Berkeley Cement, Inc.

INJURY - ILLNESS PREVENTION PROGRAM

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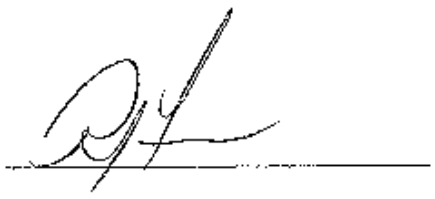
Policy Statement on Safety

The safety and health of each Berkeley Cement Inc. employee is of primary importance to us. As a company, we are committed to maintaining a safe and healthful working environment. Management will provide all necessary safeguards, programs, and equipment required to reduce the potential for accidents and injuries.

To achieve this goal, we have developed and implemented a comprehensive Safety Manual and Injury and Illness Prevention Program (IIPP). This program is designed to prevent workplace accidents, injuries, and illnesses. A complete copy of the program is maintained at our corporate office. A copy is also maintained at each job site. You may ask to review it at any time. A copy of relevant portions of the program, that are applicable to your job, will also be provided to you. You may also contact Our Safety Coordinator if you have any questions or concerns.

It is the intent of Berkeley Cement to comply with all laws relating to occupational safety and health. To accomplish this, we require the active participation and assistance of all employees. The policies and procedures contained in the following manual are mandatory. You should also be constantly aware of conditions in all work areas that can produce injuries or illness. No employee is required to work at a job that he or she knows is not safe. Never hesitate to inform your foreman or supervisor of any potentially hazardous situation or condition that is beyond your ability or authority to correct immediately. No employee will be discriminated against for reporting safety concerns to management.

It is the responsibility of each employee to support the company safety program and to perform in a manner that assures his or her own personal safety and the safety of others, including customers, visitors and other trades. To be successful in our endeavor, all employees on every level must adopt proper attitudes towards injury and illness prevention. We must also cooperate in all safety and health matters, not only between management and employees, but also between each employee and his or her respective coworkers. Only through such an effort can any safety program be successful. Our objective is a safety and health program that will reduce the total number of injuries and illnesses to an absolute minimum. Our ultimate goal is zero accidents.



Ron Fadelli, Jr., President

Duties and Responsibilities for Safety

A successful Safety and Injury and Illness Prevention Program can only be achieved and maintained when there is active interest, participation, and accountability at all levels of the organization. To ensure this, Berkeley Cement Inc., delegates the following safety duties by job title. Please keep in mind that this is not an all-inclusive list. All employees of Berkeley Cement Inc. must comply with the safe work practices. In some cases employees will need to perform safety duties outside their regular responsibilities to prevent accidents.

Executive management must plan, organize, and administer the program by establishing policy, setting goals and objectives, assigning responsibility, motivating subordinates, and monitoring results. Our Safety Director will support and maintain an ongoing Safety and Injury and Illness Prevention Program through the following:

1. Providing clear understanding and direction to all management and union employees regarding the importance of safety through the development implementation, monitoring and revision of policy and procedures.

2. Providing financial support for the Injury and Illness Prevention Program through the provision of adequate funds for the purchase of necessary safety materials, safety equipment, proper personal protective equipment, adequate time for employee safety training, and maintenance of tools and equipment.

3. Overseeing development, implementation, and maintenance of the IIPP and other required safety programs.

4. Maintaining a company commitment to accident prevention by expecting safe conduct on the part of all managers, superintendents, foremen and employees.

5. Holding all levels of management and employees accountable for accident prevention and safety.

6. Reviewing all accident investigations to determine corrective action.

Project Managers and Estimators are in a position to anticipate hazards and help prevent safety problems before they occur. They will support our Safety and & Injury and Illness Prevention Program through the following:

1. Anticipating job hazards prior to the commencement of work at any site.

2. Ensuring the provision of adequate safety equipment for all jobs.

3. Communicating expected safety problems or unique hazards to the foreman and superintendent.

4. Providing for necessary equipment and safety precautions in all bids.

5. Requiring all subcontractors to comply with applicable local, state, and federal safety regulations.

6. Clarifying safety responsibilities from the contract documents, and assuring that all individuals and subcontractors follow rules and fulfill their job responsibilities.

Superintendents play a key role in the prevention of accidents on the job. They have direct contact with the foremen and trades and know the safety requirements for various jobs. Safety responsibilities for superintendents include:

1. Holding foremen accountable for safety.

2. Enforcing safe work practices among all employees.

3. Correcting all unsafe acts and conditions which could cause accidents.

4. Verifying corrective action has been taken regarding safety hazards and accident investigations.

5. Conducting periodic documented inspections of the job sites to identify and correct unsafe actions and conditions which could cause accidents.

6. Investigating all injuries and accidents to determine their cause and potential corrective action.

7. Acting as a leader in company safety policy and setting a good example by following all safety rules.

8. Assisting the foreman in dealing with safety issues created by other contractors on the job site.

9. Become familiar with local, state, and federal safety regulations. Our Safety Coordinator is available for assistance.

10. Assuring that toolbox meetings are held with all employees, and the proceedings are recorded on the company form. A copy shall be sent to the office.

Foremen have the greatest influence on motivating employees to work safely and should control unsafe acts or conditions. They have the most daily contact with the employees and have direct control over the job site. Foremen will:

1. Train all new and existing employees in proper safety procedures and the hazards of the job.

2. Instruct all employees, under their supervision, in safe work practices and job safety requirements.

3. Hold tailgate safety meetings with employees.

4. Make sure employee proficiency when assigning work requiring specific knowledge, special operations or equipment.

5. Ascertain that all machinery, equipment, and tools are maintained in safe working condition and operate properly.

6. Enforce all safety rules in the Code of Safe Practices and ensure safe work procedures.

7. Conduct daily inspections of the work area for unsafe actions or conditions.

8. Correct unsafe acts and conditions which could cause accidents.

9. Communicate with all employees about safety and accident prevention activities.

10. Enforce the wearing of personal protective equipment on the job. This will depend on the circumstance and may include: back support belts, cut resistant gloves, respirators, etc.

11. Correct the cause of any accident as soon as possible.

12. Act as a leader in company safety policy and set a good example by following all safety rules.

13. Ascertain that proper first aid and fire-fighting equipment is maintained and used when conditions warrant its use.

14. Maintain good housekeeping conditions at all times.

15. Investigate all injuries and accidents to determine their cause and potential corrective action.

16. Ascertain that all injuries involving our employees that require medical attention are properly treated and promptly reported to the office.

17. Locating the nearest hospital or medical facility and posting emergency numbers near all phones.

Our Safety Director acts as a safety resource for the company and is responsible for maintaining program records. They will also be our primary person to deal with outside agencies regarding the safety program and its contents.
Additional duties include:

1. Coordination of all loss prevention activities as a representative of management. Act as a consultant to management in the implementation and administration of the Safety Program.

2. Develop and implement loss prevention policies and procedures designed to insure compliance with the applicable rules and regulations of all federal, state, and local agencies.

3. Review all accident reports to determine cause and corrective actions.

4. Conduct periodic reviews of the program and job sites to evaluate performance, discuss problems and help solve them.

5. Consult with representatives of our insurance companies in order that their loss control services will support the Safety Program.

6. Review Workers' Compensation Claims. Help supply the insurance carrier with information about injured employees in order to keep loss reserves as low as possible.

Every employee is responsible for working safely, both for self-protection and for protection of fellow workers. Employees must also support all company safety efforts. Specific employee safety responsibilities include:

1. If you are unsure how to do any task safely, ask your foreman.

2. Read and abide by all requirements of the Safety Manual and Injury and Illness Prevention Program (IIPP).

3. Know and follow the Code of Safe Practices and all company safety policies and rules.

4. Wear all required personal protective equipment.

5. Report all accidents and injuries, no matter how minor, to your supervisor immediately.

6. Do not operate any equipment you have not been trained and authorized to use.

7. Report any safety hazards or defective equipment immediately to your supervisor.

8. Do not remove, tamper with or defeat any guard, safety device or interlock.

9. Never use any equipment with inoperative or missing guards, safety devices or interlocks.

10. Never possess, or be under the influence of alcohol or controlled substances while on the premises.

11. Never engage in horseplay or fighting.

12. Participate in, and actively support, the safety program.

Employee Safety Training

California law requires that employees be trained in the safe methods of performing their job. Berkeley Cement is committed to instructing all employees in safe and healthful work practices. Awareness of potential hazards, as well as knowledge of how to control them, is critical to maintaining a safe and healthful work environment and preventing injuries. To achieve this goal, we will provide training to each employee on general safety issues and safety procedures specific to that employee's work assignment.

Every new employee will be given instruction by their foreman in the general safety requirements of their job. A copy of our Code of Safe Practices shall also be provided to each employee. Tailgate or toolbox safety meetings will be conducted at least every 10 working days. All training will be documented on the forms provided.

Managers, superintendents and foremen will be trained at least twice per year on various accident prevention topics.

Training provides the following benefits:

- Makes employees aware of job hazards
- Teaches employees to perform jobs safely
- Promotes two way communication
- Encourages safety suggestions
- Creates interest in the safety program
- Fulfills Cal/OSHA requirements

Employee training will be provided at the following times:

1. All new employees will receive a safety orientation their first day on the job.

2. All new employees will be given a copy of the Code of Safe Practices and required to read and sign for it.

3 . All field employees will receive training at tailgate or toolbox safety meetings held at the job site.

4. All employees given a new job assignment for which training has not been previously provided will be trained before beginning the new assignment.

5 . Whenever new substances, processes, procedures or equipment which represent a new hazard are introduced into the workplace.

6. Whenever Berkeley Cement is made aware of a new or previously unrecognized hazard.

7. Whenever management believes that additional training is necessary.

8. After all serious accidents.

9. When employees are not following safe work rules or procedures.

Training topics will include, but not be limited to:

- Employee's safety responsibility
- General safety rules
- Code of Safe Practices
- Safe job procedures
- Use of hazardous materials
- Use of equipment
- Emergency procedures
- Safe lifting and material handling practices
- Use of boom and scissors lifts
- Use of fall protection
- Contents of safety program

Documentation of Training

All training will be documented on one of the applicable Berkeley Concrete Inc. forms and/or online.

SUBSTANCE ABUSE POLICY

It is the policy of Berkeley Concrete Inc. to provide a safe working environment for our employees and others who are doing business with us. To assure safety of employees and others doing business with BCI, protect property and foster efficient operations, Berkeley Concrete Inc has a substance abuse policy.
All employees are prohibited from selling, possessing, using or being under the influence of illegal drugs or alcohol on company premises or jobsites. No one will be allowed on company premises or jobsites or to perform company business while under the influence of alcohol or drugs which impact on an employee's performance on the job. Employees may maintain on company premises and locations prescription drugs and "over the counter" medications which will not impair an employee's ability to work safely.
Each employee will be required to read the Berkeley Cement Inc. Drug and Alcohol policy prior to starting work.

Safety Communication

This section establishes procedures designed to develop and maintain employee involvement and interest in the Safety Manual and IIPP. These activities will also ensure effective communication between management and employees on safety related issues which is of prime importance to Berkeley Cement. The following are some of the safety communication methods that may be used:

1. Tailgate or toolbox safety meetings with employees that encourage participation and open, two-way communication.

2. New employee safety orientation and provision of the Code of Safe Practices.

3. Provision and maintenance of employee bulletin boards discussing safety issues, accidents, and general safety suggestions.

4. Written communications from management or our Safety Director, including memos, postings, payroll stuffers, and newsletters.

5. Anonymous safety suggestion program.

Employees will be kept advised of highlights and changes relating to the safety program. The Foremen shall relay changes and improvements regarding the safety program to employees, as appropriate. Employees will be involved in future developments and safety activities, by requesting their opinions and comments, as necessary.

All employee-initiated safety related suggestions shall be properly answered, either verbally or in writing, by the appropriate level of management. Unresolved issues shall be relayed to President.

All employees are encouraged to bring any safety concerns they may have to the attention of management. Berkeley Cement Inc. will not discriminate against any employee for raising safety issues or concerns. BCI employees can report safety hazards without fear of reprisal.

Berkeley Cement also has a system of anonymous notification whereby employees who wish to inform the company of workplace hazards without identifying themselves may do so by phoning or sending written notification to the following address:

Ron Fadelli, Jr., President
Berkeley Cement, Inc.
1200 Sixth Street
Berkeley, CA 94710
510-525-8175

Enforcement of Safety Policies

The compliance of all employees with the Berkeley Cement Safety Manual and IIPP is mandatory and shall be considered a condition of employment.

The following programs will be utilized to ensure employee compliance with the safety program and all safety rules.

- Training programs
- Retraining
- Disciplinary action
- Optional safety incentive programs

Training Programs

The importance of safe work practices and the consequences of failing to abide by safety rules will be covered in the New Employee Safety Orientation and at tailgate and toolbox safety meetings. This will help ensure that all employees understand and abide by Berkeley Cement safety policies.

Retraining

Employees that are observed performing unsafe acts or not following proper procedures or rules will be retrained by their foreman or supervisor. A Safety Contact Report may be completed by the supervisor to document the training. If multiple employees are involved, additional safety meetings will be held.

Safety Incentive Programs

Although strict adherence to safety policies and procedures is required of all employees, the company may choose to periodically provide recognition of safety-conscious employees and projects through a safety incentive program.

Disciplinary Action:

The failure of an employee to adhere to safety policies and procedures established by Berkeley Cement can have a serious impact on everyone concerned. An unsafe act can threaten not only the health and wellbeing of the employee committing the unsafe act but can also affect the safety of his/her coworkers and customers. Accordingly, any employee who violates any of the company's safety policies will be subject to disciplinary action.

Note: Failure to promptly report any on-the-job accident or injury, on the same day as occurrence, is considered a serious violation of the Company's Code of Safe Practices. Any employee who fails to immediately report a work-related accident or injury, no matter how minor shall be subject to disciplinary action.

Employees will be disciplined for infractions of safety rules and unsafe work practices that are observed, not just those that result in an injury. Often, when an injury occurs, the accident investigation will reveal that the injury was caused because the employee violated an established safety rule and/or safe work practice(s). In any disciplinary action, the foreman should be cautious that discipline is given to the employee for safety violations, and not simply because the employee was injured on the job or filed a Workers' Compensation claim.

Violations of safety rules and the Code of Safe Practices are to be considered equal to violations of other company policy. Discipline for safety violations will be administered in a manner that is consistent with the Berkeley Cement system of progressive discipline. If, after training, violations occur, disciplinary action will be taken as follows:

1. Oral warning. Document it, including date and facts on the "Safety Contact Report" form. Add any pertinent witness statements. Restate the policy and correct practice(s).

2. Written warning. Retrain as to correct procedure/practice.

3. Written warning with suspension.

4. Termination

As in all disciplinary actions, each situation is to be carefully evaluated and investigated. The particular step taken in the disciplinary process will depend on the severity of the violation, employee history, and regard to safety. Foremen and superintendents should consult with the office if there is any question about whether or not disciplinary action is justified. Employees may be terminated immediately for willful or extremely serious violations. Union employees are entitled to the grievance process specified by their contract.

Note: You must be consistent in the enforcement of all safety rules.

Hazard Identification and Evaluation

To assist in the identification and correction of hazards, Berkeley Cement has developed the following procedures. These procedures are representative only and are not exhaustive of all the measures and methods that will be implemented to guard against injury from recognized and potential hazards in the workplace. As new hazards are identified or improved work procedures developed, they will be promptly incorporated into our Safety Manual. The following methods will be utilized to identify hazards in the workplace:

- Loss analysis of accident trends
- Accident investigation
- Employee observation
- Employee suggestions
- Regulatory requirements for our industry
- Outside agencies such as the fire department and insurance carriers
- Periodic safety inspections

Loss Analysis

Periodic loss analyses will be conducted by our Safety Coordinator. These will help identify areas of concern and potential job hazards. The results of these analyses will be communicated to management, supervision, and employees through safety meetings and other appropriate means.

Accident Investigations

All accidents and injuries will be investigated in accordance with the guidelines contained in this program. Accident investigations will focus on all causal factors and corrective action including the identification and correction of hazards which may have contributed to the accident.

Employee Observation

Superintendents and foremen shall be continually observing employees for unsafe actions; and taking corrective action as necessary.

Employee Suggestions

Employees are encouraged to report any hazard they observe to their foreman or supervisor. No employee of Berkeley Cement is to ever be disciplined or discharged for reporting any workplace hazard or unsafe condition. However, employees who do NOT report potential hazards or unsafe conditions that they are aware of, will be subject to disciplinary action.

Regulatory Requirements

All industries are subject to government regulations relating to safety. Many of these regulations are specific to our type of business. Copies of pertinent regulations can be obtained from our Safety Coordinator.

Outside Agencies

Several organizations will assist us in identifying hazards in our workplace. These include safety officers from other contractors, insurance carrier safety and health consultants, private industry consultants, the fire department, and Cal/OSHA Consultation.

Periodic Safety Inspections

Periodic safety inspections ensure that physical and mechanical hazards are under control and identify situations that may become potentially hazardous. Inspections shall include a review of the work habits of employees in all work areas. These inspections will be conducted by the foreman, superintendent, safety coordinator or other designated individual.

Periodic safety inspections will be conducted:

- Before any work commences at the site by the foreman or superintendent.
- Daily by the foreman on all sites.
- When new substances, process, procedures or equipment are used.
- When new or previously unrecognized hazards are identified.
- Periodically by the superintendent at various job sites.
- Periodically by our Safety Coordinator at various job sites.

These inspections will focus on both unsafe employee actions as well as unsafe conditions. The following is a partial list of items to be checked.

- The proper use of fall protection.
- The proper use, condition, maintenance and grounding of all electrically operated equipment.
- The proper use, condition, and maintenance of safeguards for all power-driven equipment.
- Compliance with the Code of Safe Practices.
- Trenches and excavations.
- Scaffolds.
- Housekeeping and personal protective equipment.
- Hazardous materials.
- Proper material storage.
- Provision of first aid equipment and emergency medical services.

Any and all hazards identified will be corrected as soon as practical in accordance with the Berkeley Cement hazard correction policy.

If imminent or life threatening hazards are identified, which cannot be immediately corrected, all employees must be removed from the area, except those with special training required to correct the hazard, who will be provided necessary safeguards.

Documentation of Inspections

Safety inspections will be documented to include the following:

- Date on which the inspection was performed.
- The name and title of person who performed the inspection.
- Any hazardous conditions noted or discovered and the steps or procedures taken to correct them.
- Signature of the person who performed the inspection.

One copy of the completed form should be sent to the office. All reports shall be kept on file for a minimum of two (2) years.

Hazard Correction

The following procedures will be used to evaluate, prioritize and correct identified safety hazards. Hazards will be corrected in order of priority: the most serious hazards will be corrected first. If it is necessary to involve other contractors to correct hazards on a job site, they will be properly notified by the foreman, superintendent, project manager or other designated individual.

Hazard Evaluation

Factors which will be considered when evaluating hazards include:

- Potential severity - The potential for serious injury, illness or fatality
- Likelihood of exposure - The probability of the employee coming into contact with the hazard
- Frequency of exposure - How often employees come into contact with the hazard
- Number of employees exposed
- Possible corrective actions - What can be done to minimize or eliminate the hazard
- Time necessary to correct - The time necessary to minimize or eliminate the hazard

Techniques for Correcting, Hazards

1. Engineering Controls: Could include machine guarding, ventilation, noise reduction at the source, and provision of material handling equipment. These are the first and preferred methods of control.

2. Administrative Controls: The next most desirable method would include rotation of employees or limiting exposure time.

3. Personal Protective Equipment: Includes back support belts, hearing protection, respirators and safety glasses. These are often the least effective controls for hazards and should be relied upon only when other controls are impractical.

Documentation of Corrective Action

All corrective action taken to mitigate hazards should be documented. Depending on the circumstances, one of the following forms should be used:

- Safety Contact Report
- Safety Meeting Report
- Memo or letter
- Safety inspection form

All hazards noted on safety inspections will be rechecked on each subsequent inspection and notations made as to their status.

Accident Investigation

All work-related accidents will be investigated by the foreman, superintendent, project manager or other designated individual in a timely manner. This includes minor incidents and "near accidents", as well as serious injuries. An accident is defined as any unexpected occurrence which results in injury to personnel, damage to equipment, facilities, or material, or interruption of normal operations.

Responsibility for Accident Investigation

Immediately upon being notified of an accident, the foreman, superintendent, project manager or other designated individual shall conduct an investigation. The purpose of the investigation is to determine the cause of the accident and corrective action to prevent future reoccurrence; not to fix blame or find fault. An unbiased approach is necessary in order to obtain objective findings.

The Purpose of Accident Investigations:

To prevent or decrease the likelihood of similar accidents.
To identify and correct unsafe work practices and physical hazards. Accidents are often caused by a combination of these two factors.
To identify training needs. This makes training more effective by focusing on factors that are most likely to cause accidents.

What Types of Incidents Do We Investigate?

Fatalities
Serious injuries
Minor injuries
Property damage
Near misses

Procedures for Investigation of Accidents

Immediately upon being notified of an accident the foreman, superintendent, project manager or other designated individual will:

1. Visit the accident scene, as soon as possible, while facts and evidence are still fresh and before witnesses forget important details and to make sure hazardous conditions to which other employees or customers could be exposed are corrected or have been removed;

2. Provide for needed first aid or medical services for the injured employee(s).

3 . If possible, interview the injured worker at the scene of the accident and verbally "walk" him or her through a re-enactment. All interviews should be conducted as privately as possible. interview all witnesses individually and talk with anyone who has knowledge of the accident, even if they did not actually witness it.

4. Report the accident to the corporate office. Accidents will be reported by the office to the insurance carrier within 24 hours. All serious accidents will be reported to the carrier as soon as possible.

5 . Consider taking signed statements in cases where facts are unclear or there is an element of controversy.

6. Thoroughly investigate the accident to identify all accident causes and contributing factors. Document details graphically. Us sketches, diagrams and photos as needed. Take measurements when appropriate.

7. All accidents involving death, disfigurement, amputation, loss of consciousness or hospitalization for more than 24 hours must be reported to Cal/OSHA immediately.

8. Focus on causes and hazards. Develop an analysis of what happened, how it happened, and how it could have been prevented. Determine what caused the accident itself, not just the injury.

9. Every investigation must also include an action plan. How can such accidents be prevented in the future?

10. In the event a third party or defective product contributed to the accident, save any evidence as it could be critical to the recovery of claim costs.

<u>Accurate & Prompt Investigations</u>

- Ensures information is available
- Causes can be quickly corrected
- Helps identify all contributing factors
- Reflects management concern
- Reduces chance of recurrence

<u>Investigation Tips</u>

- Avoid placing blame
- Document with photos and diagrams, if needed
- Be objective, get the facts
- Reconstruct the event
- Use open-ended questions

Questions to Ask

When investigating accidents, open-ended questions such as who?, what?, when?, where?, why?, and how?, will provide more information than closed-ended questions such as "Were you wearing gloves?"

Examples include:

- How did it happen?
- Why did it happen?
- How could it have been prevented?
- Who was involved?
- Who witnessed the incident?
- Where were the witnesses at the time of the incident?
- What was the injured worker doing?
- What was the employee working on?
- When did it happen?
- When was the accident reported?
- Where did it happen?
- Why was the employee assigned to do the job?

