who are trained in respirator maintenance and repair.

RESPIRATOR TRAINING

Training is done by staff (trained in respirator maintenance and repair) before employees wear their respirators and whenever necessary to ensure respirator use does not create a hazard.

Attached: Appendix III (Respirator Training Record Form)

RECORDKEEPING

The Program Administrator will retain a copy of the LHCP's written recommendation for each employee subject to medical evaluation (not required for filtering face pieces/dust masks). Each employee's completed medical questionnaire, results of relevant medical tests, examinations, and diagnosis, etc., will be maintained by the LHCP for a period of 30 years.

APPENDIX I

ADVISORY INFORMATION FORM

Respirators protect against airborne hazards, when properly selected and used. Respirator usage that is required by DOSH or your employer is not voluntary use. With required use, your employer will need to provide further training and meet additional requirements in this chapter. DOSH recommends voluntary use of respirators when exposure to substances is below DOSH permissible exposure limits (PELs) because respirators can provide you an additional level of comfort and protection.

If you choose to voluntarily use a respirator (whether it is provided by you or your employer), be aware that **respirators can create hazards for you**, the user. You can avoid these hazards if you know how to use your respirator properly **and** how to keep it clean. Take these steps:

- Read and follow all instructions provided by the manufacturer about use, maintenance (cleaning and care), and warnings regarding the respirator's limitations.
- Choose respirators that have been certified for use to protect against the substance of concern. The National Institute for Occupational Safety and Health (NIOSH) certifies respirators. If a respirator is not certified by NIOSH, you have no guarantee that it meets minimum design and performance standards for workplace use.

A NIOSH approval label will appear on or in the respirator packaging. It will tell you what protection the respirator provides.

- Keep track of your respirator so you do not mistakenly use someone else's.
- Do **not** wear your respirator into:
    - Required use situations when you are only allowed voluntary use.
    - Atmospheres containing hazards that your respirator is not designed to protect against. For example, a respirator designed to filter dust particles will not protect you against solvent vapor, smoke, or oxygen deficiency.

APPENDIX II

RESPIRATOR CLEANING PROCEDURES FORM

STEP 1: Remove filters, cartridges, canisters, speaking diaphragms, demand and pressure valve assemblies, hoses, or any components recommended by the manufacturer.

- Discard or repair any defective parts.

STEP 2: Wash components in warm (43°C [110°F] maximum) water with a mild detergent or with a cleaner recommended by the manufacturer.

- A stiff bristle (not wire) brush may be used to help remove the dirt.
- If the detergent or cleaner does not contain a disinfecting agent, respirator components should be immersed for 2 minutes in one of the following:
    - A bleach solution (concentration of 50 parts per million of chlorine). Make this by adding approximately one milliliter of laundry bleach to one liter of water at 43°C (110°F).
    - A solution of iodine (50 parts per million iodine). Make this in 2 steps:
        - First, make a tincture of iodine by adding 6-8 grams of solid ammonium iodide and/or potassium iodide to 100 cc of 45% alcohol approximately.
        - Second, add 0.8 milliliters of the tincture to one liter of water at 43°C (110°F) to get the final solution.
    - Other commercially available cleansers of equivalent disinfectant quality when used as directed, if their use is recommended or approved by the respirator manufacturer.

STEP 3: Rinse components thoroughly in clean, warm (43°C [110°F] maximum), preferably, running water.

Note: The importance of thorough rinsing cannot be overemphasized. Detergents or disinfectants that dry on face pieces could cause dermatitis. In addition, some disinfectants may cause deterioration of rubber or corrosion of metal parts, if not completely removed.

STEP 4: Drain components.

STEP 5: Air-dry components or hand dry components with a clean, lint-free cloth.

STEP 6: Reassemble the face piece components.

- Replace filters, cartridges, and canisters, if necessary (for testing)

STEP 7: Test the respirator to make sure all components work properly.