The single, most important question that must be answered as the result of any investigation is:

> "What do you recommend be done (or have you done) to prevent this type of incident from recurring?"

Once the Accident Investigation is Completed

- Take or recommend corrective action
- Document corrective action
- Management and our Safety Coordinator will review the results of all investigations
- Consider safety program modifications
- Information obtained through accident investigations can be used to update and improve our current program.

Emergency Medical Services and First Aid

Berkeley Cement will ensure the availability of emergency medical services for its employees at all times. We will also ensure the availability of a suitable number of appropriately trained persons to render first aid. Where more than one employer is involved in a construction project on a given site, we may agree to work with other contractors to ensure employee access to emergency medical services for the combined work force. Each crew will have at least one individual trained in rendering first aid. Our Safety Coordinator will maintain a list of trained individuals and take steps to provide training for those that desire it.

First-Aid Kits

Every job site shall have access to at least one first-aid kit in a weatherproof container. The first aid kit will be inspected regularly to ensure that it is well stocked, in sanitary condition, and any used items are promptly replaced. The contents of the first-aid kit shall be arranged to be quickly found and remain sanitary. First-aid dressings shall be sterile and in individually sealed packages. The following minimum first-aid supplies shall be kept:

Type of Supply Required by Number of Employees

Dressings in adequate quantities consisting of:	1-5	6-15	16-200	200+
Adhesive dressings	X	X	X	X
Adhesive tape rolls, 1-inch wide	X	X	X	X
Eye dressing packet	X	X	X	X
1-inch gauze bandage roll or compress		X	X	X
2-inch gauze bandage roll or compress	X	X	X	X
4-inch gauze bandage roll or compress		X	X	X
Sterile gauze pads, 2-inch square	X	X	X	X
Sterile gauze pads, 4-inch square	X	X	X	X
Sterile surgical pads suitable for pressure dressings			X	X
Triangular bandages	X	X	X	X
Safety pins	X	X	X	X
Tweezers and scissors	X	X	X	X
Cotton-tipped applicators*			X	X
Forceps*			X	X
Emesis basin*			X	X
Flashlight*			X	X
Magnifying glass*			X	X
Portable oxygen and its breathing equipment*				X
Tongue depressors*				X
Appropriate record forms*	X	X	X	X
First-aid textbook, manual or equivalent*	X	X	X	X

*To be readily available but not necessarily within the first-aid kit.

Drugs, antiseptics, eye irrigation solutions, inhalants, medicines, or proprietary preparations shall not be included in Berkeley Cement first-aid kits unless specifically approved, in writing, by an employer-authorized, licensed physician. Other supplies and equipment, if provided, shall be in accordance with the documented recommendations of an employer-authorized licensed physician upon consideration of the extent and type of emergency care to be given based upon the anticipated incidence and nature of injuries and illnesses and availability of transportation to medical care.

First Aid

The designated first aid person on each site will be available at all times to render appropriate first aid for injuries and illnesses. Proper equipment for the prompt transportation of the injured or ill person to a physician or hospital where emergency care **is** provided, or an effective communication system for contacting hospitals or other emergency medical facilities, physicians, ambulance and fire services, shall also be provided. The telephone numbers of the following emergency services in the area shall be posted near the job telephone, or otherwise made available to the employees where no job site telephone exists:

1. A company authorized physician or medical clinic, and at least one alternate if available.
2. Hospitals.
3. Ambulance services.
4. Fire-protection services.

Prior to the commencement of work at any site, the foreman or superintendent shall locate the nearest preferred medical facility and establish that transportation or communication methods are available in the event of an employee injury.

Each employee shall be informed of the procedures to follow in case of injury or illness through our new employee orientation program, Code of Safe Practices, and tailgate safety meetings.

Where the eyes or body of any person may be exposed to injurious or corrosive materials, suitable facilities for drenching the body or flushing the eyes with clean water shall be conspicuously and readily accessible.

At least one basket or equally appropriate litter equipped with straps and two blankets, or other similar warm covering, shall be provided for each building or structure five or more floors or 48 feet or more either above or below ground level.

Accident Procedures

These procedures are to be followed in the event of an employee injury in the course of employment.

1. **For severe accidents call 911 and request the Paramedics.**

2. **Employees must report all work related injuries to their foreman immediately. Even if they do not feel that it requires medical attention**. Failure to do so may result in a delay of Workers' Compensation benefits and disciplinary action.

3. The foreman, employee, and first aid person, should determine whether or not outside medical attention is needed. When uncertainty exists on the part of any individual, the employee should be sent for professional medical care.

4. If medical attention is not desired or the employee refuses treatment, you must still fill out a Berkeley Cement Accident Report in case complications arise later.

5. In all cases, if the employee cannot transport themselves for any reason, transportation should be provided.

6. In the event of a serious accident involving hospitalization for more than 24 hours, amputation, permanent disfigurement, loss of consciousness or death, phone contact should be made with the corporate office. Contact must also be made with the nearest Cal/OSHA office.

Hazardous Materials and Chemicals

Globally Harmonized System of Classifying and labeling Chemicals (GHS)
(formally known as Hazard Communication Program)

Introduction

It is the policy of Berkeley Cement that the first consideration of work shall be the protection of the safety and health of all employees. We have developed this GHS Program to ensure that all employees receive adequate information about the possible hazards which may result from the various materials used in our operations.

Our program consists of the following elements:

1. Hazardous material inventory.
2. Collection and maintenance of Safety Data Sheets.
3. Container labeling.
4. Employee training.

The following items are not required to be included in the program and are therefore omitted:

- Foods, drugs, cosmetics or tobacco.
- Untreated wood products.
- Hazardous waste.
- Consumer products packaged for sale to and use by the general public, provided that our exposure is not significantly greater than typical consumer exposure.

Hazardous Material Inventory

Berkeley Cement Inc. , will maintain a chemical inventory list of all hazardous materials used in our operations. This list contains the name of the product, the type of product (solvent, adhesive etc.) and the name and address of the manufacturer.

Safety Data Sheets (SDS)

Copies of SDS for all hazardous substances to which our employees may be exposed will be kept at the BCI corporate office. The SDS are available to all employees, at all times, upon request. Copies of the SDS products used will be kept by the foremen at the job site and/or in their BCI vehicles.

The BCI Safety Department, will be in charge of reviewing incoming SDS for new and significant health/safety information. They will ensure that any new information is passed on to the affected employees.

New materials will not be introduced into the shop or field until a SDS has been received. The purchasing department will make it an ongoing part of their function to obtain SDS for all new materials when they are first ordered.

Container-Labeling

No container of hazardous substances will be used unless the container is correctly labeled and the label is legible.

All chemicals in cans, bags, drums, pails, etc., will be checked by the receiving department to ensure the manufacturer's label is intact, is legible, and has not been damaged in any manner during shipment. Any containers found to have damaged labels will be held until a new label has been installed. New labels will be obtained from the manufacturer.

The label must contain:

- The chemical name of the contents.
- The appropriate hazard warnings.
- The name and address of the manufacturer.

All secondary containers will be labeled as to their contents with a reference to the original label.

Employee Information and Training

All employees will be provided information and training on the following items through the Berkeley Cement safety training program and prior to starting work with hazardous substances:

1. An overview of the requirements of the GHS Standard, including their rights under this regulation.

2. Information regarding the use of hazardous substances in their specific work areas.

3. The location and availability of the written GHS program. The program will be available from the foreman and our Safety Coordinator.

4. The physical and health hazards of the hazardous substances in use.

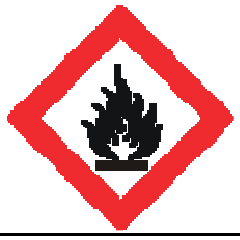
5. Methods and observation techniques used to determine the presence or release of hazardous substances in the work area.

6. The controls, work practices and personal protective equipment which are available for protection against possible exposure.

7. Emergency and first aid procedures to follow if employees are exposed to hazardous substances.

8. How to read labels and safety data sheets to obtain the appropriate hazard information.

9. Recognizing and understanding the new GHS pictograms in which containers will be labeled. These nine pictograms are included below for reference.

GHS Pictograms and Hazard Classes		
		
▪ Oxidizers	▪ Flammables ▪ Self Reactives ▪ Pyrophorics ▪ Self-Heating ▪ Emits Flammable Gas ▪ Organic Peroxides	▪ Explosives ▪ Self Reactives ▪ Organic Peroxides
		
▪ Acute toxicity (severe)	▪ Corrosives	▪ Gases Under Pressure
		
▪ Carcinogen ▪ Respiratory Sensitizer ▪ Reproductive Toxicity ▪ Target Organ Toxicity ▪ Mutagenicity ▪ Aspiration Toxicity	▪ Environmental Toxicity	▪ Irritant ▪ Dermal Sensitizer ▪ Acute toxicity (harmful) ▪ Narcotic Effects ▪ Respiratory Tract

Hazardous Non-Routine Tasks

Infrequently, employees may be required to perform hazardous non-routine tasks. Prior to starting this work, each involved employee will be given information by his/her supervisor about hazards to which they may be exposed during such activity.

This information will include:

- The specific hazards.
- Protective/safety measures which must be utilized.
- The measures the company has taken to lessen the hazards, including special ventilation, respirators, the presence of another employee, emergency procedures, etc.

Informing Contractors

To ensure that other contractors are not exposed to our hazardous materials, and to ensure the safety of the contractor's employees, it will be the responsibility of the foreman to provide other contractors the following information:

- The hazardous substances under our control that they may be exposed to while at the site.
- The precautions the contractor's employees must take to lessen the possibility of exposure.

We will obtain from outside contractors the name of any hazardous substances the contractor's employees may be using at a job site or bringing into our facility. The contractor must also supply a copy of the safety data sheet relevant to these materials.

Employee Rights Under The GHS Standard

At any time, an employee has the right to:

- Access the SDS folder/electronic, and the GHS Program.
- Receive a copy of any environmental sampling data collected in the workplace.
- See their employment medical records upon request.

Fall Protection

Fall Protection is Required

When working where there is a hazard of falling more than 7 ½ feet from the perimeter of a structure, unprotected sides and edges, leading edges, through shaft ways and openings, sloped roof surfaces steeper than 7:12, or other sloped surfaces steeper than 40 degrees not otherwise adequately protected.

Accident/incident investigations will be performed, in the event of a fall, near miss, or other serious incident that include BCI personnel and/or work operations.

A site specific fall protection plan will developed by a qualified person. Berkeley Cement Inc. fall protection equipment will meet the requirements of applicable ANSI, ASTM, or OSHA requirements.

Fall Protection Types

One of the following four types of fall protection systems will be used when our employees are exposed to fall hazards in excess of 7 ½ feet:

1. Standard guardrails, cables or floor hole covers
2. Personal fall arrest system
3. Positioning devices
4. Fall restraint systems

Standard Guardrails, Safety Cables, or Covers

Standard guardrails, safety cables, floor hole and sky light covers are our preferred means of fall protection on job sites. The following rules will be followed when using them:

1. Railings shall be constructed of wood, or in an equally substantial manner from other materials, and shall consist of a top rail not less than 42 inches or more than 45 inches in height measured from the upper surface of the top rail to the floor, platform, runway or ramp level and a mid rail. The mid rail shall be halfway between the top rail and the floor, platform, runway or ramp. "Selected lumber" free from damage that affects its strength, shall be used.

2. Wooden posts shall be not less than 2 inches by 4 inches in cross section, spaced at 8-foot or closer intervals.

3. Wooden top railings shall be smooth and of 2-inch by 4-inch or larger material. Double, 1-inch by 4-inch members may be used for this purpose, provided that one member is fastened in a flat position on top of the posts and the other fastened in an edge-up position to the inside of the posts and the side of the top member. Mid rails shall be of at least 1-inch by 6-inch material.

4. The rails shall be placed on the side of the post which will afford the greatest support and protection.

5. All guardrails, including their connections and anchorage, shall be capable of withstanding a load of 13 pounds per linear foot applied either horizontally or vertically downward at the top rail.
6. Railings receiving heavy stresses from employees trucking or handling materials shall be provided additional strength by the use of heavier stock, closer spacing of posts, bracing, or by other means.

7. Floor, roof and skylight openings shall be guarded by a standard railing and toeboards or cover. Covering shall be capable of safely supporting the greater of the weight of a 200-pound person or the weight of worker(s) and material(s) placed thereon.

8. Coverings shall be secured in place to prevent accidental removal or displacement, and shall bear a pressure sensitized, painted, or stenciled sign with legible letters not less than one inch high, stating: "Opening--Do Not Remove." Markings of chalk or keel shall not be used.

9. Ladderway floor openings or platforms shall be guarded by standard railings with standard toeboards on all exposed sides, except at the entrance to the opening, with the passage through the railing either provided with a swinging gate or so offset that a person cannot walk directly into the opening.

10. Floor holes, into which persons can accidentally walk, shall be guarded by either a standard railing with standard toeboards on all exposed sides, or a floor hole cover of standard strength and construction that is secured against accidental displacement. While the cover is not in place, the floor hole shall be protected by standard railings.

11. Wall openings, from which there is a drop of more than 4 feet, and the bottom of the opening is less than 3 feet above the working surface, shall be guarded with either a standard rail or intermediate rail or both.

12. An extension platform outside a wall opening onto which materials can be hoisted for handling shall have side rails or equivalent guards of standard specifications. One side of an extension platform may have removable railings in order to facilitate handling materials.

13. Wall opening protection barriers shall be of such construction and mounting that, when in place at the opening, the barrier is capable of withstanding a load of at least 200 pounds applied in any direction (except upward).

14. All elevator shafts in which cages are not installed and which are not enclosed with solid partitions and doors shall be guarded on all open sides by standard railings and toe boards.

15. A full body harness and lanyard are required when using boom lifts.

16. Waste, materials, or tools shall not be thrown from buildings or structures to areas where employee(s) may be located, unless the area where the material falls is guarded by fences, barricades, or other methods/means to prevent employee(s) from entering and being struck by falling objects. Signs shall be posted to warn employees of the hazard.

Personal Fall Arrest Systems

Personal fall arrest systems consist of a full body harness and a shock absorbing lanyard attached to suitable anchorage. Fall arrest systems will be our preferred means of protection when standard guardrails, safety cables, or covers are not practical. The following rules, in addition to the manufacturer's requirements and state/federal regulations, will be observed:

1. Ropes and straps (webbing) used in lanyards, lifelines, and strength components of body harnesses shall be made from synthetic fibers except when they are used in conjunction with hot work where the lanyard may be exposed to damage from heat or flame.

2. Anchors used for attachment of personal fall arrest equipment shall be independent of any anchorage being used to support or suspend platforms and capable of supporting at least 5,000 pounds per employee attached, or shall be designed, installed, and used as part of a complete personal fall arrest system which maintains a safety factor of at least two; and under the supervision of a qualified person.

3. The attachment point of the body belt shall be located in the center of the wearer's back. The attachment point of the body harness shall be located in the center of the wearer's back near shoulder level, or above the wearer's head.

4. Where practical, the anchor end of the lanyard shall be secured at a level not lower than the employee's waist, limiting the fall distance to a maximum of 4 feet.

5 . Harnesses, lanyards, and other components shall be used only for employee protection as part of a personal fall arrest system and not to hoist materials.

6. Personal fall arrest systems and components subjected to impact loading shall be immediately removed from service and shall not be used again for employee protection until inspected and determined by a competent person to be undamaged and suitable for reuse.

7. Berkeley Cement Inc. shall utilize a project specific fall rescue plan to provide for prompt rescue of employees in the event of a fall or shall assure that employees are able to rescue themselves.

8. Personal fall arrest systems shall be inspected prior to each use for wear, damage and other deterioration, and defective components shall be removed from service.

9. Any lanyard, safety harness, or drop fine subjected to in-service loading, as distinguished from static load testing, shall be immediately removed from service and shall not be used again for employee safeguarding.

10. Personal fall arrest systems shall not be attached to guardrails, unless the guardrail is capable of safely supporting the load.

11. Each personal fall arrest system shall be inspected not less than twice annually by a competent person in accordance with the manufacturer's recommendations. The date of each inspection shall be documented.

12. Personal fall arrest systems will be rigged such that an employee can neither free fall more than 4 feet, nor contact any lower level.

13. Personal fall arrest systems will bring an employee to a complete stop. They will also limit maximum deceleration distance an employee travels to 3.5 feet and have sufficient strength to withstand twice the potential impact energy of an employee free falling a distance of 6 feet, or the free fall distance permitted by the system, whichever is less.

14. Personal fall arrest systems, when stopping a fall, shall:
(A) limit maximum arresting force on an employee to 1,800 pounds when used with a body harness;(B) be rigged such that an employee can neither free fall more than 6 feet, nor contact any lower level, and, where practicable, the anchor end of the lanyard shall be secured at a level not lower than the employee's waist; (C) bring an employee to a complete stop and limit maximum deceleration distance an employee travels to 3.5 feet; and (D) have sufficient strength to withstand twice the potential impact energy of an employee free falling a distance of 6 feet, or the free fall distance permitted by the system, whichever is less.

Positioning Device Systems

Positioning device systems are designed to allow employees to work with both hands free at elevated locations. Positioning device systems may be used together with a fall arrest system for greater safety. Their use shall conform to the following provisions:

1. Positioning devices shall be rigged such that an employee cannot free fall more than 2 feet.
2. Positioning device systems shall be inspected prior to each use for wear, damage, and other deterioration, and defective components shall be removed from service.
3. Body belts, harnesses, and components shall be used only for employee protection (as part of a personal fall arrest system or positioning device system) and not to hoist materials.
4. The use of non-locking snap hooks is prohibited.
5. Anchorage points for positioning device systems shall be capable of supporting two times the intended load or 3,000 pounds, whichever is greater.

Personal Fall Restraint

Fall restraint systems are designed to prevent the wearer from reaching the edge or danger area and thus prevent them from falling.

1. Body belts shall be at least one and five-eighths ($1\ ^{5}/_{8}$) inches wide.

2. Anchorage points used for fall restraint shall be capable of supporting 4 times the intended load.
3. Restraint protection shall be rigged to allow the movement of employees only as far as the sides of the working level or working area.

Training

Training will be provided for each employee who might be exposed to fall hazards. Training will enable employees to recognize the hazards of falling & shall train each employee in the procedures to follow to minimize these hazards. Training certification will be in the form of written records showing:

1) Who was trained, when, dates of training
2) Signature of person providing training & date employer determined training was deemed adequate,

Re-training will be provided when the following is noted:

1) Deficiencies in training.
2) Work place changes.
3) Fall protection systems or equipment changes that render previous training obsolete.

All accidents and serious incidents (near accidents) will be investigated, implementing changes to this fall protection plan as necessary.

RESCUE

Whenever work is going to be performed with fall protection equipment and hazards, emergency rescue must be anticipated and pre-planned for that specific project. The project team will develop a site specific fall hazard rescue plan related to their project conditions, equipment and work operations, including a prompt rescue of the person in the event of a fall.

In the event of an emergency, the Project Team of Berkeley Cement Inc. will coordinate and work with emergency medical and rescue personnel.
Training materials shall be maintained by the Safety Department .

Note: All safety belts, harnesses and lanyards placed in service or purchased on or before February 1, 1997, shall be labeled as meeting the requirements contained in ANSI A10.14-1975, Requirements for Safety Belts, Harnesses, Lanyards, Lifelines and Drop Lines for Construction and Industrial Use.

All personal fall arrest, personal fall restraint and positioning device systems purchased or placed in service after February 1. 1997, shall be labeled as meeting the requirements contained in ANSI A10.14-1991 American National Standard for Construction and Demolition Use, or ANSI Z359.11992 American National Standard Safety Requirements for Personal Fall Arrest Systems, Subsystems and Components.

Electrical Safety & Ground Fault Circuit Interrupter (GFCI) Program

This procedure is binding upon all Berkeley Cement Inc. employees. All employees will be instructed in electrical safety, and the GFCI program. Each new employee shall be instructed by their foreman in the purpose and use of these procedures. A competent person must be designated to be responsible for the program execution.

All Equipment and Installations

1. Only trained, qualified, and authorized employees will be allowed to make electrical repairs or work on electrical equipment or installations.
2. All electrical equipment and systems shall be treated as energized until tested or otherwise proven to be de-energized.
3. All energized equipment and installations will be de-energized prior to the commencement of any work. If the equipment or installation must be energized for test or other purposes, special precautions will be taken to protect against the hazards of electric shock.
4. All equipment shall be locked out to protect against accidental or inadvertent operation when such operation could cause injury to personnel. Do not attempt to operate any switch, valve, or other energy isolating device bearing a lock.
5. Safety grounds shall always be used where there is a danger of shock from back feeding or other hazards.
6. Polyester clothing or other flammable types of clothing shall not be worn near electrical circuits. Cotton clothing is much less likely to ignite from arc blast. Employees working on live circuits shall be provided Nomex or equivalent fire resistant clothing.
7. Suitable eye protection must be worn at all times while working on electrical equipment.
8. Always exercise caution when energizing electrical equipment or installations. Take steps to protect employees from arc blast and exploding equipment in the event of a fault.
9. All power tools will be grounded or double insulated. Tools with defective cords or wiring shall not be used.
10. Suitable temporary barriers or barricades shall be installed when access to open enclosures containing exposed energized equipment is not under the control of an authorized person.
11. When working under overhead lines clearance distance must be provided or lines shall be de energized and grounded.
12. Unqualified employees shall maintain safe clearance distance (at least 10 ft) when working in an elevated position near energized overhead lines.
13. Berkeley Cement Inc. employees do not adhere to the approach distances in Table S5, as BCI only has unqualified employees.
14. BCI vehicular and mechanical equipment shall be operated so that a clearance of 10 ft. (305 cm) is maintained from energized overhead lines?
15. Employees may not enter spaces containing exposed energized parts unless illumination is provided that enables the employees to work safely.
16. Protective shields, protective barriers or insulating materials as necessary shall be used when working in confined or enclosed work spaces where electrical hazards may exist.
17. Berkeley Cement Inc. portable ladders shall have non-conductive side rails.
18. Conductive apparel shall not be worn unless the items are rendered non-conductive by covering, wrapping or other insulating means.

Ground Fault Protection

To protect employees on construction sites from electric shock, Berkeley Cement will use ground-fault circuit interrupters on all 120-volt, AC, single-phase, 15- and 20-ampere receptacle outlets, which are not a part of the permanent wiring of the building or structure. Receptacles on a two-wire, single-phase portable or vehicle-mounted generator rated not more than 5 kW, where the circuit conductors of the generator are insulated from the generator frame and all their grounded surfaces, need not be protected with ground-fault circuit interrupters.

A competent person must be designated to be responsible for the program execution.

Feeders supplying 15- and 20-ampere receptacle branch circuits shall be permitted to be protected by a ground-fault circuit interrupter approved for the purpose in lieu of the above provisions.

Energized Equipment or Systems

Work shall not be performed on exposed energized parts of equipment or systems until the following conditions are met:

1. Responsible supervision has determined that the work is to be performed while the equipment or systems are energized.

2. Involved personnel have received instructions on the work techniques and hazards involved in working on energized equipment and appropriate equipment to perform the job has been provided.

3. Suitable personal protective equipment has been provided and is used. Suitable insulated gloves shall be worn for voltages in excess of 300 volts, nominal.