APPENDIX III

RESPIRATOR TRAINING RECORD FORM

Employee Name (please print):

I certify that I have been trained in the use of the following respirator(s):

1.

2.

3.

4.

This training included the inspection procedures, fitting, maintenance, and limitations of the above respirator(s). I understand how the respirator operates and provides protection. I further certify that I have heard the explanation of the respirator(s) as described above and I understand the instructions relevant to use, cleaning, disinfecting and the limitations of the respirator(s).

Employee Signature: _____ Date: _____

Instructor Signature: _____ Date: _____

SILVER LAKE WATER AND SEWER DISTRICT

WILDFIRE SMOKE PLAN

Silver Lake Water and Sewer District is committed to preventing wildfire smoke-related illness in the workplace. Our policy is to ensure that all workers (employees, contractors, business entities, etc.) who may be exposed to hazardous wildfire smoke at our workplace are provided with the knowledge and tools to help prevent exposure, recognize potential smoke exposure symptoms, and provide aid when necessary.

This written program is available in the District's Safety Manual for worker access and use.

SCOPE

During the summer months, outdoor workers at Silver Lake Water and Sewer District may be exposed to wildfire smoke while on the job. This program is designed to help workers understand the hazards they may be exposed to and the mitigations that should be taken to reduce the risk of wildfire smoke-related illness. Workers are expected to follow all components of this program. This program will apply:

June 15 through September 29, when the Particulate Matter or $PM_{2.5}$ concentration is 20.5µg/m3 or higher, or Air Quality Index (AQI) is 69 or higher.

RESPONSIBILITIES

- Silver Lake Water and Sewer District will monitor air quality and determine worker exposure to $PM_{2.5}$, meaning particle matter with a diameter of 2.5 micrometers or less, or equivalent Air Quality Index (AQI), before each shift and periodically thereafter. Management and supervisors will ensure that the directives outlined in this program are met within their areas of responsibility, including carrying out each required provision at the action levels listed in the Table below.
- Management will ensure that supervisors are trained to implement all necessary controls to the operations under their jurisdiction.
- Following this program, supervisors will train workers to recognize wildfire smoke exposure symptoms, identify personal risk factors, and how to respond when exposure is suspected.

Employees will communicate with supervisors and/or management regarding any concerns or questions about wildfire smoke exposure or mitigations.

Employer Responsibilities:

Note: Employers must determine employee exposure at the beginning of the shift and periodically thereafter when employees are likely to be exposed to a $PM_{2.5}$ concentration of 20.5 µg/m3 or AQI of 69 or higher.

$PM_{2.5}$ Concentration or AQI Action Level	**Responsibilities**
$PM_{2.5}$ ≥20.5 µg/m3 or AQI ≥69	• Provide two-way communication system • Notify employees when $PM_{2.5}$ exceeds 20.5 µg/m3 or AQI exceeds 69 for two consecutive measurements • Provide filtering facepiece respirators to employees who request them • Implement exposure controls (encouraged)

$PM_{2.5}$ ≥69 µg/m3 or AQI ≥151	• Notify employees of exposure • Provide filtering facepiece respirators and encourage employees to use them • Implement exposure controls (required)
$PM_{2.5}$ ≥ 555 µg/m3 or AQI ≥500	• Notify employees of exposure • Notify employees to come back to the office for training or other indoor work • Provide full facepiece air-purifying respirators or loose-fitting powered air-purifying respirators • Implement required respirator protection plan per **WAC 296-842**

MONITORING & EXPOSURE CONTROLS

MONITORING

Silver Lake Water and Sewer District will monitor air quality and determine worker exposure to $PM_{2.5}$ and air quality index before each shift and periodically thereafter, as needed to protect the health of the workers by one of the following methods:

- U.S. Environmental Protection Agency (EPA) AirNow – web/mobile app

EXPOSURE COMMUNICATION & CONTROLS

When hazardous smoke levels are reached, Silver Lake Water and Sewer District will communicate to workers the AQI or current $PM_{2.5}$ and the control measures that will be relayed via emails to employees.

Employees can also check the air quality levels that are posted on the District Intranet Website.

Controls that will be implemented include:

- When the AQI goes above 69, employees are encouraged to wear a N95 or KN95 mask while working outdoors, (especially workers that are sensitive to smoke due to health issues).
- When the AQI reaches 82 (moderate) or up to 151 (unhealthy), employees are strongly encouraged to wear N95 and KN95 masks and limit their outdoor activities as much as possible.
- At levels above AQI 151, expect for emergencies, workers will be called back to the shop and office for indoor types of work until the air quality improves.

TRAINING

All workers will be provided with information and training regarding wildfire smoke before work begins and at least annually thereafter if they will be exposed to $PM_{2.5}$ levels of 20.5 µg/m3 (AQI 69) or more.

EMPLOYEE TRAINING

- An overview of the Wildfire Smoke Written Plan;
- District employees have access to real-time air quality information on the District's Intranet site on the Air Quality tab located on the Home Page;

- The acute and chronic health effects of wildfire smoke;
- The right to obtain medical treatment without the fear of reprisal;
- Employer mitigations to protect help protect works from wildfire smoke;
- The importance, benefits, and limitations of using a properly fitted respirator when exposed to wildfire smoke;
- N95 and KN95 Respirators are available at all times for employees for voluntary use. Employees are encouraged to wear these whenever the air quality is compromised as described in this document;
- How to properly put on, use, and maintain a respirator;
- The Safety Officer or designee will send out updates via emails throughout the day when the air quality is bad.

SUPERVISOR TRAINING

Supervisors must receive the same training that employees receive, with additions relevant to their assigned responsibilities under the Wildfire Smoke Plan.

- The procedures the supervisor must follow to implement the required controls in the Wildfire Smoke Plan; and
- The procedures the supervisor must follow if a worker exhibits adverse symptoms of wildfire smoke exposure, including appropriate emergency response procedures; and
- Procedures for moving or transporting workers to an emergency medical service provider or calling 911 if necessary.

Training records are kept at Headquarter site files.

WILDFIRE SMOKE EXPOSURE SYMPTOMS

Wildfire smoke is a mix of gases and fine particles from burning materials. Wildfire smoke can make anyone sick and can have immediate health effects, including:

- Coughing
- Trouble breathing normally
- Stinging eyes
- Scratchy throat
- Runny nose
- Irritated sinuses
- Wheezing and shortness of breath
- Chest pain
- Headaches
- Asthma attack
- Tiredness
- Fast heartbeat

Older adults, pregnant women, children, and people with preexisting respiratory and heart conditions may be more likely to get sick if exposed to wildfire smoke. If you have concerns about your risk level, please contact the Safety officer.

EXPOSURE SYMPTOM RESPONSE

Workers who display symptoms of wildfire smoke exposure must be monitored to determine whether they need medical attention or not. If the worker displays symptoms, the Safety Officer, Supervisors, or Managers will recommend the employee go to the nearest walk-in clinic for an evaluation.

PROGRAM FEEDBACK

Silver Lake Water and Sewer District encourages employees to ask questions and voice concerns about our Wildfire Smoke Plan. Employees can submit questions or concerns without the fear of retaliation to the District's General Manager or Operations Manager.

DISCLAIMER: The information in this document is provided for guidance purposes only. It should not be construed as legal advice and is not intended to be a substitute for legal counsel. Employers must review safety programs regularly and comply with workplace safety and health codes.

SILVER LAKE WATER AND SEWER DISTRICT

WORK ZONE TRAFFIC CONTROL PLAN, LOCATOR SAFETY, AND INDEPENDENT WORKER SAFETY

PURPOSE

Being consistent with providing a safe and healthy workplace and realizing that working on streets and in right-of-ways can pose a serious threat to employee and public safety, the Silver Lake Water and Sewer District has adopted this Work Zone Traffic Control Plan.