4. Suitable eye protection, including faceshield and safety glasses or goggles, has been provided and are used.

5. Fire resistant clothing such as Nomex suits are worn.

6. Where required, suitable barriers, barricades, tags, or signs are in place for personnel protection.

After the required work on an energized system or equipment has been completed, an authorized person shall be responsible for:

1. Removing from the work area any personnel and protective equipment.

2. Reinstalling all permanent barriers or covers.

De-energized Equipment or Systems

A qualified person shall be responsible for completing the following **before** working on de-energized electrical equipment or systems, unless the equipment is physically removed from the wiring system:

1. Notifying all involved personnel.

2. Locking the disconnecting means in the "open" position with the use of lockable devices, such as padlocks, combination locks or disconnecting of the conductor(s) or other positive methods or procedures which will effectively prevent unexpected or inadvertent energizing of a designated circuit, equipment or appliance.

3. Tagging the disconnecting means with suitable accident prevention tags.

4. Effectively blocking the operation or dissipating the energy of all stored energy devices which present a hazard, such as capacitors or pneumatic, spring-loaded and like mechanisms. This may require the installation of safety grounds.

5. Testing the equipment to ensure it is de-energized.

Energizing (or Re-energizing) Equipment or Systems

A qualified and authorized person shall be responsible for completing the following before energizing equipment or systems, which have been de-energized:

1. Determining that all persons are clear from hazards, which might result from the equipment or systems, being energized including arc blast or explosions caused by unexpected faults.

2. Removing locking devices and tags. Locking devices and tags may be removed only by the employee who placed them. Locking devices and tags shall be removed upon completion of the work and after the installation of the protective guards and/or safety interlock systems.

Accident Prevention Tags

Suitable accident prevention tags shall be used to control a specific hazard. Such tags shall provide the following minimum information:

1. Reason for placing tag.

2. Name of person placing the tag and how that person may be contacted.

3. Date tag was placed.

Lock-out / Tag-out

Machinery or equipment capable of **movement** shall be stopped and the power source de-energized or disengaged, and locked out. If necessary, the moveable parts shall be mechanically blocked or secured to prevent inadvertent movement during cleaning, servicing or adjusting operations unless the machinery or equipment must be capable of movement during this period in order to perform the specific task. If so, the hazard of movement shall be minimized.

Equipment or power driven machines equipped with lockable controls, or readily adaptable to lockable controls, shall be locked out or positively sealed in the "off' position during repair work and setting-up operations. In all cases, accident prevention signs and/or tags shall be placed on the controls of the equipment or machines during repair work.

Berkeley Cement will provide a sufficient number of accident prevention signs or tags and padlocks, seals or other similarly effective means, which may be required by any reasonably foreseeable repair.

Sequence of Lockout Procedure

1. Notify all affected employees that a lockout is required and the reason therefore.

2. If the equipment is operating, shut it down by the normal stopping procedure (such as: depress stop button, open toggle switch).

3. Operate the switch, valve, or other energy isolating devices so that the energy source(s) (electrical, mechanical, hydraulic, other) is disconnected or isolated from the equipment.

4. Stored energy, such as that in capacitors, springs, elevated machine members, rotating fly wheels, hydraulic systems, and air, gas, steam or water pressure, must also be dissipated or restrained by methods such as grounding, repositioning, blocking, bleeding down.

5. Lockout energy isolating devices with an assigned individual lock.

6. After ensuring that no personnel are exposed and as a check on having disconnected the energy sources, operate the push button or other normal operating controls to make certain the equipment will not operate. CAUTION: Return operating controls to neutral position after the test.

Procedure Involving More Than One Person

If more than one individual is required to lock out equipment, each shall place his/her own personal lock on the energy isolating device(s). One designated individual of a work crew or a supervisor, with the knowledge of the crew, may lock out equipment for the whole crew. In such cases, it may be the responsibility of the individual to carry out all steps of the lockout procedure and inform the crew when it is safe to work on the equipment. Additionally, the designated individual shall not remove a crew lock until it has been verified that all individuals are clear.

Testing Equipment During Lockout

In many maintenance and repair operations, machinery may need to be tested, and for that purpose energized, before additional maintenance work can be performed. This procedure must be followed:

1. Clear all personnel to safety.

2. Clear away tools and materials from equipment.

3. Remove lockout devices and re-energize systems, following the established safe procedure.

4. Proceed with tryout or test.

5. Neutralize all energy sources once again, purge all systems, and lockout prior to continuing work.

Equipment design and performance limitations may dictate that effective alternative worker protection be provided when the established lockout procedure is not feasible.

Restoring Equipment to Service

After the work is completed and the equipment is ready to be returned to normal operation, this procedure must be followed:

1. Remove all non-essential items.

2. See that all equipment components are operationally intact, including guards and safety devices. Repair or replace defective guards before removing lockouts.

3. Remove each lockout device using the correct removal sequence.

4. Make a visual check before restoring energy to ensure that everyone is physically clear of the equipment.

Fleet & Driving Safety

Motor vehicle accidents are the third leading cause of fatalities in the construction industry. Berkeley Cement has established the following guidelines and procedures for our drivers and vehicles to protect the safety of individuals operating any motor vehicle on company business. Protecting our employee drivers, their passengers, and the public is of the highest priority. The commitment of management and employees is critical to the success of this program. Clear communication of, and strict adherence to, the program's guidelines and procedures are essential.

Our primary goal is to maintain a high level of safety awareness and foster responsible driving behavior. Driver safety awareness and responsible driving behavior will significantly decrease the frequency of motor vehicle accidents and reduce the severity of personal injuries and property damage.

Drivers must follow the requirements outlined in this program. Violations of this program may result in disciplinary action up to, and including, suspension of driving privileges or dismissal.

Our program consists of the following elements:

- Driver selection
- Driver training
- Vehicle use policy
- Vehicle inspection & preventive maintenance
- Accident investigation

Driver Selection

Only company authorized and assigned employees are allowed to drive company vehicles at any time. Prior to being authorized and assigned, Berkeley Cement will check the following items. Drivers must have:

- A valid unrestricted drivers license.
- A current MVR driving record with no more than 2 points and no serious or major violations.

Berkeley Cement will also check driving records of all employees authorized to drive on company business on an annual basis.

Employees that do not meet these requirements are not authorized or allowed to drive company vehicles or drive their own vehicle on company business.

Driver Training

All employees driving company vehicles, and personal vehicles on company business, will be given a copy of the Driving Safety Rules and Company Vehicle Use Policy and required to read and sign for them. Safe driving will also be periodically covered at company safety meetings.

Company Vehicle Use Policy

Berkeley Cement has established the following policies pertaining to company vehicles:

1. Personal and off duty use of Berkeley Cement vehicles is prohibited.

2. Only authorized employees may drive Berkeley Cement vehicles. No other family members may drive company vehicles.

3. Non-employee passengers are not permitted in Berkeley Cement vehicles at any time, unless they are business related.

4. Seat belts must be worn in Berkeley Cement vehicles at all times.

5. No employee is permitted to drive Berkeley Cement vehicles while impaired by alcohol, illegal or prescription drugs, or over the counter medications.

6. All accidents involving Berkeley Cement vehicles must be reported to the office immediately.

7. Employees with two or more preventable accidents in a three year period, or that obtain three points on their driving record, will be subject to a loss of their driving privileges or have their driving privileges restricted.

Vehicle Inspection & Preventive Maintenance

All Berkeley Cement vehicles must be inspected by the driver prior to each use. Mechanical defects will be repaired immediately. Our Safety Coordinator, President will periodically spot check company vehicles to determine their condition.

Vehicle inspections will include:

- Lights
- Turn signals
- Emergency flashers
- Tires
- Horn
- Brakes
- Fluids
- Windshield condition and wiper condition
- Mirrors

All vehicles will also be maintained in accordance with the manufacturers' recommendations. It is the responsibility of the individual assigned the vehicle to ensure proper maintenance and repairs are performed. If your vehicle is not safe, do not drive.

Vehicle Accident Investigation

All accidents in Berkeley Cement vehicles will be investigated by the superintendent and or Our Safety Coordinator. Where possible, witness's statements will be obtained and photos used to document the scene of the accident and the damage. Police reports will also be obtained whenever possible. The following guidelines will be used to help determine preventability.

Auto Accident Preventability Guide

This guide will assist in determining whether our driver could have prevented the accident. An accident is preventable if the driver could have done something to avoid it. Drivers are expected to drive defensively. Which driver was primarily at fault, who received a traffic citation, or whether a claim was paid has no bearing on preventability. If there was anything our driver could have done to avoid the collision, then the accident was preventable.

An accident was non preventable when the vehicle was legally and properly parked, or when properly stopped because of a highway patrol officer, a signal, stop sign, or traffic condition. When judging accident preventability, here are some general questions to consider:

1. Does the investigation indicate that the driver considers the rights of others, or is there evidence of poor driving habits, which need to be changed?

2. Does the investigation indicate driver awareness? Such phrases as "I did not see," "I didn't think," "I didn't expect," or "I thought" are signals indicating there probably was a lack of awareness, and the accident was preventable. An aware driver should think, expect, and see hazardous situations in time to avoid collisions.

3. Was the driver under any physical stresses, which could have been contributory? Did the accident happen near the end of a long day or long drive? Did overeating contribute to fatigue? Did the driver get prior sufficient sleep? Is the driver's vision faulty? Was the driver feeling ill?

4. Was the vehicle defective without the driver's knowledge? Was a pre-trip inspection done, and would it have discovered the defect? A car which pulls to the left or right when the driver applies the brakes, faulty windshield wipers, and similar items are excuses, and a driver using them is trying to evade responsibility. Sudden brake failure, loss of steering, or a blowout might be defects beyond the driver's ability to predict. However, pre-trip inspections and regularly scheduled maintenance should prevent most of these problems. If either of these are the cause of the accident, then the accident was probably preventable by the driver.

5. Could the driver have exercised better judgment by taking an alternate route through less congested areas to reduce the hazardous situations encountered?

6. Could the driver have done anything to avoid the accident?

7. Was the driver's speed safe for conditions?

8. Did the driver obey all traffic signals?

9. Was the driver's vehicle under control?

Intersection Collisions

Failure of our driver to yield the right-of-way, regardless of who has the right of way, as indicated by stop signs or lights, is preventable. The only exception to this is when the driver is properly proceeding through an intersection protected by lights or stop signs and the driver's vehicle is struck in the extreme rear side of the vehicle. Regardless of stop signs, stop lights, or right-of-way, a defensive driver recognizes that the right-of-way belongs to anyone who assumes it and should yield accordingly.

Questions to consider:

1. Did the driver approach the intersection at a speed safe for conditions?
2. Was the driver prepared to stop before entering the intersection?
3. At a blind comer, did the driver pull out slowly, ready to apply the brakes?
4. Did the driver look both ways before proceeding through the intersection?

Sideswipes

Sideswipes are often preventable. Defensive drivers do not get into a position where they can be forced into another vehicle or another vehicle can be forced into them. Defensive drivers continuously check for escape routes to avoid sideswipes. For two lane roads, this means a driver should pass another vehicle only when absolutely certain that he or she can safely complete the pass. A driver should also be ready to slow down and let a passing vehicle that has failed to judge safe passing distance back into the lane. A driver should make no sudden moves that may force another vehicle to swerve. If a driver sideswipes a stationary object while taking evasive action to avoid striking another car or a pedestrian, such an accident may not be preventable. However, you should consider what the driver could have done or failed to do immediately preceding the evasive action to be in the position of no other options.

A driver is also expected to anticipate the actions of an oncoming vehicle. Sideswiping an oncoming vehicle is often preventable. Again, evasive action, including leaving the roadway, may be necessary if an oncoming vehicle crosses into the driver's lane. Drivers are expected to allow merging vehicles to merge smoothly with them, and to merge smoothly on controlled access highways. Drivers are expected to be able to gauge distances properly when leaving a parking place and enter traffic smoothly.

Questions to consider:

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

Head-on Collisions

A head-on collision with a vehicle traveling in the wrong lane may be preventable if the driver could have pulled off the road or taken other evasive action to prevent a collision. However, the driver should never drive into the other lane to avoid the oncoming vehicle. If the driver swerved off the road to avoid a head-on collision, the accident is non preventable. The driver in this case made a good defensive driving decision, taking the lesser of two evils.

Many skidding conditions are caused by **rain,** freezing rain, fog, and snow, which all increase the hazard of travel. Oily road film, which builds up during a period of good weather, causes an especially treacherous condition during the first minutes of a rainfall. Loss of traction can be anticipated, and these accidents usually are preventable. Driving too fast for conditions is the most common reason why these types of accidents are preventable.

Questions to consider:

1. Was the driver operating at a safe speed considering weather and road conditions?
2. During inclement weather, was the driver keeping at least twice the safe following distance used for dry pavement?
3. Were all actions gradual?
4. Was the driver anticipating ice on bridges, in gutter, ruts, and near the curb?
5. Was the driver alert for water, ice or snow in shaded areas, loose gravel, sand, ruts, etc.

If a driver goes off the road or strikes another vehicle because of skidding, the accident is preventable.

Pedestrian Accidents

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

Questions to consider:

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

Backing Accidents

Backing a vehicle into another vehicle, an overhead obstruction, or a stationary object are normally preventable. The fact that someone was directing the driver in backing does not relieve the driver of the responsibility to back safely.

Questions to consider:

1. Was it necessary to back?
2. Did the driver plan ahead so that he or she could have pulled forward out of the parking space instead of backing?
3. Was it necessary to drive into the narrow street, dead-end alley, or driveway from which he or she backed?
4. If the driver could not see where he or she was backing: Did the driver try to get someone to guide him or her?
5. Did the driver look all around the vehicle before backing? Did the driver back immediately after looking?
6. Did the driver use the horn while backing? Were the back-up lights working?
7. Did the driver look to the rear without relying totally on the rear-view mirror?
8. If the distance was long, did the driver stop, get out, and look around occasionally?
9. Did the driver back slowly?
10. Did the driver judge clearances accurately?

Parking Accidents

Doors on our driver's parked vehicle that are damaged when opened on the traffic side are considered preventable accidents. The driver is responsible to see that the traffic side is clear of traffic, before any doors on that side are opened.

In most cases, if our driver, while driving, strikes a parked vehicle's opening door it is considered preventable. Usually our driver can see from a sufficient distance that the parked vehicle is occupied, and should therefore, be prepared to stop, should move closer to the center line or change lanes.

It is a driver's responsibility to park the vehicle so that it will remain stationary. A runaway type accident is preventable and blaming such a collision on defective parking brakes or other holding devices are inadequate excuses. A good pre-trip inspection and maintenance program will eliminate most opportunities for this type of accident being the result of mechanical failure.

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

Questions to consider:

1. Was the vehicle parked on the proper side of the road?
2. Was it necessary to park there or was there a safer, only slightly less convenient place nearby?
3. Did the driver have to park on the traveled part of the highway, on the curve, or on the hill?
4. When required, did the driver warn traffic by emergency warning devices?
5. Did the driver park parallel to the curb?
6. Was it necessary to park so close to an alley or directly across from a driveway?

Collision with Obstructions

Obstructions can be avoided if the driver knows the height and width of the vehicle, pays attention to posted clearances, and takes the time to properly judge clearances.

Cargo Accidents

The accident should be considered preventable if the investigation shows a mechanical defect of which the driver was aware, a defect the driver should have found by inspecting the vehicle, or the driver caused the accident by rough and abusive handling. It is a driver's responsibility to secure cargo properly to prevent shifting, loss, or damage. Cargo should be safely stowed to prevent flying objects that can strike or distract the driver.

Trenching and Excavation

To prevent cave-ins from occurring, the following precautions are mandatory when Berkeley Cement Inc. employees work in trenches or excavations that are 5 feet deep or greater. They are also required in trenches less than 5 feet deep if the soil appears unstable. These precautions apply even if Berkeley Cement Inc. did not dig the trench.

General Precautions

1. All trenching and excavation activities will be conducted in accordance with Cal/OSHA regulations.
2. All trenching and excavation work or entry will be supervised by a competent person with the skills, training, and experience to recognize hazards and implement corrective action.
3. All trenches and excavations 5 feet deep or greater will be protected from cave-ins by sloping, shoring, or benching.
4. No employee is permitted to work in any trench or excavation that is not safe. Work will stop until the hazard is corrected. BCI workers are provided training on excavation/trenching requirements, prior to performing the effected work operations.
5. All trenches and excavations will be inspected prior to the start of work and at least daily by the competent person.
6. Applicable access and egress will be maintained at all times.
7. BCI employees will wear reflective garments for protection from vehicular traffic, when applicable.
8. Employees who are involved in the excavation operation and exposed to excavation operation hazards shall be trained in the excavator notification and excavation practices.

Prior to Digging

1. An annual trenching/excavation permit will be obtained from Cal/OSHA and site specific notification applicable.
2. Underground installations shall be located and applicable utility companies properly contacted prior to starting excavation/trenching.
3. The estimated location of utility installations, such as sewer, telephone, fuel, electric, water lines, or any other underground installations that reasonably may be expected to be encountered during excavation work, shall be determined prior to opening an excavation.
4. All Regional Notification Centers in the area involved and all known owners of underground facilities in the area who are not members of a Notification Center shall be advised of the proposed work. (EXCEPTION: Emergency repair work to underground facilities.)

While Digging

1. When excavation operations approach the estimated location of underground installations, the exact location of the installations shall be determined by safe and acceptable means.
2. Contact with live electrical lines and gas mains can cause death or serious injury. Extra care should be taken in these areas. If you are unsure, ask your foreman, superintendent, or contact our Safety Coordinator.
3. While the excavation is open, underground installations shall be protected, supported, or

removed as necessary to safeguard employees.

4. All surface encumbrances that are located so as to create a hazard to employees shall be removed or supported, as necessary, to safeguard employees.
5. Where the stability of adjoining buildings, walls, or other structures is endangered by excavation operations, support systems such as shoring, bracing, or underpinning shall be provided to ensure the stability of such structures for the protection of employees.
6. Sidewalks, pavements and appurtenant structures shall not be undermined unless a support system or another method of protection is provided to protect employees from the possible collapse of such structures.
7. No employee shall be permitted underneath loads handled by lifting or digging equipment. Employees shall be required to stand away from any vehicle being loaded or unloaded to avoid being struck by any spillage or falling materials.
8. Adequate barriers or physical protection shall be provided at all remotely located excavations. All wells, pits, shafts, etc. shall be barricaded or covered. Upon completion of exploration and other similar operations, temporary wells, pits, shafts, etc., shall be back filled.

Open Trenches and Excavations

1. Daily inspections of excavations, the adjacent areas, and protective systems shall be made by a competent person for evidence of a situation that could result in possible cave-ins, indications of failure of protective systems, hazardous atmospheres, or other hazardous conditions. An inspection shall be conducted by the competent person prior to the start of work and as needed throughout the shift. Inspections shall also be made after every rainstorm or other hazard-increasing occurrence. These inspections are only required when employee exposure can be reasonably anticipated.
2. Where the competent person finds evidence of a situation that could result in a possible cave-in, indications of failure of protective systems, hazardous atmospheres, or other hazardous conditions, exposed employees shall be removed from the hazardous area until the necessary precautions have been taken to ensure their safety.
3. A stairway, ladder, ramp or other safe means of egress shall be located in trench excavations that are 4 feet or more in depth so as to require no more than 25 feet of lateral travel for employees.
4. Where employees or equipment are required or permitted to cross over excavations over 6 feet and wider than 30 inches, walkways or bridges with standard guardrails shall be provided.
5. When mobile equipment and/or vehicle traffic is operated adjacent to an excavation, or when such equipment is required to approach the edge of an excavation, and the operator does not have a clear and direct view of the edge of the excavation, a warning system shall be utilized such as barricades, hand or mechanical signals, or stop logs. Berkeley Cement Inc. employees will be protected from vehicular traffic when working in and around excavations/trenches.
6. Adequate protection shall be provided to protect employees from loose rock or soil that could pose a hazard by falling or rolling from an excavation face. Such protection shall consist of scaling to remove loose material; installation of protective barricades at intervals as necessary on the face to stop and contain falling material; or other means that provide equivalent protection.
7. Employees shall be protected from excavated or other materials or equipment that could pose a hazard by falling or rolling into excavations. Protection shall be provided by placing and keeping such materials or equipment at least 2 feet from the edge of excavations, or by the use

of retaining devices that are sufficient to prevent materials or equipment from falling or rolling into excavations, or by a combination of both if necessary.

8. Where oxygen deficiency (atmospheres containing less than 19.5 percent oxygen) or a hazardous atmosphere exists or could reasonably be expected to exist, such as in excavations in landfill areas or excavations in areas where hazardous substances are stored nearby, the atmosphere in the excavation shall be tested before employees enter excavations greater than 4 feet in depth.
9. Adequate precautions shall be taken to prevent employee exposure to atmospheres containing less than 19.5 percent oxygen and other hazardous atmospheres. These precautions include providing proper respiratory protection or ventilation.
10. Adequate precautions shall be taken, such as providing ventilation, to prevent employee exposure to an atmosphere containing a concentration of a flammable gas in excess of 20 percent of the lower flammable limit of the gas.
11. When controls are used that are intended to reduce the level of atmospheric contaminants to acceptable levels, testing shall be conducted as often as necessary to ensure that the atmosphere remains safe.
12. Emergency rescue equipment, such as breathing apparatus, a safety harness and line, or a basket stretcher, shall be readily available where hazardous atmospheric conditions exist or may reasonably be expected to develop during work in an excavation. This equipment shall be attended when in use.
13. Employees shall not work in excavations in which there is accumulated water, or in excavations in which water is accumulating, unless adequate precautions have been taken to protect employees against the hazards posed by water accumulation. The precautions necessary to protect employees adequately vary with each situation, but could include special support or shield systems to protect from cave-ins, water removal to control the level of accumulating water, or use of a safety harness and lifeline.
14. If water is controlled or prevented from accumulating by the use of water removal equipment, the water removal equipment and operations shall be monitored by a competent person to ensure proper operation.
15. If excavation work interrupts the natural drainage of surface water (such as streams), diversion ditches, dikes, or other suitable means shall be used to prevent surface water from entering the excavation and to provide adequate drainage of the area adjacent to the excavation. Excavations subject to runoff from heavy rains will require an inspection by a competent person.

Soil Classification (for the proper use of this procedure)

A method of categorizing soil and rock deposits in a hierarchy of Stable Rock, Type A, Type B, and Type C, in decreasing order of stability.

The categories are determined based on an analysis of the properties and performance characteristics of the deposits and the environmental conditions of exposure.

Type A - Cohesive soil with an unconfined compressive strength of 1.5 tons per square foot (tsf) (144 kPa) or greater. Examples of cohesive soils are clay, silty clay, sandy clay, clay loam, and, in some cases, silty clay loam and sandy clay loam. Cemented soils such as caliche and hardpan are also considered Type A. However, no soil is Type A if:

1. The soil is fissured.
2. The soil is subject to vibration from heavy traffic, pile driving, or similar effects.

3. The soil has been previously disturbed.
4. The soil is part of a sloped, layered system where the layers dip into the excavation on a slope of four horizontal to one vertical (4H:1V) or greater.
5. 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, or:

1. Granular, cohesionless soils, including angular gravel, silt, silt loam, sandy loam, and, in some cases, silty clay loam and sandy clay loam.
2. Previously disturbed soil, except those which would otherwise be classed as Type C soil.
3. Soil that meets the unconfined compressive strength or requirements of Type A, but is fissured or subject to vibration.
4. Dry rock that is not stable.
5. Material that is part of a sloped, layered system where the layers dip into the excavation on a slope less steep than 4H:1V, but only if the material would otherwise be classified as Type B.