Effective temporary traffic control must provide for the safety of employees, road users, and pedestrians. At the same time, it must simultaneously provide for the efficient completion of the task at hand.

During the time of work, normal function of the roadway is suspended. Temporary traffic control planning must provide for continuity of function (movement of traffic and access to District facilities needing attention).

GOALS AND RESPONSIBILITIES:

There are primarily two goals to proper traffic control:

- To make the work zone **SAFE;**
- To allow the traffic to move safely.

What this means to each worker is that they should be constantly and continuously alert to assure that they can complete their job safely while at the same time, allow for both pedestrian and vehicular traffic to move through the work area easily and safely.

All field employees involved with temporary traffic control shall receive training appropriate to the job decisions each employee is required to make. The District will provide adequate training in safe traffic control practices including an understanding of the principles established by all applicable standards and regulations, including those of the Manual for Uniform Traffic Control Devices (MUTCD). Only those employees with such training should supervise the selection, placement, and maintenance of traffic control devices.

SLWSD shall provide all crews with the training and equipment to erect safe and legal work zones. The supervisor and employee shall use that training and equipment to maintain the safe work zone.

Individuals who are trained and have maintained their certification as a competent person in the principles of safe traffic control shall be assigned responsibility for traffic safety. The

most important duty of the trained individual is to ensure that all traffic control elements of the project are in conformity with the traffic control plan and are effective in providing safe conditions for motorist, pedestrians, and employees.

APPLICATION OF STANDARDS:

Since it is not practical to prescribe detailed standards of application for all the situations that may conceivably arise, the MUTCD covers a minimum standard for the most common situations. It is emphasized that these are minimum desirable standards for normal situations and that additional protection must be provided whenever special complexities or hazards prevail. Adequate protection for each situation shall be based upon the speed and volume of traffic, duration of operation, and exposure to hazards.

Although each situation must be dealt with individually, conformity with the provisions established by the MUTCD is required. In particular situations not adequately covered by the Manual, the protection of the employees, traveling public and pedestrians on the scene shall dictate the measures to be taken consistent with the general principles of the MUTCD.

Early project planning for traffic control is very important. To facilitate adequate advance project planning, whenever possible, the plans and specifications should include provisions for a reasonable specific traffic control plan for moving traffic through the work zone in a manner that is conducive to the safety of all those involved. This pre-planning should include, but not be limited to, application and placement of signs, cones and other devices, traffic loads, speeds, and regulations.

FUNDAMENTAL PRINCIPLES:

Traffic safety in a work zone should be an integral part and a high-priority element of every project from planning through the design and construction phases.

The goal should be to direct traffic through such areas by using traffic control devices to safely maintain the continuity of traffic flow as near as possible to normal highway situations.

A Traffic Control Plan is detail appropriate to the complexity of the work project, and should be prepared and understood by all those involved before the site is occupied.

Traffic shall be inhibited as little as practical. Traffic control should be based on the assumption that a motorist will only reduce their speed if they clearly perceive the need to do so.

Frequent and abrupt changes in geometric features, such as lane changes or transitions that may require sudden maneuvers, should be avoided.

Construction time should be minimized, to reduce exposure to potential hazards.

Motorists should be guided in a clear and positive manner while approaching and navigating the work zone using adequate warnings, delineations, channelization, signage, or other effective devices.

Flagging procedures, when used, can provide positive guidance to motorists passing through the work area. Flagging should only be employed when required to control traffic or when all other methods of traffic control are inadequate to warn or direct drivers.

All traffic control devices shall be removed immediately when no longer needed.

All traffic control devices shall comply with and follow standards as outlined in MUTCD and be maintained in good condition.

TRAINING

Each person, including managers and supervisors, whose actions affect the management of the work zone, shall receive training appropriate to the job decisions each individual is required to make. Only those individuals, who are qualified by means of adequate training in safe traffic control practices and have a basic understanding of the principles established by applicable standards and regulations, including those of the MUTCD, should supervise the selection, placement, and maintenance of traffic control devices in the work zone.

All District crew members shall receive training to achieve flagger certification every three years. In addition, yearly OSHA training is provided.

All State Highways and some major County roadways require a Traffic Control plan. These plans will be reviewed with crew personnel prior to performing work on the roadway.

BEST PRACTICES FOR LOCATOR SAFETY WHILE WORKING ON THE ROADWAYS

MANAGEMENT COMMITMENT

Clear demonstrated commitment on behalf of management regarding allocating resources for implementing the best practices, accountability, training, and personal protective equipment.

DESIGNATION OF RESPONSIBILITY

A Certified Flagger/Utility Locator will be designated for the job. He/she will be knowledgeable in traffic control and safety.

WORKSITE EVALUATION

Prior to performing work, the Locator will identify the work location, posted speed limit, traffic volume and pattern, the type of work to be performed at the location, and the potential impact on the traffic pattern and times and duration of work. If a Worksite Evaluation Form is needed, a competently trained person should be called in to assist.

A Workplace Evaluation Form should be filled out if the posted speed limit is 35 mph and above. Also, at intersections and any other traffic areas that require additional personnel.

The use of a Workplace Evaluation Form is typically not needed in most residential areas. However, the situation could change, due to school zones or construction zones.

A Competent Person will select appropriate traffic control measures, based on job site evaluation.

NOTE: For flagging operations, refer to WAC 296-155-305.

See Exhibit "A" for Traffic Work Evaluation form.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

The Competent Person will ensure that the appropriate Personal Protective Equipment (PPE) has been selected and used by employees. **ALL SITE WORKERS** will wear:

- High-Visibility Safety Apparel in accordance with ANSI/ISEA-1999;
- Other PPE, such as hard hats with reflective tape, steel toe boots, reflective gloves, and other gear as required.

BEST PRACTICES WHILE METER READING, PERFORMING SHUTOFFS, SERVICE ORDERS, SAMPLING AND OTHER INDEPENDENT TYPE OF WORK TASKS

- Make yourself aware of your surroundings when performing the above tasks.
- Always wear a high visibility vest or jacket when working along roadways and in the right-of-way along with any other PPE (Personal Protective Equipment).
- Use the strobe lights and emergency flashers when stopping and leaving your vehicle while performing tasks.
- When parking along a roadway, make sure to park with the direction of the traffic. If parking in the opposite direction of traffic flow, make sure to have a spotter available to help you merge back into the traffic flow.

Safety Measures While Working in Meter Boxes or Vaults

- Be aware of aggressive dogs and potential dog bites. If unsure of the animal, call the office and see if there is a customer phone contact to call and arrange to have the dog detained while crews perform work. If no phone number is attainable, leave a door hanger for the customer if possible.
- Be aware of aggressive people encountered while working solo and have an escape route in mind if needed. Report to 911 if you feel threatened and call your supervisor.
- Be aware of possible spiders, snakes, rodents, and other insects that could potentially cause harm when reaching into a meter box. Wear appropriate gloves as a protective measure.
- Be aware of all overhead types of hazards such as low-hanging tree branches and customer vehicles or devices.
- Be aware of discarded syringes before performing work in meter boxes.
- Be aware of glass shards from broken meter registers or other types of material that could puncture the skin.
- Be aware of possible unknown chemicals either in containers or permeating the soil in your work area.
- Be aware while working in older areas of the District, the possibility of customer side metal water line piping, and home power grounding to these pipes. Use of jumper cables to ground the line before removing the meter is recommended.