Type C - Cohesive soil with an unconfined compression strength of 0.5 tsf or less:

1. Granular soils including gravel, sand, and loamy sand.
2. Submerged soil or soil from which water is free-seeping.
3. Submerged rock that is not stable.
4. Material in a sloped, layered system where the layers dip into the excavation on a slope of four horizontal to one vertical (4H:1V) or steeper.

REQUIREMENTS

Each soil and rock deposit shall be classified by a competent person as Stable Rock, Type A, Type B, or Type C. The classification of deposits shall be made based on the results of at least one visual and at least one manual analysis using the tests described in this appendix or in other recognized methods of soil classification and testing, such as those adopted by the American Society of Testing Materials.

In a layered system, the system shall 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.

If, after classifying a deposit, the properties, factors, or conditions affecting its classification change in any way, the deposit shall be reclassified to reflect the changed conditions.

Acceptable Visual and Manual Tests

Visual Tests - 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.

1. 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.

2. 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.
3. 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.
4. 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.
5. Observe the opened side of the excavation to identify layered systems. Examine layered systems to identify whether the layers slope toward the excavation. Estimate the degree of slope of the layers.
6. Observe the area adjacent to the excavation and the sides of the opened excavation for evidence of surface water, water seeping from the sides of the excavation, or the location of the level of the water table.
7. 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 Tests - 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.

1. Plasticity - Mold a moist or wet sample of soil into a ball and attempt to roll it into threads as thin as 1/8 in. in diameter. Cohesive material can be successfully rolled into threads without crumbling. For example, if at least a 2 inch (50 mm) length of 1/8 inch thread can be held on one end without tearing, the soil is cohesive.
2. Dry Strength - 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 un-fissured.
3. Thumb Penetration - 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 soil, 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.

4. Other Strength Tests - Estimates of unconfined compressive strength of soils can also be obtained by use of a pocket penetrometer or by using a hand-operated Torvane shear device.
5. Drying Test - The basic purpose of the drying test is to differentiate between cohesive material with fissures, un fissured cohesive material, and granular material. The procedure for the drying test involves drying a sample of soil that is approximately 1 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 a un-fissured 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.

Confined Space Operations

Occasionally in our work, we may encounter confined spaces. This is particularly true of our service department. Confined space work requires special safety precautions to ensure that employees are not overcome by dangerous air contaminants or oxygen deficiency. In some cases, there may be fire or explosion hazards in confined spaces that do not exist in open areas. Many workers have been killed or seriously injured in confined spaces. To avoid this, Berkeley Cement employees must adhere to the following rules. This section prescribes **minimum** standards for preventing employee exposure to dangerous air contamination and/or oxygen deficiency in confined spaces. In some cases, extra precautions may be necessary. As always, if you are unsure, ask for assistance.

Definitions

- Confined Space A space that is large enough to be entered, has limited means of entry and exit, and is not designed for continuous employee occupancy
- Entry Permit is the written document provided by the employer to allow and control entry into a Permit-Required Confined Space.
- Immediately dangerous to life and health (IDLH) is any condition that poses an immediate or delayed threat to life or that would cause irreversible adverse health effects or that would interfere with an individual's ability to escape unaided from a Permit-Required Confined Space.
- Non-Permit Confined Space (Non-Permit Space") (as defined in CFR 1910.146) means a confined space that does not contain or, with respect to atmospheric hazards, have the potential to contain any hazard capable of causing death or serious physical harm.
- Permit-Required Confined Space ("Permit Space") (as defined in CFR 1910.146(b)) means a confined space that has one or more of the following characteristics:
  - Contains or has the potential to contain a hazardous atmosphere
  - Contains a material that has the potential for engulfing an entrant
  - Has an internal configuration such that an entrant could be trapped or asphyxiated by inwardly converging walls or by floor which slopes downward and tapers to a smaller cross section
  - Contains other recognized serious safety or health hazards.
- Oxygen Deficient Atmosphere is an atmosphere containing less then 19.5 percent oxygen by volume.
- Oxygen Enriched Atmosphere is an atmosphere containing more than 23.5 percent oxygen by volume.
- Permit System means the work location -specific written practice for preparing and issuing permits for entry and for returning the permit-required confined space to service.
- Rescue Service means the personnel designated to rescue employees from the Permit Space.
- Retrieval System means the equipment (including a retrieval line, chest or full body harness, and a lifting device or anchor) used for non-entry rescue of persons from the Permit Space.
- Permit-Required Confined Space Entry Program means the employer's overall program for controlling, and, where appropriate, for protecting employees from, Permit Space hazards, and for regulating personnel entry into permit spaces.
- Monitoring means the process by which the hazards that may confront entrants are identified and evaluated.

Typical Confined Spaces:

- Vaults
- Pits
- Tubs
- Vats
- Ducts
- Boilers
- Silos
- Sewers
- Compartments

Prior to Confined Space Entry:

1. Written, understandable operating and rescue procedures shall be developed and shall be provided to affected employees. The operating procedures shall include provision for the surveillance of the surrounding area to avoid hazards such as drifting vapors from tanks, piping and sewers. Barriers/barricades, will be utilized to prevent unauthorized entry into a confined space.

2. All employees, including standby persons if needed, will be trained in the operating and rescue procedures, including instructions as to the hazards they may encounter.

3. Any lines, pipes or hoses which may convey flammable, injurious, or incapacitating substances into the space shall be disconnected, blinded, or blocked off by other positive means to prevent the development of dangerous air contamination and/or oxygen deficiency within the space. The disconnection or blind shall be so located or done in such a manner that inadvertent reconnection of the line or removal of the blind are effectively prevented.

4. The space shall be emptied, flushed, or otherwise purged of flammable, injurious or incapacitating substances to the extent feasible.

5. The air shall be tested, prior to entry and periodically, with an appropriate device or method to determine whether dangerous air contamination and/or an oxygen deficiency exists and a written record of such testing results shall be made and kept at the work site for the duration of the work. Affected employees and/or their representative shall be afforded an opportunity to review and record the testing results.

6. Where interconnected spaces are blinded off as a unit, each space shall be tested and the results recorded. The most hazardous condition found shall govern the entry procedures to be followed.

Confined Space Entry if Tests Show No Hazard

If dangerous air contamination and/or oxygen deficiency does not exist within the space, as demonstrated by tests performed in accordance with the pre-entry procedures, entry into and work within the space may proceed subject to the following provisions:

1. Air testing, in accordance with the pre-entry procedures, shall be conducted with sufficient frequency to ensure that the development of dangerous air contamination and/or oxygen deficiency does not occur during the performance of any operation.

2. Work stops, employees exit, and additional precautions are taken if dangerous air contamination and/or oxygen deficiency does develop.

Confined Space Entry if Tests Show Hazards are Present- or are Likely to Develop

Where the existence of dangerous air contamination and/or oxygen deficiency is demonstrated by tests performed in accordance with the pre-entry procedures or if the development of dangerous air contamination and/or an oxygen deficiency is imminent, the following requirements shall also apply:

1. Existing ventilation shall be augmented by appropriate means.

2. When additional ventilation has removed dangerous air contamination and/or oxygen deficiency as demonstrated by additional testing conducted (and recorded), entry into and work within the space may proceed.

3. No source of ignition shall be introduced until the implementation of appropriate provisions of this section have ensured that dangerous air contamination due to flammable and/or explosive substances does not exist.

4. Whenever oxygen-consuming equipment such as salamanders, plumbers' torches or furnaces, and the like, are to be used, measures shall be taken to ensure adequate combustion air and exhaust gas venting.

5. To the extent feasible, provision shall be made to permit ready entry and exit.

6. Where it is not feasible to provide for ready exit from spaces equipped with automatic fire suppression systems employing harmful design concentrations of toxic or oxygen-displacing gases, or total foam flooding, such systems shall be deactivated. Where it is not practical or safe to deactivate such systems, the use of respiratory protective equipment, such as SCBA, shall apply during entry into and work within such spaces.

Confined Spaces Where Dangerous Air Contamination Cannot be Removed by Ventilation

It is the policy of Berkeley Cement to only work in a confined space if it can be made safe by the means listed above. We will not work in confined spaces where there is an ongoing hazard of air contamination or oxygen deficiency. These operations require extra measures and precautions beyond our immediate ability to perform. If such work does become necessary, a separate program will be developed.

Respiratory Protection

Occasionally our work may necessitate the use of respirators to protect against air contaminants. Due to the limitations of respirators and their uncomfortable nature, Berkeley Cement will make every effort to provide other means of protection, such as local exhaust ventilation, prior to requiring employees to wear them.

When it is clearly impracticable to remove harmful dusts, fumes, mists, vapors, or gases at their source, or where emergency protection against occasional and/or relatively brief exposure is needed, Berkeley Cement will provide, and the employee exposed to such hazard shall use, approved respiratory equipment.

Whenever respirators are required to be used to control harmful exposures, only respiratory equipment approved for that purpose shall be used and such equipment shall be approved by U.S. Bureau of Mines, Department of Interior, the Mine Safety and Health Administration, or the National Institute for Occupational Safety and Health. Only parts approved for the specific respirator system shall be used for replacement.

Respirator Selection

1. The proper respirator for the job and hazard shall be selected. This selection will be made in accordance with Cal/OSHA or ANSI Z88.2-1980 standards. The correct respirator shall be specified for each job. The individual issuing them shall be adequately instructed to insure that the correct respirator is used.

2. The manufacturers' recommendations and literature will also be reviewed to determine if the respirator provides protection against the expected contaminants. For instance, dust masks do not provide protection against gasses or vapors.

Respirator Use, Care and Training

The following guidelines will be followed when respirators are issued to our employees:

1. Employees shall not be assigned to tasks requiring the use of respirators unless it has been determined that they are physically able to perform the work while using the required respiratory equipment. A licensed physician shall determine what health and physical conditions are pertinent. The medical status of persons assigned use of respiratory equipment shall be reviewed periodically.

2. Employees will be instructed and trained in the need, use, sanitary care, and limitations of such respiratory equipment.

3. Respirators shall be inspected before each use and shall not be worn when conditions prevent a good gas-tight face seal.

4. Every respirator wearer shall be instructed in how to properly fit and test respiratory equipment and how to check the face piece fit and shall be provided the opportunity to wear respiratory equipment in normal air for an adequate familiarity period, and to wear it in a test atmosphere (such as generated by smoke tubes or isoamyl acetate).

5. Berkeley Cement will provide, repair, or replace respiratory protective equipment as may be required due to wear and deterioration, and maintain respirators in effective and sanitary condition.

6. Routinely used respiratory equipment shall be regularly cleaned, inspected, and sanitized by a qualified person. We will provide means for cleaning all respiratory protective equipment.

7. Respiratory equipment shall not be passed on from one person to another until it has been cleaned and sanitized. Respirators individually assigned should be marked to indicate to whom it was assigned. This mark shall not affect the respirator performance in any way. The date of issuance should be recorded.

8. When not in use, respirators shall be stored to protect against dust, sunlight, extreme temperatures, excessive moisture, or damaging chemicals. Plastic zip lock bags are suitable for storage.

9. In atmospheres immediately hazardous to life or health, at least two persons equipped with approved respiratory equipment shall be on the job. Communications shall be maintained between both or all individuals present. Standby persons, at least one of which shall be in a location which will not be affected by any likely incidents, shall be present with suitable rescue equipment, including self-contained breathing apparatus.

10. Respirator cartridges shall be labeled and color-coded as to the contaminant they protect against. The canister label shall include the following information in bold letters:

"Canister for" (Name for Atmospheric Contaminant)

or

"Type N Gas Mask Canister"

"For Respiratory Protection in Atmospheres Containing Not More Than_____Percent by Volume of _____"
(Name of Contaminant)

Each canister shall have a label warning that gas masks should be used only in atmospheres containing sufficient oxygen to support life. Canisters having a special high-efficiency filter for protection against highly toxic particulates shall be labeled with a statement of the type and degree of protection afforded by the filter.

Fire Prevention and Emergency Action Plan

Berkeley Cement has developed the following emergency plan to cover those designated actions that must be taken to ensure employee safety from fire and during other emergencies. Any questions about this plan should be directed to our Safety Coordinator.

Office, Shop & Warehouse Emergency Evacuation and Fire Prevention

1. All required emergency exits are clearly identified in the office, shop, and warehouse and that all required fire fighting and emergency equipment is available and in good condition.

   The following items will be maintained:

   - First aid kit
   - Drinking water
   - Flashlight
   - Portable battery powered radio and batteries
   - Fire extinguishers
   - Wrench to shut off the main gas valve
   - Pry bars, axes, saws, tools or similar devices for employee rescue

2. Creating a facility map designating all emergency evacuation routes and the locations of all fire fighting equipment and emergency supplies and equipment. These maps will be posted in at least two locations in the facility.

3 . Training all exposed employees on the procedures to be followed in the event of fire, earthquake or other emergency including how to properly notify other affected employees.

4. Identifying potential fire hazards in the office, shop and warehouse and ensuring that adequate steps are taken to prevent fires.

5. Ensuring that combustible trash and materials are removed promptly from the facility, and that all flammable and combustible liquids are properly stored and handled.

During an Emergency

In the event of an emergency such as earthquake or fire, all employees are expected to evacuate the premises immediately. Our Safety Coordinator may assign some employees the task of shutting off the gas or electricity, if needed. At no time will any employee be expected to jeopardize their own safety to do this.

Employees will be notified of emergencies through one of the following:

- Fire alarm
- Intercom
- Emergency horn
- Direct voice communication

After the emergency evacuation has been completed, a head count will be taken to ensure everyone is out of the building.

Fire Prevention at Construction Sites

The following procedures will be used to prevent fires on construction sites:

1. All accumulated combustible trash and debris will be removed as soon as practical.

2. Flammable liquids will only be stored and dispensed from UL approved safety containers designed for that purpose.

3. All rags soaked with flammable or combustible liquids will be properly stored in closed metal containers.

4. Appropriate precautions will be taken to prevent fires when torch cutting, welding or soldering.

5. Compressed gas cylinders containing flammable or explosive gasses will be properly stored in the upright position with their caps on and protected from heat or puncture. Fuel gas and oxygen shall be separated at least 20 feet when stored.

6. Smoking or open lights are prohibited within 50 feet of flammable liquid or gas storage and dispensing areas.

7. Flammable solvents will not be used for cleaning purposes.

8. A fire extinguisher, rated not less than 2A, shall be provided for each 3,000 square feet of the floor area or fraction thereof. Where the floor area is less than 3,000 square feet, at least one extinguisher shall be provided.

9. Travel distance from any point of the protected area to the nearest fire extinguisher shall not exceed 75 feet.

10. At least one fire extinguisher, rated not less than 2A, shall be provided on each floor. In multistory buildings, at least one fire extinguisher shall be located adjacent to the stairway at each floor level.

11. A fire extinguisher, rated not less than 10B, shall be provided within 50 feet of wherever more than 5 gallons of flammable or combustible liquids or 5 pounds of flammable gas are being used on the job site. This requirement does not apply to the integral fuel tanks of motor vehicles.

12. Portable fire extinguishers shall be inspected monthly, or at more frequent intervals by the employer, and serviced at least annually by a person licensed or registered by the State Fire Marshal. NOTE: Inspection is a "quick check" that an extinguisher is available and will operate. It is intended to give reasonable assurance that the extinguisher is fully charged and operable. This is done by seeing that it is in its designated place, that it has not been actuated or tampered with, and that there is no obvious or physical damage or condition to prevent operation.

13. Suitable fire control devices, such as portable fire extinguishers, shall be available at locations where flammable or combustible liquids are stored.

14. At least one portable fire extinguisher, having a rating of not less than 20-B units, shall be located outside of, but not more than 10 feet from, the door opening into any room used for flammable liquid storage.

15. At least one portable fire extinguisher, having a rating of not less than 20-B units, shall be located not less than 25 feet, nor more than 75 feet, from any flammable liquid storage area located outside.

Office Safety

Office accidents can and do happen. To prevent them, Berkeley Cement has developed the following rules for our office staff. We will also endeavor to include office employees in periodic safety meetings. If at any time, you feel there is a safety hazard, or you have any safety concerns, please do not hesitate to notify our Safety Coordinator.

1. Report all accidents and injuries, no matter how minor, to your supervisor immediately.

2. Correct or report any safety hazards that you observe.

3. Clean up any spilled material that may present a slipping hazard.

4. Do not stretch any cords across aisles that may present a tripping hazard.

5. No one is allowed to climb on shelves or stand on chairs, you must use a step stool or ladder.

6. Keep all legs of the chair on the floor. Do not tilt chairs too far back.

7. No one shall be in the possession of, or under the influence of, alcohol or controlled substances while on the premises.

8. No horseplay will be tolerated.

9. Close file drawers when not in use.

10. Do not open more than one file drawer at a time. This could cause the cabinet to tip.

11. Do not store heavy objects above your head, which could fall on you in an earthquake.

12. Do not store flammable or combustible materials near heaters or other heat sources.

13. If you are unsure how to do any task safely, ask your supervisor.

14. Do not operate any equipment you are not trained and authorized to use.

15. Always follow safe lifting procedures when lifting any object and get help for heavy loads.

    - Bend your knees, not your back.
    - Keep the load close to body.
    - Keep your back straight.
    - Lift with your legs.
    - Do not lift and twist.

Office Ergonomics

Studies have shown over the years that poorly designed and arranged work areas and repetitive motions can lead to a variety of injuries including carpal tunnel syndrome and tendonitis, which are often referred to as repetitive motion injuries (RNH). As with cancer, heart disease, and many other ailments, there are risk factors that increase an individual's likelihood of developing RNH. If the risk factors are reduced, so are the chances of being injured. While some of these risk factors, such as family history, cannot be controlled in the employment setting, many can, including:

- The force used to perform a task.
- Posture while performing tasks.
- The number of repetitions performed in a given time period.
- Mechanical stresses such as hard surfaces.

The most significant RAE risk factor in office environments is poor body posture caused by improper workstation design or layout. In many cases employees are required to work in awkward positions for long periods of time. This greatly increases the likelihood of injury. Fortunately, this is often the easiest problem to correct. The goal is to perform work in neutral posture as much as possible. Neutral posture is best described as the most comfortable position and usually involves little or no twisting or deviation of the joints.

To apply the principle of neutral posture to the office setting we need to look at the five major components of office workstations. They are: the chair, the computer keyboard, the desk, the computer monitor, and the work product.

Chairs are often the most overlooked piece of office equipment, yet they are the single most important item from an ergonomic standpoint. A poor chair that lacks adjustments and support makes it almost impossible to work comfortably and in neutral posture. Good office chairs are fully adjustable including:

- Chair height.
- Height of the back rest.
- The position forward or back of the backrest.
- The position forward or back of the seat pan.
- The angle (tilt) of the seat pan.
- If armrests are provided, they should be height and width adjustable.

In many cases, fully adjustable chairs are provided for employees, but they never adjust them. Make sure you understand all of the adjustments your chair has and how to use them. When in doubt, read the owner's manual or ask. A properly adjusted chair should allow the user to rest their feet comfortably on the floor without putting pressure on their lower thighs. Their knees should be approximately the same height as their hips, or slightly higher, and they should be able to sit back against the backrest which is positioned for low back support. If your feet don't rest comfortably on the floor the chair is too high. If the chair cannot be lowered any further, a footrest should be used.

Whether armrests are provided depends on the type of workstation and personal preference. If they are provided, they should be height adjustable to allow the arms to rest comfortably on them without excessive shoulder drop. Armrests should also be well padded to reduce pressure on the lower arms.

Once the chair is properly adjusted, the next step is to position the keyboard to minimize bend in your wrists. In order to accomplish this, it is often necessary to have a position and height adjustable keyboard tray attached to the underside of the desk. These should not be confused with keyboard drawers which can not be adjusted for height or position. If you do not use a tray, the only way to adjust the keyboard height is by moving the desk, which is difficult at best, and sometimes impossible. Using a tray also frees up workspace on the desk where the keyboard once sat.

The height of the keyboard should be set so that there is approximately a 90-degree angle between the upper and lower arms. There should also be a straight line from the elbow out through your fingers. If your fingers hang down too much or bend up, creating a "V" between your hand and forearm, you place extra stress on your wrist. Many people find it comfortable to use padded wrist rests in front of the keyboard. This often helps minimize wrist deflection. The keyboard tray should also be adjusted so that you do not have to reach forward too far to type. Your elbows should be close to your side and back by your spine, not out in front of you. Do not extend the small legs on the bottom of the keyboard tray. This increases the wrist angle unnecessarily. Many keyboard trays now also have extensions for your mouse. This places everything you need within easy reach.

After you have adjusted the chair and keyboard tray, try using your desk. You should be able to comfortably write and use your other office equipment such as the calculator and phone. Some of these items may need to be moved closer to you. Your legs should also fit easily under the desk. Often, stored items such as boxes block this and should be removed. The standard desk height is fine for most people. If you are exceptionally tall or short, however, adjusting the desk up or down an inch, if possible, may be helpful.

Now you are ready to position your monitor. It should be directly in front of you. Monitors that are off to one side cause you to turn your neck, which can lead to injury. The top of the screen should be at about eye level. If the screen is too low your neck will ache from constantly looking down. Putting old phone books or reams of copy paper under them can easily raise monitors. You may also use a special adjustable monitor holder to free up desk space. Tilt the screen so that the top is closer to you than the bottom. This will reduce glare from overhead lights. If you can't get away from outside light, use a glare screen to improve contrast and reduce eyestrain that can cause headaches. Also know how to adjust the screen contrast and brightness controls and keep the screen clean and free of dust and fingerprints.

The work product should be kept within easy reach. Heavy notebooks or binders that you use often should be placed near you. If you use the phone a lot, consider using a headset to reduce neck strain and free up your hands for other tasks. Copy-holders can be very helpful if you are entering data or typing from paper. Set them up so they are as close to the screen as possible to reduce neck motion.

The risk factors of force, repetition, and mechanical stress are also controllable in an office environment. Using automatic staplers and date stamps can reduce force. If heavy files, boxes or other items must be moved, use carts and dollies. When filing, use two hands to hold the larger files and keep heavy items stored between knee and shoulder height to reduce strain on your back and arms.

Repetition is controllable through the use of task management. Break up the work as much as possible throughout the day. If possible, do not spend more than two hours at a time typing or entering data. Intersperse other tasks such as filing to use other muscle groups. You should take ten-minute breaks every two hours if you are doing repetitive tasks.

Mechanical stress occurs when you rest parts of your body against hard or sharp objects. This cuts off blood flow and presses on nerves, which can lead to numbness and tingling. Sharp edges can be padded or cushioned where needed to reduce this.

Code of Safe Practices

CSP - General Safety Rules

1. All persons shall follow this Code of Safe Practices and render every possible aid to safe operations.

2. Failure to abide by the Code of Safe Practices may result in disciplinary action up to and including termination.

3. Immediately report any unsafe conditions, accidents, injuries or illness to your foreman or superintendent.

4. If you are unsure of the safe method to do your job, STOP and ask your supervisor. Ignorance is no excuse for a safety violation.