Safety Measures While Working in Meter Vaults

- Complete a Tailgate Safety Meeting Form.
- Test the atmosphere before entering and monitor air quality while in the vault.
- Comply with all Fall Protection requirements and use protection when needed.
- Use a top man and open all the “Bilco” style lids when performing work.
- For manhole-style vaults, refer to the Confined Space section of the Safety Manual and follow procedures and forms.

TRAINING

Employees will receive training that addresses, at a minimum, the hazards associated with work zone operations, recognition and identification of the hazards and the methods to be used to protect themselves from the hazards. This training will also address the potential hazards while performing independent types of work tasks in the public right-of-way.

NOTE: This training may be provided by the qualified person(s).

"Qualified" means one who, by possession of a recognized degree, certificate, or professional standing, or who by extensive knowledge, training, and experience, has successfully demonstrated their ability to solve or resolve problems relating to the subject matter, the work, or the project.

WAC 296-155-012 Definitions are applicable to all sections of this chapter.

Forms Appendix

Silver Lake Water & Sewer District

SAFETY ORIENTATION

EMPLOYEE NAME_____ **DATE**_____

☐ **PPE (Personal Protective Equipment)**

- Steel Toe boots;
- Hard hat;
- Safety glasses;
- Safety vest;
- Gloves (leather and other).

☐ **Back Injury**

- Team lift;
- Planned lifts;
- Use legs and good form when lifting.

☐ **Bloodborne Pathogens**

- Always use Universal Precautions;
- Go over Hepatitis Vaccinations;
- Provide dates of Immunization if available.

☐ **Confined Space Entry**

- Training to occur yearly.

☐ **Defensive Driving Program**

- Seat Belts are Mandatory;
- No talking on cell phones unless you have a hands-free device;
- No texting while driving a vehicle;
- Obey all posted speed limits and be aware of school zones;
- If anything gets damaged on a vehicle you are operating, report immediately to your supervisor.

☐ **Excavation Safety**

- Follow crew instructions and wear all PPE;
- Pay attention to backup alarms and stay clear of large equipment.

☐ **Hearing Conservation**

- Always use protection, go overuse of disposable plugs. Earmuffs are available.

☐ **Lock out/Tag out**

☐ **Heat Stress**

- Always drink an ample amount of water during the day, especially in the summer season;
- Take breaks during the day to cool down and to prevent overheating on hot days;
- Use the vehicles air conditioning to assist in cooling down if you feel overheated;
- Know the signs of Heat Exhaustion and Heat Stroke;
- A District issued water bottle (32 oz) will be assigned to you. Put your name on it and use it daily.

☐ **SDS**

- Go over binders and how to use.

☐ **Personal Safety**

- Keeping yourself safe in all situations.

☐ **Work Zone/Traffic Control**

☐ **Independent Work Safety**

- While working in meter boxes or doing individual tasks, follow all safety precautions. Go over manual section.

☐ **Fire Safety**

- Should a fire alarm go off at any of the Headquarter Buildings, evacuate the premise immediately. Meet at the south parking lot, next to the Fire Hydrant.

☐ **Safety Meetings**

- Attend each month with the crew or as needed or required;
- Tailgate Safety meetings are held daily on crew projects.

☐ **Sick Leave**

- Email the "Operations Supervisors" to let them know you are sick or provide them a text message;
- Fill in a Request for time off (see slips in Lead offices), submit to your direct supervisor.

☐ **Vacation**

- Submit vacation requests as soon as you know your dates. Try to give advance notice for supervisors to schedule your time off.

☐ **Workday**

- 8:00 a.m. start time first day for orientation (Safety, IT, and Finance);
- 7:00 a.m. start time and 3:30 p.m. end day, or 8:00 a.m. – 4:30 p.m. each day;
- 9/80 Flex Schedule available to Full Time Field staff;
- 30-minute lunch break each day, usually around noon or when crew observes time; lunchrooms are available at both HQ site and old 132nd Street Site;

- A non-scheduled 10-minute break is available to each employee in the morning and afternoon.