5. No one shall be knowingly permitted to work while the employee's ability or alertness is impaired by fatigue, illness, and prescription or over the counter drugs. Employees who are suspected of being under the influence of illegal or intoxicating substances, impaired by fatigue or an illness, shall be prohibited from working.

6. Never work while under the influence of an illegal or intoxicating substance, fatigued or ill.

7. Anyone known to be under the influence of any drugs or intoxicating substances, which impair the employee's ability to safely perform the assigned duties, shall not be allowed on the job.

8. Horseplay, scuffling, fighting and other acts, which tend to have an adverse influence on the safety or well being of the employees, are prohibited.

9. Work shall be well planned and supervised to prevent injuries in the handling of materials and in working together with equipment.

10. Keep your work area clean, free of debris, electrical cords and other hazards.

11. Immediately clean up spilled liquids.

12. Always notify all other individuals in your area who might be endangered by the work you are doing.

13. Do not operate equipment that you are not familiar with. Do not attempt to use such equipment until you are fully trained and authorized.

14. You are responsible for ensuring all safety guards are operable and in place. If they are not, STOP working and tell your supervisor.

15. Never bring firearms, weapons, illegal drugs or alcoholic beverages on company or customer property or the job site.

16. A red tag system identifies equipment that is NOT to be operated, energized or used. All tagout or lockout notices and procedures must be observed and obeyed.

17. Do not block exits, fire doors, aisles, fire extinguishers, first aid kits, emergency equipment, electrical panels, or traffic lanes.

18. Do not leave tools, materials, or other objects on the floor, which might cause others to trip and fall.

19. Do not run on the job site or in the shop or office area.

20. Do not distract others while working. If conversation is necessary, make sure eye contact is made prior to communicating.

21. Employees shall not enter manholes, underground vaults, chambers, tanks, silos, or other similar places that receive little ventilation, unless it has been determined that it is safe to enter.

22. Employees shall ensure that all guards and other protective devices are in proper places and adjusted, and shall report deficiencies promptly to the foreman or superintendent.

23. Materials, tools, or other objects shall not be thrown from buildings or structures until proper precautions are taken to protect others from the falling objects.

24. Employees shall cleanse thoroughly after handling hazardous substances, and follow special instructions from authorized sources.

25. Gasoline or other flammable liquids shall not be used for cleaning purposes.

26. No burning, welding, or other source of ignition shall be applied to any enclosed tank or vessel, even if there are some openings, until it has first been determined that no possibility of explosion exists, and authority for the work is obtained from the foreman or superintendent.

27. Any damage to scaffolds, false work, or other supporting structures shall be immediately reported to the foreman and repaired before use.

CSP - Fall Protection

1. Fall protection, such as standard railings or a safety harness and lanyard, shall be used at all times, when working 7 ½ feet or more above the level below.

2. Floor and wall openings, unfinished balconies, elevator shafts and similar areas must be railed, covered or barricade to prevent falls.

3. Never remove fall protection rails, covers, or barricades without permission from your foreman and special precautions. Always replace these items when finished with your task.

4. All safety harnesses shall be the full body types with a shock-absorbing lanyard attached to a substantial anchorage capable of supporting twice the maximum load. Lanyards shall be attached at the wearer's upper back. Body belts are not to be worn as fall protection.

5. Read and obey all manufacturer instructions relating to your fall arrest system (safety harness and lanyard).

6. Inspect all components of your harness and lanyard prior to each use and after a fall. Defective equipment is not to be used. Lanyards must be destroyed after a fall and never reused.

7. Safety harnesses and lanyards should limit free fall distance to less than 4 feet and prevent contact with any level or objects below you.

8. Never use any part of a fall arrest system, such as a harness or lanyard, to hoist materials or for any other purpose.

9. Safety harnesses and shock absorbing lanyards are required to be worn at all times while in boom lifts.

Electrical Safety

1. Only trained, qualified, and authorized employees are allowed to make electrical repairs or work on electrical equipment or installations.

2. All electrical equipment and systems shall be treated as energized until tested or otherwise proven to be de-energized.

3. All energized equipment and installations will be de-energized prior to the commencement of any work. If the equipment or installation must be energized for test or other purposes, special precautions will be taken to protect against the hazards of electric shock.

4. All equipment shall be locked out to protect against accidental or inadvertent operation when such operation could cause injury to personnel. Do not attempt to operate any switch, valve, or other energy isolating device bearing a lock.

5. Safety grounds shall always be used where there is a danger of shock from back feeding or other hazards.

6. Polyester clothing or other flammable types of clothing shall not be worn near electrical circuits. Cotton clothing is much less likely to ignite from arc blast. Employees working on live circuits shall be provided Nomex or equivalent fire resistant clothing.

7. Suitable eye protection must be worn at all times while working on electrical equipment.

8. Always exercise caution when energizing electrical equipment or installations. Take steps to protect yourself and other employees from arc blast and exploding equipment in the event of a fault.

9. All power tools will be grounded or double insulated. Tools with defective cords or wiring shall not be used.

10. Metal jewelry should not be worn around energized circuits.

11. Extension and temporary power cords must be heavy duty and grounded. Frayed or defective cords shall not be used.

12. Suitable temporary barriers or barricades shall be installed when access to opened enclosures containing exposed energized equipment is not under the control of an authorized person.

13. Electrical installations must be protected from accidental contact by enclosures or tight fitting covers.

14. GFCI's are required on all power outlets.

15. Circuits shall not be overloaded with equipment or extension cords.

16. Metal measuring tapes, fish tapes, ropes or other metal devices are prohibited where they may contact energized parts of equipment or circuits.

CSP - Lock-out / Tag-out

1. All machinery and electrical equipment shall be locked out and tagged prior to repair, cleaning, or adjustment unless power is necessary to perform the work. If so, other precautions, specified by your foreman, will be taken.

2. Use your own lock and key. No one else should have a key for your lock. Destroy all duplicate keys.

3. Maintain control of your key at all times to prevent unauthorized use.

4. Never remove another employee's lock or energize tagged equipment.

5. If multiple employees are working on the same equipment, each employee should install their own lock.

6. Notify all affected employees that a lock-out/tag-out is required and the reasons for it.

7. If the equipment is operating, shut it down by the normal stopping procedure (depress stop button, open toggle switch, etc.).

8. Operate the switch, valve or other energy isolating devices so that the energy source(s) (electrical, mechanical, hydraulic, etc.) is disconnected or isolated from the equipment.

9. Stored energy, such as that in capacitors, springs, elevated machine members, rotating flywheels, hydraulic systems, and air, gas or water pressure, etc. must also be dissipated or restrained by methods such as grounding, repositioning, blocking, bleeding down, etc.

10. Lockout all energy isolation devices with an individual lock.

11. After ensuring that no employees are exposed and as a check of having disconnected the energy sources, operate the push button or other normal operating controls to make certain the equipment will not operate. **Caution: Return operating controls to neutral position after the test.**

12. The equipment is now locked-out. Install red lockout tag on operating controls.

13. After repair is complete and the equipment is ready for testing or normal operation, check the equipment to see that all cover plates and safety devices have been reinstalled.

14. When the equipment is clear, remove all locks and tags. The energy isolating devices may be operated to restore energy to the equipment.

CSP - Company Vehicles

1. Only authorized employees are permitted to operate company vehicles. Do not let anyone else drive your company vehicle.

2. Company vehicles are to be used for company business only. Personal, off duty and family use are prohibited.

3. Drive defensively and obey all traffic and highway laws.

4. Always wear your seat belt, whether the driver or a passenger.

5. Report all accidents as soon as possible to your supervisor and obtain a police report.

6. Keys must be removed from all unattended vehicles and the vehicles must be locked, unless parking inside the facility.

7. Do not jump from the cab or bed of company vehicles. Always use the stairs or a ladder.

8. Inspect your vehicle and report any defects or operating problems to your supervisor so that repairs can be made.

9. No smoking while refueling.

10. If your driver's license is revoked or expired, immediately notify your supervisor and do not drive.

CSP - Ladder Safety

1. Inspect the ladder before using it. If it is broken, throw it out. Never repair a broken ladder, get a new one. Keep portable stairways, ladders and step stools in good condition and use them only in a safe manner.

2. Use the proper ladder for the job. Do not use "X" frame ladders as straight ladders. Make sure the ladder is tall enough to reach the work area. Do not use metal ladders for electrical work.

3. Do not place ladders in passageways, doorways, or any location where they might be hit or jarred, unless protected by barricades or guards.

4. Ladders should only be placed on hard level surfaces. Make sure the ladder feet are not placed on sandy, slippery, or sloping surfaces. Clean or sweep the area where the ladder feet will be and make sure the rubber feet are in good shape.

5. Ladder rungs and steps must be kept free of grease, oil, mud, or other slippery substances.

6. Arrange your work so you are able to face the ladder and use both hands while climbing. Do not carry tools or equipment while climbing a ladder. Climb the ladder, and then hoist the tools or equipment with a line or a hoisting device.

7. Avoid temporary ladders. Always use a commercially made construction grade ladder of the proper length for the work being performed.

8. Secure portable ladders in place and at a pitch so the leveling indicator is in alignment or the distance from the wall to the base of the ladder is at least 1' for every 4' of height.

9. Straight ladders shall be tied off the top of the ladder to prevent slipping.

10. Be aware of objects below you, move or cover sharp objects in case you fall. Cap or bend all rebar.

11. Do not stand on or work from the 2nd rung from the top or above. Also do not reach too far from the ladder. Keep your belt buckle between the side rails.

12. Extension ladders shall extend at least 36" above the level being accessed.

13. On all ladders, do not step on cross bracing that is not intended to be used for climbing.

CSP - Boom and Scissor-lifts

1. Only trained and authorized employees are allowed to use boom or scissor-lifts. If you aren't trained, stay off.

2. Read and obey all manufacturers instructions and safety precautions.

3. Inspect all lifts prior to use. Defective equipment shall not be used.

4. A safety harness with shock absorbing lanyard must be worn while using boom lifts. Harnesses are not required for scissor-lifts, provided you do not leave the work platform.

5. Always stay inside the platform railing. Do not use planks or ladders to extend your reach.

6. Keep the safety chains up on scissors lifts.

7. Always lower the lift before moving.

8. Never use scissors lifts on uneven ground. They are designed for use primarily on concrete floors.

CSP - Personal Protective Equipment (PPE)

1. Use the correct PPE for each job assignment. If you don't know, ask.

2. PPE shall be maintained in good condition and cleaned regularly.

3. PPE shall be stored properly when not in use to protect it from damage.

4. Damaged or broken PPE must be returned to your foreman for replacement.

5. Hard hats must be worn on job sites at all times.

6. ANSI approved safety glasses must be worn when working with power tools, compressed air or gasses, chemicals or any other item that creates an eye injury hazard.

7. Face shields with safety glasses are recommended when grinding or working with hazardous chemicals.

8. Employees must wear industrial work shoes in the shop and on the job site. The shoes must have complete leather uppers and skid resistant soles and be in good condition. Steel toe protection is recommended.

9. Athletic style shoes, tennis shoes, open toe shoes, plastic or vinyl shoes or shoes with decorative accessories are not allowed.

10. Hearing protectors must be worn when working with loud equipment such as cut off saws, chain saws, air hammers or grinders.

11. Back support belts should be worn for heavy lifting tasks. They do not help you lift more, but may provide some protection from back injuries.

12. Be sure the protective clothing you wear will not hamper or restrict freedom of movement due to improper fit.

13. Long pants of heavy-duty material must be worn. No shorts or sweat pants are allowed.

14. Do not wear loose, tom or frayed clothing, dangling ties, finger rings, dangling earrings, jewelry items, or long hair unless contained in a hair net, while operating any machine, which could cause entanglement.

15. If required, wear NIOSH approved respirators when applying adhesives, paint, welding, grinding or working with chemicals. Read the SDS to find out which types of respirators are required. Facial hair may not be permitted in certain circumstances.

CSP - Hand and Power Tools

1. Proper eye protection must be worn when using hand and power tools.

2. Know your hand and power tool applications and limitations. Always use the proper tool for the job.

3. Inspect cords and tools prior to use. Do not use tools that are faulty in any way. Exchange them for safe tools immediately.

4. Power tools must be grounded or double insulated. All power tools are to be plugged into a grounded GFCI outlet.

5. Do not use power tools in damp, wet or explosive atmospheres.

6. Do not lift, lower or carry portable electrical tools by the power cord.

7. Keep all safety guards in place and in proper working order.

8. Use clamps or vises to secure work pieces.

9. Do not force hand power tools. Apply only enough pressure to keep the unit operating smoothly.

10. Return all tools and other equipment to their proper place after use.

11. Unplug all power tools before changing bits and/or grinding disks.

12. Never leave chuck keys in the tool during operation.

13. Do not use a screwdriver as a chisel.

14. Before using sledges, axes or hammers be sure the handles are securely fastened with a wedge made of sound material.

15. Do not use a handle extension on any wrench.

16. Files should be equipped with handles and should not be used as a punch or pry.

CSP - Trenching and Excavation

1. AR excavations and trenches 5 feet deep or greater must be shored, sloped, or benched to protect workers from the hazards of moving earth. AU trenching must be done in accordance with Cal/OSHA regulations.

2. Always locate underground utilities before digging. Also contact regional notification centers in advance.

3. Do not work under loads handled by lifting or digging equipment.

4. Ladders shall be provided for access to trenches and excavations 4' deep or greater. Use them.

5. Keep all spoils 2' from the edge.

6. Barricade trenches or use caution tape to warn others of their presence.

7. Inspect all trenches and excavations daily, before work, to look for signs of shifting earth.

8. Do not jump over trenches, use wood planks or sheeting.

CSP - Hazardous Materials and Chemicals

1. Read all warning labels and Safety Data Sheets (SDS) before using any chemicals. The SDS contains personal protective equipment and safety information and are available from your foreman.

2. Hazardous materials shall be handled in accordance with the SDS and label. If protective equipment is required, use it.

3. Eye protection must be worn when working with hazardous materials or chemicals.

4. Mixing of chemicals is prohibited at all times unless required by the label. Before you mix, review applicable SDS's.

5. Always wash your hands thoroughly after handling chemicals and before eating or smoking, even if you were wearing protective gloves.

6. Never use solvents for hand cleaning. Use the non-toxic hand cleaners provided.

7. Store all hazardous materials properly in suitable containers that are properly labeled.

8. Use chemicals only in well ventilated areas.

9. When using secondary containers, ensure that they are labeled as to their contents and hazards.

10. Do not disturb any asbestos. STOP work and tell your foreman. If you are not sure, STOP and ask.

11. Do not cut or weld stainless steel or galvanized metal without respiratory protection. These items create toxic fumes.

12. Work with lead, asbestos, cadmium and other toxic compounds require special precautions. Do not attempt to perform this work without special equipment and training.

CSP - Fire Prevention and Housekeeping

1. Always take precautions to prevent fires which may be started, particularly from oily waste, rags, gasoline, flammable liquids, acetylene torches, improperly installed electrical equipment and trash.

2. Fire fighting equipment is to be inspected on a regular basis. All discharged, damaged or missing equipment is to be immediately reported to a supervisor. Tampering with fire equipment is prohibited.

3. Access to fire extinguishers must be kept clear at all times. Make note of the location of fire fighting equipment in your work area.

4. Never use gasoline or flammable solvents for cleaning purposes.

5. Smoking is prohibited within 20 feet of where flammable substances are present.

6. In case of fire, employees shall consider the safety of themselves and other individuals before saving property.

7. Keep your work areas free of debris. Remove useless material from the work area as fast as required to help reduce tripping hazards.

8. Maintain awareness of potential hazards when walking about the job site.

9. Keep tools, materials and equipment out of walkways and stairways at all times.

10. Sharp wires or protruding nails must be kept bent.

11. Place tools and equipment so they will not slide off the roof.

12. Tie material down at day's end so the wind will not blow it off the roof.

CSP - Traffic Safety

1. All employees exposed to traffic hazards are required to wear orange flagging garments (shirts, vests, and jackets) at all times.

2. When possible, construction vehicles are to be placed between the employees and traffic to prevent vehicles from entering the work area and hitting members of the crew.

3. All traffic controls will be established in accordance with the State of California Manual of Traffic Controls for Construction and Maintenance Work Zones.

4. Traffic controls are to be properly maintained throughout the workday. Signs and cones must be kept upright, visible and in their proper position at all times.

CSP - Scaffolds

1. Scaffolds are to be erected, dismantled, altered or repaired by the scaffold contractor ONLY.

2. Inspect scaffolds prior to use and report any damage immediately to your foreman. Do not use damaged scaffolds.

3. You are not permitted to ride on rolling scaffolds being moved.

4. At least 2 people are required to move rolling towers. Secure or remove all tools and materials before moving.

5. Always use guard railings on all scaffolds regardless of height.

6. Use only high quality planking on scaffolds and be sure the planks are secure to prevent shifting.

7. Always apply caster brakes and use outriggers when scaffolds are stationary.

8. Do not use planks or guard rails as a temporary means of obtaining greater height.

9. Be aware of the objects below you; move or cover sharp objects in case you fall. Cap or bend all rebar.

CSP - Cranes and Rigging

1. No employee is permitted to ride on loads, hooks, or slings of any crane, hoist or derrick.

2. Do not work or stand under any suspended load. Crane operators shall avoid swinging loads over people.

3. Inspect all slings and chains prior to use. Do not use defective slings, chains, or rigging.

CSP - Welding and Cutting

1. Make sure your welding equipment is installed properly and grounded and in good working condition.

2. Always wear protective clothing suitable for the welding or cutting to be done.

3. Always wear proper eye protection when welding, brazing, soldering or flame cutting. Once you remove your welding helmet, put on safety glasses.

4. Keep your work area clean and free of hazards. Make sure that no flammable, volatile or explosive materials are in or near the work area.

5. Handle all compressed gas cylinders with extreme care. Keep caps on when not in use. Make sure that all compressed gas cylinders are secured to the equipment carriage, wall or other structural supports. When compressed gas cylinders are empty close the valve, install the cap and return to correct bottle storage area.

6. Store compressed gas cylinders in a safe place with good ventilation. Acetylene cylinders and oxygen cylinders should be kept at least 20 feet apart.

7. Do not weld or cut in confined spaces without special precautions and your foreman's authorization.

8. Do not weld on containers that have held combustibles or flammable materials.

9. Use mechanical exhaust ventilation at the point of welding when welding lead, cadmium, chromium, manganese, brass, bronze, zinc or galvanized metals. These metals are highly toxic and their fumes should not be breathed.

10. Make sure all electrical connections are tight and insulated. Do not use cables with frayed, cracked or bare spots in the insulation.

11. When the electrode holder or cutting torch is not in use, hang it on the brackets provided. Never let it touch a compressed gas cylinder.

12. Dispose of electrode and wire stubs in proper containers since stubs and rods on the floor are a safety hazard.

13. Use weld curtains to shield others from the light rays produced by your welding.

14. Make sure all compressed gas connections are tight and check for leaks. Do not use hoses with frayed or cracked spots.

15. Keep your leads orderly and out of walkways. Suspend them whenever possible.

16. DO NOT WELD if leads or machine are in or near water.

17. Make sure a portable fire extinguisher is nearby.

18. Keep your work area clean and free of hazards. When flame cutting, sparks can travel 30-40 feet. Do not allow flame cut sparks to hit hoses, regulators or cylinders.

19. Use oxygen and acetylene or other fuel gases with the appropriate torches and tips only for the purpose intended.

20. Never use acetylene at a pressure in excess of 15 pounds per square inch. Higher pressure can cause an explosion.

21. Never use oil, grease or any other material on any apparatus or thread fitting in the oxyacetylene or oxyfuel gas system. Oil and grease in contact with oxygen will cause spontaneous combustion.

22. Always use the correct sequence and technique for assembling and fighting the torch. Always use the correct sequence and technique for shutting off a torch.

23. Check valves must be used on all compressed gas cylinders to prevent back flow of the gas.

CSP - Heavy Construction Equipment

General

1. Repairs must not be made to powered equipment until workers are protected from movement of the equipment or its parts.

2. Wherever mobile equipment operation encroaches upon a public thoroughfare, a system of traffic controls must be used.

3. Flagmen (wearing orange vests) are required at all locations where barricades and warning signs cannot control the moving traffic.

4. Jobsite vehicles must meet design requirements as follows:

5. operable service, emergency, and parking brake.

6. two operable headlights and taillights for night operation.

7. windshield wipers and defogging equipment as required.

8. seat belts are required if the vehicle has Rollover Protection Structures (ROPS).

9. fenders or mud flaps are required.

10. Vehicles used to transport employees must have adequate seating.

11. Vehicles (and systems) must be checked for proper operation at the beginning of each shift.

Roll-Over Protection (ROPS) & Seatbelts

ROPS and seat belts are required for the following equipment with a brake horsepower rating above 20:

- Crawler tractor
- Bulldozer
- Front-end loader
- Motor grader
- Scraper
- Tractor (except side boom pipe laying)
- Water wagon prime over
- Sheepsfoot type rollers and compactors
- Rollers and compactors (over 5950 pounds)

Haulage & Earth Moving Equipment

General

1. Every vehicle (with a body capacity of 2.5 cubic yards or more) used to haul construction material must be equipped with an automatic back-up alarm which sounds immediately on backing.

2. All vehicles must be equipped with a manually operated warning device.

3. All other vehicles operating in areas where backwards movement is hazardous must be equipped with an automatic back-up alarm or its equivalent.

4. Haulage vehicles in operation must be under operator control and must be kept in gear when descending grades.

5. The brakes on a haulage vehicle must meet the criteria specified by the Construction Safety Orders.

6. The control devices on a haulage vehicle must be inspected at the beginning of each workshift.

7. Exposed scissor points on front-end loaders must be guarded.

8. The engine must be stopped during refueling.

9. Lights are required for night operation.

10. Scrapers, carryalls, power units, and hauling units must be equipped with fenders.

11. Vehicles loaded by cranes, shovels, loaders and similar devices must have an adequate cab or canopy for operator protection.

12. Scrapers must have service brakes, parking brake, and an emergency stopping system.

13. Dust must not be allowed to seriously limit visibility. Respirators are required for drivers when air contamination becomes hazardous.

CSP - Highlift Trucks (Forklifts)

General

1. The rated lifting capacity must be posted in a location readily visible to the operator.

2. A highlift truck must not be used to elevate employees unless a platform with guardrails, a backguard and a kill switch are provided on the vehicle.
   Note: When guardrails are not possible, safety belt protection is required.
   The employer must post and enforce a set of operating rules for highlift trucks.

Basic Operating Rules

1. Only trained and authorized drivers must operate forklifts.

2. Stunt driving and horseplay are prohibited.

3. Employees must not ride on the forks.

4. Employees must never be permitted under the forks (unless forks are blocked).

5. The driver must inspect the vehicle once a shift.

The operator must look in the direction of travel and must not move the vehicle until all persons are clear of the vehicle.

6. Forks must be carried as low as possible.

7. The operator must lower the forks, shut off the engine and set the brakes (or block the wheels) before leaving the forklift unattended (operator out of site or, or 25 feet away from, vehicle).

8. Trucks must be blocked and have brakes set when forklifts are driven onto their beds.

9. Extreme care must be taken when tilting elevated loads.

10. Every industrial truck must have operable brakes capable of safely stopping it when fully loaded.

11. Industrial trucks must have parking brakes.

12. Industrial trucks must have an operable horn.

13. When the operator is exposed to possible falling objects, industrial trucks must be equipped with overhead protection (canopy).

Code of Safe Practices Receipt

This is to certify that I have received a copy of the Berkeley Cement Code of Safe Practices. I have read these instructions, understand them, and will comply with them while working for the company.

I understand that failure to abide by these rules may result in disciplinary action and possible termination of my employment with Berkeley Cement.

I also understand that I am to report any injury to my foreman or superintendent immediately and report all safety hazards.

I further understand that I have the following rights.

- I am not required to work in any area that I feel is not safe.
- I am entitled to information on any hazardous material or chemical I am exposed to while working.
- I am entitled to see a copy of the Berkeley Cement Safety Manual and Injury and Illness Prevention Program (IIPP).
- I will not be discriminated against for reporting safety concerns.

_____ _____

Print Name Date

_____ _____

Sign Name Date

Copy: Employee
File

GHS Employee Training Handbook

It is important that all of our employees understand the information given about hazardous materials. If you have any questions regarding this, please ask your foreman or contact our Safety Coordinator.

This material has been prepared to assist our employees in better understanding the hazardous materials, which they commonly work with.

Chemicals can enter the body in a number of ways, including inhalation, skin contact or ingestion. The hazard of any substance is dependent on other variables such as age, sex and health of the employee as well as the concentration and duration of exposure. In other words, the same amount of a chemical may produce very different effects on two different people.

Chemicals are controlled in the workplace in such a manner so as to keep exposures below a level that may produce a reaction in very sensitive people. These levels are set by the government in the interest of minimizing harmful health effects of chemicals in the workplace. The Occupational Safety and Health Administration (OSHA) has established specific legally enforced permissible exposure limits (PEL) for hazardous substances in the workplace. The PEL indicates the concentration of airborne contaminants to which nearly all workers may be exposed to for eight hours a day, forty hours a week, over a working lifetime of 30 years, without adverse health effects.

This handbook briefly outlines the hazardous materials you may encounter in your work area. To simplify this task, we have broken down the chemicals used into special categories including:

1. Solvents
2. Adhesives
3. Paints & Dyes
4. Lubricants
5. Compressed Gases

In each category, the general characteristics of the material are presented along with the potential health effects of both short-term and long-term overexposure. The use of personal protective equipment and material handling procedures under normal conditions are also included.

Additional information on the materials you may be exposed to can be found in the product's Material Safety Data Sheets (SDS). A complete folder of SDS is available to you at all times in the office. Your foreman also has copies of data sheets on commonly used items.

At any time, an employee has the right to:

- Access the SDS folder, and the GHS Program.
- Receive a copy of any chemical sampling data collected in the workplace.
- See their employment medical records upon request.

Personal protective equipment acts as a barrier to the routes of entry, which a chemical may take into your body. As a barrier to chemicals that can be inhaled, there are a variety of respirators, which may be used. The respirators either filter out particles, react with chemicals to neutralize them, or provide fresh, filtered air. There are two important things to remember about using respirators. The first is that a respirator only works when you wear it and use it properly. Second, and equally important, is that you must use the proper respirator for the specific hazard. Respirators designed for one type of chemical will not work for another. One last note about respirators is that no one is allowed to use any respirator without proper training. It is against the law to use a respirator without formal training in its proper use.

As a barrier to skin, we have gloves, face masks, protective clothing, and head protection. A combination of these items may be necessary to provide the proper level of protection in your area.

As a barrier to the eyes, a variety of eye protection may be used. Goggles are recommended when pouring or handling chemicals, which may splash the eyes. They are also recommended while spraying adhesives and paints. Protect your eyes, your vision is priceless and irreplaceable.

There is no real protection against swallowing materials except good work practices. Always label any container to prevent accidental drinking. Always thoroughly wash your hands with soap and water before eating, drinking or smoking. Keep any food and cigarettes away from the work area. Breads, fruits, and cigarettes can actually absorb chemicals from the air, to be inhaled or ingested later.

Prolonged exposure to excessive noise can cause permanent hearing damage. For those employees working in areas where excessive noise is generated, it is recommended that earplugs or ear muffs be used on a regular basis.

General first aid practices should be followed in the event of exposure to hazardous materials.

EYES: Flush eyes for at least 15 minutes with water.

SKIN: Wash the affected area with soap and water. If clothing is involved, remove and launder before putting back on. If caustic materials are spilled, remove clothing immediately and wash off of the body.

INGESTION: Do Not Induce Vomiting Unless the Label Indicates - transport the affected person to the medical clinic immediately for treatment or call 911. They will take the appropriate action.

INHALATION: Generally, removing the person to fresh air is adequate after short-term exposure to most vapors. If breathing difficulty develops, dial 911 and be prepared to administer CPR.

The provisions set forth by the Federal GHS Program dictate that all containers of hazardous materials must be properly labeled. All containers of hazardous materials used must have, it a minimum, the original label provided by the manufacturer or a locally prepared label describing its contents and hazards involved.

1. Solvents

a. Halogenated Solvents

Characteristics: These products are usually clear, rapidly evaporating solvents containing chlorinates. They generally exhibit low flammability and have the consistency of water. They have a mild odor and are used in painting, stripping and other operations. Examples of chlorinated solvents are 1,1,1-Trichloroethane, perchloroethylene, methylene chloride, and Freon products.

Health Hazards: Most solvents are irritating to the eyes and upper respiratory tract. Excessive, repeated exposure to the skin may produce dermatitis and drying of the skin due to the de-fating properties of the solvents. Most are toxic and may be harmful or fatal if swallowed. Inhalation of excessive vapors may produce narcotic effects by depressing the central nervous system. Typical symptoms of overexposure include dizziness, nausea, and light-headedness in some individuals. Excessive repeated exposure to some solvents might produce chronic health effects on organs such as lungs, liver, kidney, and nervous system. Some solvents have been shown to produce cancer in laboratory animals. Compressed Freon products may produce "freeze bums" on the skin and eyes when released. Very high concentrations of vapors may be dangerous to life and health.

Personal Protective Equipment/Handling: Solvents should be handled with respect. Avoid any unnecessary exposure. Never wash hands in solvents. Wash with soap and water after using solvents. Avoid excessive skin contact. Use chemically resistant gloves if necessary. Avoid inhalation of vapors when possible. Use air-supplying respirators in areas of high concentration. Avoid contact with eyes. Use chemical goggles for protection. Provide ventilation when possible. Avoid contact with strong oxidizers (acids) and reactive metals (magnesium, aluminum powders).

Emergency/Special: In the event of eye contact, flush eyes for 15 minutes with water. Wash skin with soap and water. Remove soaked clothing and wash before reuse. Do not allow wet clothing to remain in prolonged contact with skin. If ingested, do not induce vomiting, and seek medical attention immediately. Excessive inhalation should be treated by moving to fresh air. Apply artificial respiration if necessary. In the event of a major spill, evacuate the area and call the fire department. Avoid drainage into water sewage system.

b. Organic Solvents

Characteristics: Usually clear, rapidly evaporating petroleum or alcohol based solvents. These solvents are usually highly flammable and may or may not mix with water. They usually have an alcohol or oil-like odor and are used in a variety degreasing, painting and stripping operations. Examples of organic solvents are toluene, xylene, methyl ethyl ketone (MEEK), acetone, and alcohol.

Health Hazards: Organic solvents evaporate very quickly and pose a great fire hazard. Because of this rapid evaporation and the natural penetrating nature of solvents, these materials can enter the body very rapidly through inhalation into the respiratory tract, and absorption through the skin and eyes. Exposures of these types may, in some instances, lead to skin irritation, eye irritation, and respiratory irritation. Solvents eventually enter the blood stream, and in cases of overexposure, may produce a variety of effects including nausea, headache, and dizziness. In very high concentrations, they may pose immediate threat to life and health. Chronic, repeated overexposure to organic solvents has been documented to produce adverse effects on the heart, lungs, central nervous system, liver, blood, and skin. They products may be harmful or fatal if swallowed. Some solvents may produce allergic reactions in sensitive people.

Personal Protective Equipment/Handling: It is important to minimize your exposure to solvents. For example, avoid skin contact by wearing non-porous gloves. Cotton or leather gloves should never be used while working with solvents because they absorb the solvent and allow it to reach your skin. If you can't wear gloves in your particular job, find other ways to avoid contact with the solvents. For example, use tongs to hold parts while cleaning them with solvents. Never wash your hands in a solvent - use soap or a waterless hand cleaner. Barrier creams may provide additional protection. Use ventilation systems when possible and avoid breathing solvent vapors. If your job requires it, wear a respirator. Use air-supplying respirators in areas of high concentrations. Protect your eyes with safety glasses or goggles. Avoid strong oxidizing agents. Ground and bond all containers when pouring or transferring chemicals.

Emergency/Special: In the event of eye contact flush eyes for 15 minutes with water. Avoid prolonged skin contact with any solvents. Wash skin with soap and water. Remove soaked clothing and wash before reuse. If ingested, seek medical help immediately. Do not induce vomiting. If inhaled, move victim to fresh air and, if necessary, give artificial respiration. In the event of a spill, eliminate ignition sources, evacuate the area, and contact the fire department. Avoid drainage into water or sewage system.

2. Adhesives

Characteristics: Adhesives are typically made up of resins composed of two reaction components: 1) the curing agent (hardener, catalyst, accelerator, activator or setting agent) and 2) the resin. The cured resins are generally found in a paste form, and the uncured resins are viscous liquids or solids.

Health Hazards: Some of the liquid uncured resins are skin irritants, sensitizers, or both. Solvents are often the major component of the uncured resins. They are primary skin irritants as a result of their ability to dry and remove natural oils from the skin. They may enhance the sensitizing effects of the dermatitis producing components discussed above.

Personal Protective Equipment/Handling: Because of the varying effects of these products, it is important that personal protective equipment be used. Safety glasses should be worn at all times. Impervious gloves and clothing should be worn. Remove and wash soaked clothing before reuse. If overexposure through inhalation occurs, remove the affected person to fresh air. Adhesives should only be used in well-ventilated areas. Air-purifying respirators may be necessary if ventilation is inadequate.

Emergency Special: Keep all stored material away from heat and flames. Adequate ventilation should be provided if any of the liquid components spill. In the event of eye contact, flush with water for 15 minutes. If skin contact occurs, wash the affected area with soap and water. Do not induce vomiting if ingestion occurs. Seek medical attention immediately.

3. Paints & Dyes

a. Water Based Acrylics, Latex Paints

Characteristics: These products are available in a variety of colors for many uses including interior and exterior painting of equipment, vehicles and structures. They are usually nonflammable, but some may bum under extreme situations. They are all water soluble, and may contain some alcohol or ammonia solvents. They are pigmented with a variety of compounds, and usually have a thick, soupy consistency with a mild ammonia odor.

Health Hazards: Water based paints are generally considered non-hazardous. Some may contain solvents that may produce mild eye and/or nose irritation. Some of these products may produce limited skin irritations in extremely sensitive people. These products may be harmful if swallowed. Under normal working conditions, these products are generally considered safe for use.

Personal Protective Equipment/Handling: General ventilation should be sufficient, with exhaust ventilation necessary in confined spaces. Goggles or similar means of eye protection should always be used in any painting process. Gloves and protective clothing are recommended for extremely sensitive individuals. Avoid unnecessary exposure or contact. Do not freeze these products. Wash hands/skin with soap and water after use. Store in a cool, dry place.

Emergency/Special: In the event of eye contact, flush with water for 15 minutes. Consult with physician if irritation persists. If excessive inhalation occurs, remove victim to fresh air. In the event of ingestion, give water and contact physician immediately. Wash soaked clothes before reuse. Use only soap and water to wash skin.

b. Lacquers, Primers, Non-Water Based Paint

Characteristics: These products come in a variety of colors and are used in various coating applications including painting, priming, and lacquering. They may contain both organic and halogenated solvents, and most have pigments that contain heavy metals. Some of the solvents and pigments, which may be contained, include acetone, diisobutyl ketone, xylene, methylene chloride, lead, chromium, and zinc compounds. They are usually highly flammable.

Health Hazards: Because of the high concentration of solvents in these paints, the health hazards are much like those discussed in category la and lb, Solvents. These products also contain heavy metal compounds such as lead, chromium, and zinc. These heavy metals may build up in the blood producing chronic effects such as lead poisoning, which is characterized by weakness, difficulties in concentrating, and sleep problems.

Personal Protective Equipment/Handling: These products should be handled with care. Gloves are recommended for skin sensitive individuals. Goggles or safety glasses should be worn at all times. Mechanical ventilation and respirators may be required depending on size of operation and type of paint. Refer to specific SDS for information. Long sleeve shirts are recommended. Do not use thinners or other solvents to remove paints from hands. Use lava soap and water, followed by hand lotion to prevent drying of the skin. Remove and wash soaked clothing before reuse. Do not apply to hot surfaces. Avoid sparks or flames when using. Never smoke in areas where these paints are being applied. Avoid breathing vapors and paint mist. Ground and bond containers during transfers. Store in cool, dry place, preferably in a flammable liquid storage cabinet.

Emergency/Special: In the event of eye contact, flush with water for 15 minutes. Wash affected skin areas with soap and water. In the event of ingestion, do not induce vomiting; contact a physician immediately. Inhalation exposure should be treated by moving victim to fresh air. Apply artificial respiration if necessary. In the event of a spill, eliminate ignition sources, evacuate area, and contact fire department. Avoid drainage into water or sewage systems.

4. Lubricants

a. Insoluble Oils and Greases

Characteristics: Commonly known as lubricating oils or greases, these oils are generally petroleum based hydrocarbon mixtures that contain no water. Appearance may range from clear light brown liquids to dark brown greases. Oils can be fire hazards because they are combustible. Examples of common oils and greases are multi weight motor oil, gear lubricating oils and cutting oils used in some machining operations.

Health Hazards: Petroleum based oils and greases are generally of low toxicity. Oil mists and vapors can be generated from sawing and metal forming operations. Inhalation of these mists may cause mild irritation of the nose and throat. The mist may also irritate the eyes. Overexposure by inhalation, although rare, can cause headaches, nausea, or dizziness. The most common exposure to oils and greases is through the skin. Excessive or prolonged exposure of the skin to oils, especially used, dirty, or contaminated oils, may cause chronic skin conditions such as contact dermatitis. Ingestion of these substances may be harmful, depending on the purity of the oil, and the amount ingested.

Personal Protective Equipment/Handling: Under most circumstances, inhalation overexposure to oil products is not common. If no local exhaust ventilation is available in operations which generate oil mist, a respirator with an organic vapor/particulate cartridge should be utilized. There is no substitute for safe work practices and good personal hygiene. Any practical way to reduce time and frequency of skin exposure to oils is recommended. Mild waterless hand cleaners are helpful in removing oil. Never use solvents to clean the skin. This will only increase the risk of unusual skin disorders and/or dermatitis. Oil resistant protective gloves should be used whenever feasible and skin cream should be applied after washing to prevent drying. Safety glasses or goggles should be worn to prevent oil from splashing into the eyes.

Emergency/Special: Lubricating oils, like any other chemicals, should be handled with care. In the event of eye contact, flush with water for 15 minutes, then seek medical attention. In case of accidental ingestion, do not induce vomiting, give milk or water, and seek medical attention. Any areas of skin contact should be washed thoroughly with Mild soap and lukewarm water or waterless hand cleaner to reduce the risk of skin disorders.

b. Aerosol Spray Lubricants

Characteristics: Aerosol spray lubricants, unlike other oil-based lubricants, generally contain a high percentage of halogenated solvents such as 1,1,1 trichloroethane. Examples of spray lubricants include gear oil and silicone spray.

Health Hazards: Refer to category 1A (Halogenated Solvents) for overall health hazards of aerosol spray lubricants.

Additional Information: Most of the aerosol sprays are usually extremely flammable because of the propellants used (butane, propane, etc.). Phosgene gas, an extremely toxic gas, may be generated as a decomposition product of combustion if the spray lubricants come in contact with a flame (e.g., lighted cigarette, or welding operations) or a very hot metal. Phosgene gas can cause severe irritation to the nose, throat and eyes, even at extremely low concentrations. Exposure to moderate concentrations can cause a delayed onset of pulmonary edema (fluid in the lungs) which may progress to pneumonia.

Personal Protective Equipment/Handling: All solvent-based materials should be used in well ventilated areas. Use a respirator if spraying moderate concentrations to avoid overexposure. Air-supplying respirators should be used if high concentrations are present. Avoid contact with the skin to reduce the risk of irritation and/or dermatitis. Use chemically resistant gloves for prolonged or repeated contact. Always wear safety glasses or goggles to prevent eye contact with the aerosol spray.

Emergency/Special: In the event of eye contact, flush with water for 15 minutes. Wash skin with soap and water. If ingested, do not induce vomiting and seek immediate medical attention. In case of overexposure by inhalation, remove the person to fresh air, seek medical attention, apply artificial respiration if necessary. Containers should be stored in a clean, dry area. Avoid storing at temperatures above 80 degrees F. to reduce the risk of the aerosol containers bursting or exploding.

5. Compressed Gases

Characteristics: These gases are typically stored in cylinders. The gases are frequently stored in a liquid state and are utilized in a variety of applications such as welding (acetylene), oxidation (oxygen), fuel delivery (propane, butane), cryogenics (liquid helium, oxygen, nitrogen).

Health Hazards: Depending on the specific gas contained within the cylinder, the associated hazards exhibited can be similar to those of the substances described in previous categories. For example, anhydrous ammonia gas falls within the corrosive/caustic hazard category. Asphyxiation is the primary hazard associated with compressed gases since they can displace oxygen if there is a sudden and quick release, particularly in confined work areas. Compressed gases, either in liquid or vapor form, are cryogenic and will cause severe frostbite and bums if allowed to contact the skin.

Personal Protective Equipment/Handling: Self-contained or airline breathing apparatus should be worn in oxygen-deficient atmospheres. General ventilation is usually adequate to maintain sufficient oxygen level. Avoid skin contact with liquid gases. Avoid smoking or other sources of ignition around oxidizers and fuel gases. Compressed gas cylinders should always be handled with extreme care as serious accidents may result from the misuse, abuse or mishandling of cylinders.

Emergency/Special: In the event of a gas leak, evacuate all personnel from the danger area. Shut off the leak if it does not pose a grave risk. Ventilate the area of the leak and move the leaking container to a well-ventilated area. If inhalation overexposure occurs, remove victim to fresh air and give artificial respiration if necessary. If liquid contacts skin, flood the affected area with warm water and seek medical attention.

Driving Safety Rules

Motor vehicle accidents continue to be the leading cause of workplace death in the nation. In 1995 alone, 1,329 workers were killed on the job, in auto accidents. That's one employee death every 7 hours of every day.

Motor vehicle accidents are:*

- The leading cause of death at work.
- The leading cause of death for people age 15 to 24.
- The second most common cause of death for people age 25 to 44.
- The third most common cause of death for people age 45 to 64.
- The fifth most common cause of death for all ages behind heart disease, cancer, stroke, and lung disease.

*Source: 1995 statistics from the National Institute of Occupational Safety and Health (NIOSM and the Bureau of Labor Statistics (BLS).

Fortunately, auto accidents are often preventable. By driving defensively and using good judgment, you can significantly reduce your chances of being hurt or killed in a motor vehicle. The following defensive driving tips are designed to help you avoid accidents and injuries from your fleet operations.

These rules are mandatory for all employees driving Berkeley Cement vehicles.

1. Personal and off duty use of Berkeley Cement vehicles is prohibited.

2. Only authorized employees may drive Berkeley Cement vehicles. No other family members may drive company vehicles.

3. Non-employee passengers are not permitted in Berkeley Cement vehicles at any time unless they are business related.

4. Seat belts must be worn in Berkeley Cement vehicles at all times.

5. No employee is permitted to drive Berkeley Cement vehicles while impaired by alcohol, illegal or prescription drugs, or over the counter medications.

6. All accidents involving Berkeley Cement vehicles must be reported to the office immediately.

7. Employees with two or more preventable accidents in a three year period, or that obtain three points on their driving record, will be subject to a loss of their driving privileges or have their driving privileges restricted.

8. The single biggest thing you can do to save your life is to wear your seat belt. Hundreds of studies over the years have proven, without a doubt, that seat belts save lives. This is true even in crashes involving fire and water submersion. Properly worn seat belts actually absorb crash forces which, otherwise, would be transferred to your body. If the seat belts in your vehicle are inoperative or defective, have them repaired or replaced immediately. You should wear the lap belt low across your hips and have the shoulder strap directly across your chest. You also need to keep the belt tight. There should not be more than an inch between your body and the belt at any point.

9. Get the big picture while driving. Keep your eyes aimed high and try to anticipate hazards and other drivers' mistakes. You should be looking well ahead of where you are. You should also always leave yourself an out in case the other driver does the unexpected.

10. Maintain a safe Following distance at all times. Approximately $^{1}/_{3}$ of all auto accidents are rear end collisions. You should be at least two seconds behind the vehicle in front of you to allow yourself sufficient time to stop. Do not tailgate. Following distances should be increased for larger vehicles or if in slippery or rainy conditions.

11. Avoid passing on two lane roads. Head on collisions are the most common cause of fatalities. You should also turn on your headlights while driving on two lane roads. This helps oncoming traffic see and avoid you. Never pass another vehicle on blind turns or hills.

12. You must be sober and alert at all times while driving. The use of drugs or alcohol while driving, or prior to driving, significantly increases your chances of having an accident. It should be at least eight hours from the time you take a drink until operating a vehicle. You should also avoid the use of prescription or over the counter medicines that make you drowsy.

13. Inspect the vehicle for mechanical defects prior to each trip. Test your brakes as soon as you start out to insure they are properly operating. Worn tires can make your vehicle difficult to control or stop.

14. Avoid dialing the phone, reading maps or other distracting activities while driving. These actions take your eyes off the road and often cause you to swerve. Pull over into a safe parking area before making that call.

15. Never drive faster than road conditions warrant. Slow down when road conditions are poor (rain, fog, night) and never exceed posted speed limits.

16. Always signal when changing lanes or turning.

17. Use caution when passing any stopped vehicle, especially near intersections or cross walks.

18. Aggressive driving has become a significant problem in the past few years. Just don't do it. Avoid tailgating, rapid lane changes, speeding, and hand gestures to bad drivers. You never know, they may be armed. If you are being tailgated, change lanes and let them pass. It's really not worth getting killed over.

19. Intersection collisions are also a significant problem. These are often caused by someone running the red light. You should always be under control when approaching an intersection and be prepared to stop if the light changes.

20. Slow down and look for trains at all railroad crossings. Even with modem signals and gates, trains hit hundreds of cars each year at grade crossings.

21. Use your low beams while driving in fog and slow down. If you can't see, pull over into a safe parking area and wait for better visibility. Do not stop in the traffic lanes. You will almost certainly be hit by another vehicle if you do.

22. Always walk behind the vehicle before backing. This will insure that there are no people or objects behind you that you cannot see from the driver's seat. You should also make sure that all loads are properly secured to prevent them from moving. Numerous accidents are caused by objects that have fallen off company vehicles.

23. Always signal well in advance when changing lanes or turning, and make sure to check your blind spot for other vehicles. Also, avoid driving in someone else's blind spot. If they can't see you, they don't know you are there.