☐ **Timecards**

- You are responsible to keep your timecard filled in and up to date. Turn timecard in to your immediate supervisor at the end of the month, for review. Lucity records the timecards.

☐ **Job Duties**

- See your direct supervisor for daily assignments.

☐ **Flagging / CPR, First Aid, AED / Forklift Cert Dates**

Employee Signature_____**Print**_____

Supervisor Signature_____**Print**_____

Date_____

Notes or Comments_____

_____

_____

Silver Lake Water & Sewer District

Employee Injury Report

Shaded Area for Supervisors Only

Employee's Last Name		First Name		Middle Initial
Street Address		City	State	Zip
Department	Hire Date	Age	Sex □ Male □ Female	Social Security Number	Marital Status □ Single □ Married
Number of Dependants		Today's Date	Position	□ Regular □ Intermittent/FTE:__ □ Temporary
Date of Injury	Time of Injury	Time Lost	Address Where Injured	
Name(s) of Patient/Witness			Direct Supervisor	

Describe Accident (include equipment, object, or substance involved)-**GIVE FULL DETAILS**

PART OF BODY		**TYPE OF INJURY**	**SEVERITY OF INJURY**
□ 01 Head	□ 11 Hand	□ 01 Wound	□ 01 Incident-Non Recordable
□ 02 Eyes	□ 12 Finger	□ 02 Sprain/Strain	□ 02 Treat & Return to Work
□ 03 Nose	□ 13 Leg	□ 03 Hernia	□ 03 Restricted Work Activity
□ 04 Mouth	□ 14 Foot	□ 04 Fracture	□ 04 Lost Work Days Only
□ 05 Ear	□ 15 Toes	□ 05 Amputation	□ 05 Temporary Transfer
□ 06 Shoulder	□ 16 Internal	□ 06 Infection, Disease Exposure	□ 06 Permanent Transfer
□ 07 Back	**MULTIPLE INJURIES**	□ 07 Burns	□ 07 Termination
□ 08 Chest	□ 17 Head	□ 08 Irritations	□ 08 Fatality
□ 09 Arms	□ 18 Upper Body	□ 09 Asphyxiation	
□ 10 Wrist	□ 19 Lower Body	□ 10 Tendonitis	

Describe Any Related Unsafe Acts:	Describe Any Related Unsafe Conditions:
Was An Unsafe Act Committed?	Were Conditions Unsafe?

What, if anything, could you have done to prevent this accident?

What, if anything, can you do to prevent a similar accident?

INJURED EMPLOYEES SIGNATURE:	**SUPERVISOR SIGNATURE:**

WAS THIS ACCIDENT REPORTED TO THE DEPARTMENT OF LABOR AND INDUSTRIES?

□ YES □ NO Date Reported: ___/___/____

NOTES:

SILVER LAKE WATER AND SEWER DISTRICT TAILGATE SAFETY MEETING

DATE OF WORK	TIME		DURATION OF JOB	FORM FILLED IN BY

ADDRESS OF WORKSITE

TYPE OF WORK PERFORMED (CHECK ALL THAT APPLY)

□ CONFINED SPACE ENTRY
□ EXCAVATION SAFETY
□ ELECTRICAL SAFETY
□ FLUSHING
□ FLAGGING EVENT
□ VEGATATION MANAGEMENT (BOOM MOWER)
□ VACTOR TRUCK (SEWER CLEANING)
□ PUMP WORK/REMOVAL
□ RIGGING/CRANE WORK
□ WATER MAIN SHUTDOWN
□ EROSION CONTROL
□ LIFT STATION
□ RESERVOIR

□ Other Types of Work Performed

SAFETY TOPIC OF DISCUSSION (CHECK ALL THAT APPLY)

□ AIR MONITORING
□ CONFINED SPACE ENTRY PROCEDURES
□ FALL PROTECTION
□ HYDRO EXCAVATOR SAFETY
□ LOCK OUT/TAG OUT
□ PEDESTRIAN SAFETY
□ PPE (PERSONSAL PROTECTIVE EQUIPMENT)
□ OVERHEAD HAZARDS
□ TRAFFIC CONTROL
□ HEAT STRESS
□ HYPOTHERMIA
□ LIGHTING
□ COMMUNICATION EQUIPMENT
□ WALK AROUND INSPECTIONS
□ TRAFFIC SAFETY

□ Other Safety Topics Discussed

EMPLOYEE SIGNATURE	EMPLOYEE PRINT NAME

WORK SITES (CHECK ALL THAT APPLY)

SEWER

- ☐ STATION #2, 11610 51ST AVE SE
- ☐ STATION #3, 6231 134TH PLS SE
- ☐ STATION #4, 10500 35TH AVE SE
- ☐ WOODLANDS NORTH, 4011 102ND PL SE
- ☐ WOODLANDS EAST, 4101 105TH PL SE
- ☐ PIONEER TRAILS, 3501 125TH PL SE
- ☐ 164TH STREET STATION, 16331 35TH AVE SE
- ☐ CREEKSIDE, 12400 58TH ST SE
- ☐ 180TH STATION, 3917 180TH ST SE
- ☐ THE POINT, 10607 45TH AVE SE
- ☐ HIGHLANDS 1, 12811 66TH AVE SE
- ☐ HIGHLANDS 2, 12400 68TH AVE SE
- ☐ SILVER FIRS, 15412 52ND AVE SE
- ☐ VALMONT, 3807 99TH ST SE
- ☐ BRASSWOOD, 8028 East Lowell-Larimer RD
- ☐ SECTOR #7, 7704 132ND PL SE
- ☐ WALDENWOOD, 10900 51ST AVE SE
- ☐ THOMAS LAKE, 3915 138TH ST SE
- ☐ LARIMER 1, 5314 LOWELL-LARIMER RD
- ☐ LARIMER 2, 6002 LOWELL-LARIMER RD
- ☐ HIGHLANDS EAST, 12601 71st Drive SE

WATER

- ☐ MASTER METER #1, 2100 100TH ST SE
- ☐ MASTER METER #2
- ☐ MASTER METER #3, Peters Place/Freeway Place
- ☐ MASTER METER #4, 7429 CATHCART WAY
- ☐ MASTER METER #5, 14932 SNOHOMISH CASCADE DR SE
- ☐ MASTER METER #6, 12411 SEATTLE HILL RD
- ☐ MASTER METER #7, 7809 132ND ST SE
- ☐ MASTER METER #8, 3917 180TH ST SE
- ☐ PRV WEST, 14931 67TH AVE SE
- ☐ PRV EAST, 5905 153RD PL SE

RESERVOIR SITES

- ☐ RESERVOIR #2, 6804 152 ST SE
- ☐ RESERVOIR #3, 2305 100TH ST SE
- ☐ RESERVOIR #4, 2220 132ND ST SE

OTHER SITES

- ☐ DISTRICT OFFICE, 15205 41ST AVE SE
- ☐ OLD OFFICE SITE (O&M WEST), 2210 132ND ST SE
- ☐ CLEARVIEW PUMP STATION, 8114 64TH ST SE
- ☐ CATHCART LANDFILL, 8915 CATCART WAY SE

Silver Lake Water & Sewer District

ARC WELDING/OXY FUEL WELDING
SAFETY AUTHORIZATION FORM

Name of Employee: _____ _____
(PRINT) **(SIGNATURE)**

Date of Training: _____

Time of Training: _____

Topics Covered;

□ Stick Welding
□ Oxy Fuel Welding
□ MIG Welding
□ Plasma Cutter
□ PPE Covered
□ Cylinder Change-out Procedure

Name of Trainer/Trainers Authorizing Employees:

_____ _____
(PRINT) **(SIGNATURE)**

_____ _____
(PRINT) **(SIGNATURE)**