24. Yield the right of way until you are sure the other driver is going to stop. Just because you have the legal right of way doesn't mean you should always take it. Always yield the right of way to emergency vehicles.

Defensive drivers:

- Expect the unexpected
- Anticipate bad driving by others
- Look ahead for hazards
- Always leave themselves an out
- Always drive under control
- Obey the rules of the road

Company Vehicle Driving Safety Rules Policy Receipt

This is to certify that I have received a copy of the Berkeley Cement Driving Safety Rules and Company Vehicle Policy. I have read these instructions, understand them, and will comply with them while driving company vehicles.

I understand that failure to abide by these rules will result in disciplinary action and possible suspension of my driving privileges.

I also understand that I am to report any accident to the office immediately.

_____ _____

Print Name Date

_____ _____

Sign Name Date

Copy: Employee
File

Heat Illness Prevention Plan – 2017

1. **Water** -- Two (2) gallons per man, with a means of replenishment. Must be "fresh, pure, and suitably cool and located as close as practicable to where employees are working.

2. **Shade** -- Must be up prior to starting work (within 200 ft.) when the weather is forecasted to be over 80 degrees. It must accommodate all employees on recovery or rest periods and those onsite taking meal periods. Shade must be present at 80 degrees.
   There must be enough shade to accommodate the number of employees on recovery or rest periods, so that they can sit in a normal posture fully in the shade without having to be in physical contact with each other.
   Employees taking a "preventative cool-down rest" must be monitored for symptoms of heat illness, encouraged to remain in the shade and not ordered back until symptoms are gone. Employees with symptoms must be provided first aid or emergency response.

3. **High heat procedures** (which is trigged at 95 degrees) shall ensure "effective" observation and monitoring, including a mandatory buddy system and regular communication with employees working by themselves. During high heat, employees must be provided with a minimum 10-minute cool down period every two hours.

   Acclimation procedures including close observation of all employees during a heat wave – defined as at least 80 degrees. New employees must be closely observed for their first two weeks on the job.

   Heat is a serious hazard in construction. Your body builds up heat when you work and sweats to get rid of extra heat. But sometimes — say, if you are working all day in the direct sun, or lifting heavy loads — your body may not cool off fast enough.

4. Too much heat can make you tired, hurt your job performance, and increase your chance of injury. You can get skin rash. You can also get:

   • **Dehydration**. When your body loses water, you can't cool off fast enough. You feel thirsty and weak.

   • **Cramps**. You can get muscle cramps from the heat even after you leave work.

   • **Heat exhaustion**. You feel tired, nauseous, headachy, and giddy (dizzy and silly). Your skin is damp and looks muddy or flushed. You may faint.

   • **Heat stroke**. You may have hot dry skin and a high temperature, Or you may feel confused. You may have convulsions or become unconscious. Heat stroke can kill you unless you get emergency medical help.

DRY CLOTHES AND SKIN Doesn't MEAN YOU'RE BODY is not SWEATING!

Beat the Heat. Help Prevent the Ill Effects of Heat Stress by:

- Drinking water frequently and moderately (every 15-30 minutes-about a glassful. Due to the fact that most of us already consume excessive salt in our diets; salt tablets are NOT recommended for general use.
- Resting frequently
- Eating lightly
- Doing more strenuous jobs during the cooler morning hours
- Utilizing the ventilation, shade or fans in enclosed areas
- Remember that it takes about 1-2 weeks for the body to adjust to the heat; this adaptation to heat is

quickly lost-so your body will need time to adjust after time off, too.

- Alcohol consumption. Many cases of heat stroke have occurred the day after a "night on the town of drinking."
- Wearing light colored, loose fitting, cotton clothes and keeping your shirt on.

On your project, per CalOSHA Regs. you should be prepared with a minimum:

Water -- Two (2) gallons per man, with a means of replenishment. Must be "fresh, pure, and suitably cool and located as close as practicable to where employees are working.

Shade -- Shade must be present at 80 degrees.
There must be enough shade to accommodate the number of employees on recovery or rest periods, so that they can sit in a normal posture fully in the shade without having to be in physical contact with each other.

Regarding OSHA's **"trigger" of 80°F** for having shade erected at the start of a work shift, for the construction industry.

> The Division interprets the standard to require employers to determine whether they need to have the shade up if the weather prediction for the following day is 80 degrees or higher.

Training -- The 3 categories of Heat illness are 1) Cramps 2) Heat Exhaustion and 3) Heat Stroke

Written Procedures -- Are on the project site; you are required to be familiar with the Berkeley Cement Heat Illness Prevention Section of the Safety Plan.

Heat Stress in the Workplace

Heat stress includes a series of conditions where the body is under stress from overheating. It can include:

- heat rash
- heat cramps
- heat exhaustion,
- heat stroke.

Each produces bodily symptoms that can range from profuse sweating to dizziness to cessation of sweating and collapse. Heat stress can be induced by high temperatures, heavy work loads, the type of clothing being worn, etc.

Review the signs of heat stress in the **Heat Condition Table** and the proper first aid to treat it. The victim **often overlooks** the signs of heat stress. The employee may at first be confused or unable to concentrate, followed by more severe symptoms such as fainting and/or collapse. ***If heat stress symptoms occur, move the employee to a cool, shaded area, give him/her water and immediately contact the supervisor.***

At-risk Employees

Some employees are more likely to have heat disorders than others. Younger employees and those more physically fit are often less likely to have problems. Employees with heart, lung or kidney disease, diabetes and those on medications are more likely to experience heat stress problems. Diet pills, sedatives, tranquilizers, caffeinated drinks and excessive alcohol consumption can all exacerbate heat stress effects.

It often takes two to three weeks for employees to become acclimated to a hot environment. This acclimation can subsequently be lost in only a few days away from the heat. Thus employees should be more cautious about heat stress after coming back from a vacation, when beginning a new job, or after the season's first heat wave. In short, precautions should be taken anytime there are elevated temperatures (approaching 90 degrees F) and the job is physically demanding.

Other Factors

Other heat stress factors are also very important. In addition to temperature, increased relative humidity (see the **Heat Index Chart**), decreased air movement or lack of shading from direct heat (radiant temperature) will all affect the potential for heat stress.

Prevention of Heat Stress - Supervisors:

- Allow time for employees to adjust to the summer heat. It often takes two to three weeks for an employee to become acclimated to a hot environment.
- Adjust the work schedule, if possible. Assign heavier work on cooler days or during the cooler part of the day.
- Reduce the workload. Increase the use of equipment on hot days to reduce physical labor. Also, reduce the use of equipment that produces excess heat.
- Establish a schedule for work and rest periods during hot days.
- Go over with employees how to recognize signs and symptoms of heat stress disorders and be prepared to give first aid if necessary.
- Avoid placing "high risk" employees in hot work environments for extended time periods. Realize individual employees vary in their tolerance to heat stress conditions.

Prevention of Heat Stress - Workers:

- Use the **Heat Conditions Table** to recognize the signs and symptoms of heat stress. Pace the work, taking adequate rest periods in shade or cooler environment.
- Use adequate fans for ventilation and cooling, especially when wearing personal protective equipment (PPE) or working around equipment that is hot.
- Wear light colored, loose (unless working around equipment with moving parts) clothing.
- Keep shaded from direct heat where possible, for example, wear a hat and apply sunscreen.
- Drink plenty of water. In hot environments the body requires more water than it takes to satisfy thirst. Drink **BEFORE** you are thirsty. Sports drinks are not necessary, plain water works well.

Heat Condition Table

Condition	Signs/Symptoms	First Aid
Heat Cramps	Painful muscle spasms Heavy sweating	**Increase Water intake** **Rest in shade/cool environment**
Heat Syncope	Brief fainting Blurred vision	**Increase Water intake** **Rest in shade/cool environment**
Dehydration	Fatigue Reduced movement	**Increase Water intake** **Rest in shade/cool environment**
Heat Exhaustion	Pale and clammy skin Possible fainting Weakness, fatigue Nausea Dizziness Heavy sweating Blurred vision Body temp slightly elevated	**Lie down in cool environment** **Water intake** **Loosen clothing** **Call 911 for ambulance if symptoms continue once in cool environment.**
Heat Stroke	Cessation of sweating Skin hot and dry Red face High body temperature Unconsciousness Collapse Convulsions Confusion or erratic behavior Life threatening condition	**Medical Emergency!** **Call 911 for ambulance** **Move Victim to shade, immerse in water**

**Information from National Weather Service*

Using the Heat Index to Protect Workers

The heat index can be used to help determine the risk of heat-related illness for outdoor workers, what actions are needed to protect workers, and when those actions are triggered. Depending on the heat index value, the risk for heat-related illness can range from lower to very high to extreme. As the heat index value goes up, more preventive measures are needed to protect workers. Heat index values are divided into four bands associated with four risk levels. These bands differ from those appearing in the NOAA Heat Index chart, which was developed for the public. The NOAA bands have been modified for use at worksites:

Heat Index	Risk Level	Protective Measures
Less than 91°F	Lower (Caution)	Basic heat safety and planning
91°F to 103°F	Moderate	Implement precautions and heighten awareness
103°F to 115°F	High	Additional precautions to protect workers
Greater than 115°F	Very High to Extreme	Triggers even more aggressive protective measures

Heat Related Work Policies

It shall be the policy of the Company to prevent heat-related disorders. Examples of heat-related disorders include: heatstroke, heat syncope, heat exhaustion and heat cramps.

The goal of a heat stress prevention program is to keep the deep body temperature below 100.4 degrees °F. Methods to prevent heat stress include:

a. Providing periodic rest breaks for the employee;
b. Schedule physically demanding activities for cooler parts of the day or year;
c. Provide frequent fluid intake;
d. Increase air velocity. This is only effective of the air temperature is below 95 degrees F.
e. Monitor humidity levels in work area and refer to **Heat Stress Index Chart**;
f. Use of mechanical aids to perform work instead of relying on physical effort;
g. Rotation of workers;
h. Allow for workers to acclimatize to the weather conditions;
i. Screening of workers to identify heat-tolerant individuals;
j. Shielding and insulation;
k. Training of supervisors and employees to identify heat stress symptoms and orientate them relative to prevention measures; and
l. Proper application of personal protective equipment.

Role	Responsible for
Safety Director	Issuing Heat Stroke Alert as indicated in **Heat Stress Index Chart** as well as determining what activities can be preformed during a Danger period.
Managers	Ensuring employees who are working in hot environments take necessary precautions as outlined in the **Heat Conditions Table**
Supervisors	Annual training of Supervisors / employees who work in high heat areas, as well as, prior to BCI employees becoming Supervisors. Our Safety Department can assist in determining who needs to be included in this program. The supervisor is also responsible for monitoring signs and symptoms of heat stress in workers and ensuring the guidelines in this policy are
Employees	Attending training and following the instructions given. They are also responsible for monitoring themselves for signs and symptoms of heat stress as outlined in the **Heat Conditions Table**.

Respirable Crystalline Silica Program

PURPOSE

This Respirable Crystalline Silica Program was developed to prevent employee exposure to hazardous levels of Respirable Crystalline Silica that could result through construction activities or nearby construction activities occurring on worksites. Respirable Crystalline Silica exposure at hazardous levels can lead to lung cancer, silicosis, chronic obstructive pulmonary disease, and kidney disease. It is intended to meet the requirements of the Respirable Crystalline Silica Construction Standard (29 CFR 1926.1153) established by the Occupational Safety and Health Administration (OSHA).

All work involving chipping, cutting, drilling, grinding, or similar activities on materials containing Crystalline Silica can lead to the release of respirable-sized particles of Crystalline Silica (i.e. Respirable Crystalline Silica). Crystalline Silica is a basic component of soil, sand, granite and many other minerals. Quartz is the most common form of Crystalline Silica. Many materials found on constructions sites include Crystalline Silica; including but not limited to – cement, concrete, asphalt, pre-formed structures (inlets, pipe, etc.) and others. Consequently, this program has been developed to address and control these potential exposures to prevent our employees from experiencing the effects of occupational illnesses related to Respirable Crystalline Silica exposure.

SCOPE

This Respirable Crystalline Silica Program applies to all employees who have the potential to be exposed to Respirable Crystalline Silica when covered by the OSHA Standard. The OSHA Respirable Crystalline Silica Construction Standard applies to all occupational exposures to Respirable Crystalline Silica in construction work, except where employee exposure will remain below 25 micrograms of Respirable Crystalline Silica per cubic meter of air (25 $\mu g/m^3$) as an 8-hour time-weighted average (TWA) under any foreseeable conditions.

RESPONSIBILITIES

Berkeley Cement Inc. firmly believes protecting the health and safety of our employees is everyone's responsibility. This responsibility begins with upper management providing the necessary support to properly implement this program. However, all levels of the organization assume some level of responsibility for this program including the following positions.

Safety Department:

- Conduct job site assessments for Silica containing materials and perform employee Respirable Crystalline Silica hazard assessments in order to determine if an employee's exposure will be above 25 µg/m^3 as an 8-hour TWA under any foreseeable conditions

- Select and implement into the project's ECP the appropriate control measures in accordance with the Construction Tasks identified in OSHA's Construction Standard Table 1; and potentially including (but not limited to) - a written Exposure Control Plan (ECP), exposure monitoring, Hazard Communication training, medical surveillance, housekeeping and others.

  NOTE: OSHA's Construction Standard Table 1 is a list of 18 common construction tasks along with acceptable exposure control methods and work practices that limit exposure for those tasks.

- Ensure that the materials, tools, equipment, personal protective equipment (PPE), and other resources (such as worker training) required to fully implement and maintain this Respirable Crystalline Silica Program are in place and readily available if needed.

- Ensure that Project Managers, Site Managers, Competent Persons, and employees are educated in the hazards of Silica exposure and trained to work safely with Silica in accordance with OSHA's Respirable Crystalline Silica Construction Standard and OSHA's Hazard Communication Standard. Managers and Competent Persons may receive more advanced training than other employees.

- Maintain written records of training (for example, proper use of respirators), ECPs, inspections (for equipment, PPE, and work methods/practices), medical surveillance (under lock and key), respirator medical clearances (under lock and key) and fit-test results.

- Conduct an annual review (or more often if conditions change) of the effectiveness of this program and any active project ECP's that extend beyond a year. This includes a review of available dust control technologies to ensure these are selected and used when practical.

- Coordinate work with other employers and contractors to ensure a safe work environment relative to Silica exposure.

Project Manager:

- Ensure all applicable elements of this Respirable Crystalline Silica Program are implemented on the project including the selection of a Competent Person.

- Assist the Safety Department in conduct job site assessments for Silica containing materials and perform employee Respirable Crystalline Silica hazard assessments in order to determine if an ECP, exposure monitoring, and medical surveillance is necessary.

- Assist in the selection and implementation of the appropriate control measures in accordance with the Construction Tasks identified in OSHA's Construction Standard Table 1; and potentially including (but not limited to) - a written Exposure Control Plan (ECP), exposure monitoring, Hazard Communication training, medical surveillance, housekeeping and others.

- Ensure that employees using respirators have been properly trained, medically cleared, and fit-tested in accordance with the company's Respiratory Protection Program. This process will be documented.

- Ensure that work is conducted in a manner that minimizes and adequately controls the risk to workers and others. This includes ensuring that workers use appropriate engineering controls, work practices, and wear the necessary PPE.

- Where there is risk of exposure to Silica dust, verify employees are properly trained on the applicable contents of this program, the project-specific ECP, and the applicable OSHA Standards (such as Hazard Communication). Ensure employees are provided appropriate PPE when conducting such work.

Competent Person and/or Site Manager (Superintendent, Foreman, etc.)

- Make frequent and regular inspections of job sites, materials, and equipment to implement the written ECP.

- Identify existing and foreseeable Respirable Crystalline Silica hazards in the workplace and take prompt corrective measures to eliminate or minimize them.

- Notify the Project Manager and/or Safety Department of any deficiencies identified during inspections in order to coordinate and facilitate prompt corrective action.

- Assist the Project Manager and Safety Department in conducting job site assessments for Silica containing materials and perform employee Respirable Crystalline Silica hazard assessments in order to determine if an ECP, exposure monitoring, and medical surveillance is necessary.

Employees:

- Follow recognized work procedures (such as the Construction Tasks identified in OSHA's Construction Standard Table 1) as established in the project's ECP and this program.
- Use the assigned PPE in an effective and safe manner.
- Participate in Respirable Crystalline Silica exposure monitoring and the medical surveillance program.
- Report any unsafe conditions or acts to the Site Manager and/or Competent Person.
- Report any exposure incidents or any signs or symptoms of Silica illness.

DEFINITIONS

If a definition is not listed in this section, please contact your supervisor. If your supervisor is unaware of what the term means, please contact the Competent Person or your Safety Department.

- Action Level means a concentration of airborne Respirable Crystalline Silica of 25 $\mu g/m^3$, calculated as an 8-hour TWA.
- Competent Person means an individual who is capable of identifying existing and foreseeable Respirable Crystalline Silica hazards in the workplace and who has authorization to take prompt corrective measures to eliminate or minimize them.
- Employee Exposure means the exposure to airborne Respirable Crystalline Silica that would occur if the employee were not using a respirator.
- High-Efficiency Particulate Air (HEPA) Filter means a filter that is at least 99.97 percent efficient in removing monodispersed particles of 0.3 micrometers in diameter.
- Objective Data means information, such as air monitoring data from industry-wide surveys or calculations based on the composition of a substance, demonstrating employee exposure to Respirable Crystalline Silica associated with a particular product or material or a specific

process, task, or activity. The data must reflect workplace conditions closely resembling or with a higher exposure potential than the processes, types of material, control methods, work practices, and environmental conditions in the employer's current operations.

- Permissible Exposure Limit (PEL) means the employer shall ensure that no employee is exposed to an airborne concentration of Respirable Crystalline Silica in excess of 50 $\mu g/m^3$, calculated as an 8-hour TWA.

- Physician or Other Licensed Health Care Professional (PLHCP) means an individual whose legally permitted scope of practice (i.e., license, registration, or certification) allows him or her to independently provide or be delegated the responsibility to provide some or all of the particular health care services required by the Medical Surveillance Section of the OSHA Respirable Crystalline Silica Standard.

- Respirable Crystalline Silica means Quartz, Cristobalite, and/or Tridymite contained in airborne particles that are determined to be respirable by a sampling device designed to meet the characteristics for respirable-particle size- selective samplers specified in the International Organization for Standardization (ISO) 7708:1995: Air Quality-Particle Size Fraction Definitions for Health-Related Sampling.

- Specialist means an American Board Certified Specialist in Pulmonary Disease or an American Board Certified Specialist in Occupational Medicine.

REQUIREMENTS

Specified Exposure Control Methods

When possible and applicable, Berkeley Cement Inc. will conduct activities with potential Silica exposure to be consistent with OSHA's Construction Standard Table 1. Supervisors will ensure each employee under their supervision and engaged in a task identified on OSHA's Construction Standard Table 1 have fully and properly implemented the engineering controls, work practices, and respiratory protection specified for the task on Table 1 (unless Berkeley Cement Inc. has assessed and limited the exposure of the employee to Respirable Crystalline Silica in accordance with the Alternative Exposure Control Methods Section of this program).

The task(s) being performed by Berkeley Cement Inc identified on OSHA's Construction Standard Table 1 is/are: Select any/all of the following that apply:

Silica Exposure Control Plan

Operate and maintain all tools in accordance with manufacturer's instructions to minimize dust emissions.
All dust collectors must provide the airflow recommended by the tool manufacturer and have a filter with 99% or greater efficiency and a filter-cleaning mechanism.

Handheld power saws (any blade diameter)

- Engineering Control:
  - Use saw equipped with integrated water delivery system that continuously feeds water to the blade.
- Respiratory Protection: (less than 4 hours per shift)
  - Indoors or Enclosed area: N95 dust mask/filtering facepiece or half mask respirator
  - Outside area: None Required
- Respiratory Protection: (more than 4 hours per shift)
  - Indoors or Enclosed area: N95 dust mask/filtering facepiece or half mask respirator
  - Outside area: N95 dust mask/filtering facepiece or half mask respirator

Soff Cut - Walk Behind Saws

- Engineering Control:
  - Use saw equipped with integrated Soff-Vac collection system or water delivery system that continuously feeds water to the blade.
- Respiratory Protection: (less than 4 hours per shift)
  - Indoors or Enclosed area: N95 dust mask/ filtering facepiece or half mask respirator
  - Outside area: None Required
- Respiratory Protection: (more than 4 hours per shift)
  - Indoors or Enclosed area: N95 dust mask/ filtering facepiece or half mask respirator
  - Outside area: None required

Handheld and Stand Mounted Drills (including impact and rotary hammer drills)

- Engineering Control:
  - Use drill equipped with commercially available shroud or cowling with dust collection system.
  - Use a HEPA-filtered vacuum when cleaning holes.
- Respiratory Protection: None

Jackhammers and handheld powered chipping tools

- Engineering Control:
  - Use tool with water delivery system supplies a continuous stream or spray of water at the point of impact.
  - Use tool with commercially available shroud and dust collection system.
- Respiratory Protection: (less than 4 hours per shift)
  - Indoors or Enclosed area: N95 dust mask/ filtering facepiece or half mask respirator
  - Outside area: None Required
- Respiratory Protection: (more than 4 hours per shift)
  - Indoors or Enclosed area: N95 dust mask/ filtering facepiece or half mask respirator
  - Outside area: N95 dust mask/ filtering facepiece or half mask respirator

Handheld Grinders for Mortar Removal

- Engineering Control:
  - Use grinder equipped with commercially available shroud and dust collection system.
  - Dust collector must provide 25 cubic feet per minute (cfm) or greater of airflow per inch of wheel diameter and have a filter of greater than 99% efficiency or greater efficiency and a cyclonic pre-separator or filter-cleaning mechanism.
- Respiratory Protection: (less than 4 hours per shift)
  - Indoors or Enclosed area: N95 dust mask/ filtering facepiece or half mask respirator
  - Outside area: N95 dust mask/ filtering facepiece or half mask respirator
- Respiratory Protection: (more than 4 hours per shift)
  - Indoors or Enclosed area: Powered air-purifying respirator (PAPR) with P100 filters.
  - Outside area: Powered air-purifying respirator (PAPR) with P100 filters.

Handheld Grinders for Uses Other than Mortar Removal

- Engineering Control:
  - Use grinder equipped with commercially available shroud and dust collection system or equipped with integrated water delivery system that continuously feeds water to the grinding surface.

  - Dust collector must provide 25 cubic feet per minute (cfm) or greater of airflow per inch of wheel diameter and have a filter of greater than 99% efficiency or greater efficiency and a cyclonic pre-separator or filter-cleaning mechanism.
- Respiratory Protection: (less than 4 hours per shift)
  - Indoors or Enclosed area: None required
  - Outside area: None required
- Respiratory Protection: (more than 4 hours per shift)
  - Indoors or Enclosed area: N95 dust mask/ filtering facepiece or half mask respirator
  - Outside area: None required

Heavy Equipment and utility vehicles for tasks such as grading and excavating but not including demolishing, abrading, or fracturing silica-containing materials.

- Engineering Control:
  - Apply water and/or dust suppressants as necessary to minimize dust emissions.
  - When the equipment operator is the only employee engaged in the task, operate equipment from within an enclosed cab.
- Respiratory Protection: (less than 4 hours per shift)
  - None required
- Respiratory Protection: (more than 4 hours per shift)
  - None required

Housekeeping

- Work operations shall not allow dry sweeping (without dry sweep compound) or dry brushing where the activity could contribute to employee exposure to respirable crystalline silica.
  - Utilize wet sweeping methods where applicable.
  - Utilize a HEPA-filtered vacuum to clean the area.
- Compressed air shall not be used to clean clothing or surfaces where such activity could contribute to employee exposure to respirable crystalline silica.

When implementing the control measures specified in Table 1, Berkeley Cement Inc. shall:

- For tasks performed indoors or in enclosed areas, provide a means of exhaust as needed to minimize the accumulation of visible airborne dust;

- For tasks performed using wet methods, apply water at flow rates sufficient to minimize release of visible dust;

- For measures implemented that include an enclosed cab or booth, ensure that the enclosed cab or booth:

    - Is maintained as free as practicable from settled dust;

    - Has door seals and closing mechanisms that work properly;

    - Has gaskets and seals that are in good condition and working properly;

    - Is under positive pressure maintained through continuous delivery of fresh air;

    - Has intake air that is filtered through a filter that is 95% efficient in the 0.3-10.0 µm range (e.g., MERV-16 or better); and

    - Has heating and cooling capabilities.

- Where an employee performs more than one task included on OSHA's Construction Standard Table 1 during the course of a shift, and the total duration of all tasks combined is more than four hours, the required respiratory protection for each task is the respiratory protection specified for more than four hours per shift. If the total duration of all tasks on Table 1 combined is less than four hours, the required respiratory protection for each task is the respiratory protection specified for less than four hours per shift.

Alternative Exposure Control Methods

Alternative Exposure Control Methods apply for tasks not listed in OSHA's Construction Standard Table 1, or where Berkeley Cement Inc. cannot not fully and properly implement the engineering controls, work practices, and respiratory protection described in Table 1.

First, Berkeley Cement Inc. will assess the exposure of each employee who is or may reasonably be expected to be exposed to Respirable Crystalline Silica at or above the Action Level in accordance with either the Performance Option or the Scheduled Monitoring Option.

- **Performance Option** – Berkeley Cement Inc. will assess the 8-hour TWA exposure for each employee on the basis of any combination of air monitoring data or objective data sufficient to accurately characterize employee exposures to Respirable Crystalline Silica.

- **Scheduled Monitoring Option:**

  - Berkeley Cement Inc. will perform initial monitoring to assess the 8-hour TWA exposure for each employee on the basis of one or more personal breathing zone air samples that reflect the exposures of employees on each shift, for each job classification, and in each work area. Where several employees perform the same tasks on the same shift and in the same work area, Berkeley Cement Inc. will plan to monitor a representative fraction of these employees. When using representative monitoring, Berkeley cement Inc. will sample the employee(s) who are expected to have the highest exposure to Respirable Crystalline Silica.

  - If initial monitoring indicates that employee exposures are below the Action Level, Berkeley Cement Inc. will probably discontinue monitoring for those employees whose exposures are represented by such monitoring.

  - Where the most recent exposure monitoring indicates that employee exposures are at or above the Action Level but at or below the PEL, Berkeley Cement Inc. will repeat such monitoring within six months of the most recent monitoring.

  - Where the most recent exposure monitoring indicates that employee exposures are above the PEL, Berkeley Cement Inc. will repeat such monitoring within three months of the most recent monitoring.

  - Where the most recent (non-initial) exposure monitoring indicates that employee exposures are below the Action Level, Berkeley Cement Inc. will repeat such monitoring within six months of the most recent monitoring until two consecutive measurements, taken seven or more days apart, are below the Action Level, at which time Berkeley Cement Inc. will probably discontinue monitoring for those employees whose exposures are represented by such monitoring, except when a reassessment is required. Berkeley Cement Inc. will reassess exposures whenever a change in the production, process, control equipment, personnel, or work practices may reasonably be expected to result in new or additional exposures at or above the Action Level, or when Berkeley Cement Inc. has any reason to believe that new or additional exposures at or above the Action Level have occurred.

Berkeley Cement Inc. will ensure that all Respirable Crystalline Silica samples taken to satisfy the monitoring requirements of this program and OSHA are collected by a qualified individual (i.e. a

Certified Industrial Hygienist) and the samples are evaluated by a qualified laboratory (i.e. accredited to ANS/ISO/IEC Standard 17025:2005 with respect to Crystalline Silica analyses by a body that is compliant with ISO/IEC Standard 17011:2004 for implementation of quality assessment programs).

Within five working days after completing an exposure assessment, Berkeley Cement Inc. will individually notify each affected employee in writing of the results of that assessment or post the results in an appropriate location accessible to all affected employees.

Whenever an exposure assessment indicates that employee exposure is above the PEL, Berkeley Cement Inc. will describe in the written notification the corrective action being taken to reduce employee exposure to or below the PEL.

Where air monitoring is performed, Berkeley Cement Inc. will provide affected employees or their designated representatives an opportunity to observe any monitoring of employee exposure to Respirable Crystalline Silica. When observation of monitoring requires entry into an area where the use of protective clothing or equipment is required for any workplace hazard, Berkeley Cement Inc. will provide the observer with protective clothing and equipment at no cost and shall ensure that the observer uses such clothing and equipment.

Once air monitoring has been performed, Berkeley Cement Inc. will determine its method of compliance based on the monitoring data and the hierarchy of controls. Berkeley Cement Inc. will use engineering and work practice controls to reduce and maintain employee exposure to Respirable Crystalline Silica to or below the PEL, unless Berkeley Cement Inc. can demonstrate that such controls are not feasible. Wherever such feasible engineering and work practice controls are not sufficient to reduce employee exposure to or below the PEL, Berkeley Cement Inc. will nonetheless use them to reduce employee exposure to the lowest feasible level and shall supplement them with the use of respiratory protection.

In addition to the requirements of this program, Berkeley Cement Inc. will comply with other programs and OSHA standards (such as 29 CFR 1926.57 [Ventilation]), when applicable where abrasive blasting is conducted using Crystalline Silica-containing blasting agents, or where abrasive blasting is conducted on substrates that contain Crystalline Silica.

Control Methods

Berkeley Cement Inc. will provide control methods that are either consistent with Table 1 or otherwise minimize worker exposures to Silica. These exposure control methods can include engineering controls, work practices, and respiratory protection. Listed below are control methods to be used when Table 1 is not followed:

List and discuss control methods

Respiratory Protection

Where respiratory protection is required by this program, Berkeley Cement Inc. will provide each employee an appropriate respirator that complies with the requirements of the company's Respiratory Protection Program and the OSHA Respiratory Protection Standard (29 CFR 1910.134).

Respiratory protection is required where specified by the OSHA Construction Standard Table 1, for tasks not listed in Table 1, or where the company has not fully and properly implemented the engineering controls, work practices, and respiratory protection described in Table 1. Situations requiring respiratory protection include:

- Where exposures exceed the PEL during periods necessary to install or implement feasible engineering and work practice controls;
- Where exposures exceed the PEL during tasks, such as certain maintenance and repair tasks, for which engineering and work practice controls are not feasible; and
- During tasks for which an employer has implemented all feasible engineering and work practice controls and such controls are not sufficient to reduce exposures to or below the PEL.

Housekeeping

Berkeley Cement Inc. does not allow dry sweeping or dry brushing where such activity could contribute to employee exposure to Respirable Crystalline Silica unless wet sweeping, HEPA-filtered vacuuming, or other methods that minimize the likelihood of exposure are not feasible.

Berkeley Cement Inc. does not allow compressed air to be used to clean clothing or surfaces where such activity could contribute to employee exposure to Respirable Crystalline Silica unless:

- The compressed air is used in conjunction with a ventilation system that effectively captures the dust cloud created by the compressed air; or
- No alternative method is feasible.

Written Exposure Control Plan

When employee exposure on a construction project is expected to be at or above the Action Level, a Written Exposure Control Plan (ECP) will be established and implemented. This ECP will contain at least the following elements:

- A description of the tasks in the workplace that involve exposure to Respirable Crystalline Silica;
- A description of the engineering controls, work practices, and respiratory protection used to limit employee exposure to Respirable Crystalline Silica for each task;
- A description of the housekeeping measures used to limit employee exposure to Respirable Crystalline Silica; and
- A description of the procedures used to restrict access to work areas, when necessary, to minimize the number of employees exposed to Respirable Crystalline Silica and their level of exposure, including exposures generated by other employers or sole proprietors.

The written ECP will designate a Competent Person to make frequent and regular inspections of job sites, materials, and equipment to ensure the ECP is implemented.

The written ECP will be reviewed at least annually to evaluate the effectiveness of it and update it as necessary. Having said this, ECP's are project specific and most project durations do not exceed a year. The written ECP will be readily available for examination and copying, upon request, to each employee covered by this program and/or ECP, their designated representatives, and OSHA.

Medical Surveillance

Medical surveillance will be made available for each employee who will be required to use a respirator for 30 or more days per year due to their Respirable Crystalline Silica exposure. Medical surveillance (i.e. medical examinations and procedures) will be performed by a PLHCP and provided at no cost to the employee at a reasonable time and place.

Berkeley Cement Inc. will make available an initial (baseline) medical examination within 30 days after initial assignment, unless the employee has received a medical examination that meets the requirements of the OSHA Respirable Crystalline Silica Construction Standard within the last three years. The examination shall consist of:

- A medical and work history, with emphasis on past, present, and anticipated exposure to Respirable Crystalline Silica, dust, and other agents affecting the respiratory system in addition to any history of respiratory system dysfunction, including signs and symptoms of

respiratory disease (e.g., shortness of breath, cough, wheezing), history of tuberculosis, and smoking status and history;

- A physical examination with special emphasis on the respiratory system;

- A chest X-ray (a single postero-anterior radiographic projection or radiograph of the chest at full inspiration recorded on either film [no less than 14 x 17 inches and no more than 16 x 17 inches] or digital radiography systems) interpreted and classified according to the International Labour Office (ILO) International Classification of Radiographs of Pneumoconiosis by a NIOSH-certified B Reader;

- A pulmonary function test to include forced vital capacity (FVC) and forced expiratory volume in one second (FEV1) and FEV1/FVC ratio, administered by a spirometry technician with a current certificate from a NIOSH-approved spirometry course;

- Testing for latent tuberculosis infection; and

- Any other tests deemed appropriate by the PLHCP.

Berkeley Cement Inc. will make available medical examinations that include the aforementioned procedures (except testing for latent tuberculosis infection) at least every three years. If recommended by the PLHCP, periodic examinations can be more frequently than every three years.

Berkeley Cement Inc. will ensure that the examining PLHCP has a copy of the OSHA Respirable Crystalline Silica Construction Standard, this program, and the following information:

- A description of the employee's former, current, and anticipated duties as they relate to the employee's occupational exposure to Respirable Crystalline Silica;

- The employee's former, current, and anticipated levels of occupational exposure to Respirable Crystalline Silica;

- A description of any personal protective equipment (PPE) used or to be used by the employee, including when and for how long the employee has used or will use that equipment; and

- Information from records of employment-related medical examinations previously provided to the employee and currently within the control of Berkeley Cement Inc..

Berkeley Cement Inc. will ensure that the PLHCP explains to the employee the results of the medical examination and provides each employee with a written medical report within 30 days of each medical examination performed. The written report shall contain:

- A statement indicating the results of the medical examination, including any medical condition(s) that would place the employee at increased risk of material impairment to health from exposure to Respirable Crystalline Silica and any medical conditions that require further evaluation or treatment;

- Any recommended limitations on the employee's use of respirators;

- Any recommended limitations on the employee's exposure to Respirable Crystalline Silica; and;

- A statement that the employee should be examined by a Specialist if the chest X-ray is classified as 1/0 or higher by the B Reader, or if referral to a Specialist is otherwise deemed appropriate by the PLHCP.

Berkeley Cement Inc. will also obtain a written medical opinion from the PLHCP within 30 days of the medical examination. The written opinion shall contain only the following in order to protect the employee’s privacy:

- The date of the examination;

- A statement that the examination has met the requirements of the OSHA Respirable Crystalline Silica Construction Standard; and

- Any recommended limitations on the employee's use of respirators.

If the employee provides written authorization, the written opinion shall also contain either or both of the following:

- Any recommended limitations on the employee's exposure to Respirable Crystalline Silica; and/or

- A statement that the employee should be examined by a Specialist if the chest X-ray is classified as 1/0 or higher by the B Reader, or if referral to a Specialist is otherwise deemed appropriate by the PLHCP.

If the PLHCP's written medical opinion indicates that an employee should be examined by a Specialist, Berkeley Cement Inc. will make available a medical examination by a Specialist within 30 days after receiving the PLHCP's written opinion. Berkeley Cement Inc. will ensure that the examining Specialist is provided with all of the information that the employer is obligated to provide to the PLHCP.

Berkeley Cement Inc. will ensure that the Specialist explains to the employee the results of the medical examination and provides each employee with a written medical report within 30 days of the examination. The written report will contain:

- A statement indicating the results of the medical examination, including any medical condition(s) that would place the employee at increased risk of material impairment to health from exposure to Respirable Crystalline Silica and any medical conditions that require further evaluation or treatment;

- Any recommended limitations on the employee's use of respirators; and

- Any recommended limitations on the employee's exposure to respirable crystalline Silica.

In addition, Berkeley Cement Inc. will obtain a written opinion from the Specialist within 30 days of the medical examination. The written opinion shall contain the following:

- The date of the examination;

- Any recommended limitations on the employee's use of respirators; and

- If the employee provides written authorization, the written opinion shall also contain any recommended limitations on the employee's exposure to Respirable Crystalline Silica.

Hazard Communication

Berkeley Cement Inc. will include Respirable Crystalline Silica in the company’s Hazard Communication Program established to comply with the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Berkeley Cement Inc. will ensure that each employee has access to labels on containers of Crystalline Silica and those containers respective Safety Data Sheets (SDS’s).

All employees will be trained in accordance with the provisions of the OSHA Hazard Communication Standard and the Training Section of this program. This training will cover concerns relating to cancer, lung effects, immune system effects, and kidney effects.

Berkeley Cement Inc. will ensure that each employee with the potential to be exposed at or above the Action Level for Respirable Crystalline Silica can demonstrate knowledge and understanding of at least the following:

- The health hazards associated with exposure to Respirable Crystalline Silica;
- Specific tasks in the workplace that could result in exposure to Respirable Crystalline Silica;
- Specific measures Berkeley Cement Inc. has implemented to protect employees from exposure to Respirable Crystalline Silica, including engineering controls, work practices, and respirators to be used;
- The contents of the OSHA Respirable Crystalline Silica Construction Standard;
- The identity of the Competent Person designated by Berkeley Cement Inc.; and
- The purpose and a description of the company's Medical Surveillance Program.

Berkeley Cement Inc. will make a copy of the OSHA Respirable Crystalline Silica Construction Standard readily available without cost to any employee who requests it.

Recordkeeping

Berkeley Cement Inc. will make and maintain an accurate record of all exposure measurements taken to assess employee exposure to Respirable Crystalline Silica. This record will include at least the following information:

- The date of measurement for each sample taken;
- The task monitored;
- Sampling and analytical methods used;
- Number, duration, and results of samples taken;
- Identity of the laboratory that performed the analysis;
- Type of personal protective equipment (PPE), such as respirators, worn by the employees monitored; and

- Name, social security number, and job classification of all employees represented by the monitoring, indicating which employees were actually monitored.

Berkeley Cement Inc. will ensure that exposure records are maintained and made available in accordance with 29 CFR 1910.1020. Exposure records will be kept for at least 30 years.

The employer shall make and maintain an accurate record of all objective data relied upon to comply with the requirements of the OSHA Respirable Crystalline Silica Construction Standard. This record shall include at least the following information:

- The Crystalline Silica-containing material in question;
- The source of the objective data;
- The testing protocol and results of testing;
- A description of the process, task, or activity on which the objective data were based; and
- Other data relevant to the process, task, activity, material, or exposures on which the objective data were based.

Berkeley Cement Inc. will ensure that objective data are maintained and made available in accordance with 29 CFR 1910.1020. Objective data records will be kept for at least 30 years.

Berkeley Cement Inc. will make and maintain an accurate record for each employee enrolled in the Medical Surveillance portion of this program. The record shall include the following information about the employee:

- Name and social security number;
- A copy of the PLHCPs' and/or Specialists' written medical opinions; and
- A copy of the information provided to the PLHCPs and Specialists.

Berkeley Cement Inc. will ensure that medical records are maintained and made available in accordance with 29 CFR 1910.1020. Medical records will be kept under lock and key for at least the duration of employment plus 30 years. It is necessary to keep these records for extended periods because Silica-related diseases such as cancer often cannot be detected until several decades after exposure. However, if an employee works for an employer for less than one year, the employer does

not have to keep the medical records after employment ends, as long as the employer gives those records to the employee.

PROGRAM EVALUATION

This program will be reviewed and evaluated on an annual basis by the Safety Department unless changes to operations, the OSHA Respirable Crystalline Silica Construction Standard (29 CFR 1926.1153), or another applicable OSHA Standard require an immediate re-validation of this program.

APPENDICES

APPENDIX A - Written Exposure Control Plan (ECP) template

BCI – Written Exposure Control Plan – Project Specific

Date control plan completed*:*		
Prime contractor:	Superintendent:	
Project manager:	First aid attendant:	
Project:	Address:	
Company completing work:		
Address:	Contact:	
Contact phone:	Contact fax:	
On-site supervisor(s):		
Worker(s):		
Scope of work to be completed:		
Work start date:	Duration: ☐ Days ☐ Months ☐ Years	
Company responsible for:		
Supervisor responsible for:		
Worker responsible for:		

HAZARDS IDENTIFIED (other than	**CONTROL MEASURE(S)**
☐ Falls	
☐ Slipping	
☐ Confined space	
☐ Workers above	
☐ Workers below	
☐ Noise	
☐ Electrical	

Berkeley Cement Inc. **Last Revision:** **9/6/17**	
Policy Title: **RESPIRABLE CRYSTALLINE SILICA PROGRAM**	

Overview of work procedure (How are you going to work safely?):			
Workers trained in (training records must be available for review):			
Proper use of grinding equipment	Y☐	Proper use of admin controls	Y☐ N☐
Proper use of engineering controls	Y☐	Proper use of PPE	Y☐ N☐
Proper disposal methods	Y☐	Other (fall protection, swing stages, etc.)	Y☐ N☐
Respirators (Refer to ECP for respirator requirements)			
Required: Y☐ N☐	Available: Y☐ N☐	Fit-tested: Y☐ N☐	
PPE required for scope of work (other than respirator)			
☐ Coveralls ☐ Gloves ☐ Rubber boots ☐ Eye protection ☐ Reflective vest ☐ Hearing protection			
Documents to be attached to control plan (☑ if present)			
☐ Exposure control program ☐ Respiratory protection program ☐ training records ☐ SWP (tools and equipment)			
☐ Coveralls ☐ Gloves ☐ Rubber boots ☐ Eye protection ☐ Reflective vest ☐ Hearing protection			
Documents to be attached to control plan (☑ if present)			
☐ Exposure control program ☐ Respiratory protection program ☐ training records ☐ SWP (tools and equipment)			
Project management signature		Position:	Date:
Contractor supervisor signature		Position:	Date:

Task/risk management matrix (relating to silica dust) use table 1 for codes, separate with a comma (,)

#	Date/Duration		Task	Controls		PPE	Supplies/ Equipment
				Engineering	Administrative		

Notes (For task/risk management matrix above. Use # to indicate which task the note relates to.)

SITE INSPECTION CHECKLIST (complete pre-work & periodically during project)

Engineering controls		Problem noted (DETAIL)	Problem corrected (DETAIL)
Available at site	Y☐		
Operating correctly	Y☐		
Used appropriately	Y☐		
Effective in dust control	Y☐		
Administrative controls			
Available at site	Y☐		
Used appropriately	Y☐		
In place before work start	Y☐		
Effective	Y☐		
Cleanup			
Vacuum used properly	Y☐		
Large pieces picked up	Y☐		
Vacuum capacity maintained	Y☐		
Pre-filters in place	Y☐		
Vacuum attachments used	Y☐		
Collection bags in place	Y☐		
Waste properly disposed of	Y☐		

TABLE 1 (Codes for task/risk management matrix)

Engineering controls		Administrative controls		PPE		Supplies/Equipment	
1	Exhaust fan	1	Signage	1	Respirator	1	Hand grinder
2	LEV	2	After hours work	2	Gloves	2	Ceiling grinder
3	Wetting	3	Scheduling	3	Coveralls	3	Floor grinder
4	Partial enclosure			4	Hearing protection	4	Disposal bags
5	Full enclosure			5	Eye protection	5	HEPA filter
6	Shroud			6	Reflective vest	6	HEPA filter (respirator)
7	Barriers			7	Rubber boots (CSA)	7	Shovel
				8	Fall arrest	8	Lifeline

APPENDIX B : Table 1

Table 1: Specified Exposure Control Methods When Working With Materials Containing Crystalline Silica

Construction Task or Equipment Operation		Engineering and Work Practice Control Methods	Required Respiratory Protection	
			≤ 4 hours/shift	>4 hours/shift
1	Stationary masonry saws	• Use saw equipped with integrated water delivery system that continuously feeds water to the blade. • Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions.	None	None
2a	Handheld power saws (any blade diameter) when used outdoors	• Use saw equipped with integrated water delivery system that continuously feeds water to the blade. • Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions.	None	N95 (or Greater Efficiency) Filtering Facepiece or Half Mask
2b	Handheld power saws (any blade diameter) when used indoors or in an enclosed area	• Use saw equipped with integrated water delivery system that continuously feeds water to the blade. • Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions.	N95 (or Greater Efficiency) Filtering Facepiece or Half Mask	N95 (or Greater Efficiency) Filtering Facepiece or Half Mask
3	Handheld power saws for cutting fiber-cement board (with blade diameter of 8 inches or less) for tasks performed outdoors only	• Use saw equipped with commercially available dust collection system. • Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. • Dust collector must provide the air flow recommended by the tool manufacturer, or greater, and have a filter with 99% or greater efficiency.	None	None
4a	Walk-behind saws when used outdoors	• Use saw equipped with integrated water delivery system that continuously feeds water to the blade. • Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions.	None	None
4b	Walk-behind saws when used indoors or in an enclosed area	• Use saw equipped with integrated water delivery system that continuously feeds water to the blade. • Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions.	N95 (or Greater Efficiency) Filtering Facepiece or Half Mask	N95 (or Greater Efficiency) Filtering Facepiece or Half Mask
5	Drivable saws for tasks performed outdoors only	• Use saw equipped with integrated water delivery system that continuously feeds water to the blade.	None	None

Construction Task or Equipment Operation		Engineering and Work Practice Control Methods	Required Respiratory Protection	
			≤ 4 hours/shift	>4 hours/shift
		• Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions.		
6	Rig-mounted core saws or drills	• Use tool equipped with integrated water delivery system that supplies water to cutting surface. • Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions.	None	None
7	Handheld and stand-mounted drills (including impact and rotary hammer drills)	• Use drill equipped with commercially available shroud or cowling with dust collection system. • Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. • Dust collector must provide the air flow recommended by the tool manufacturer, or greater, and have a filter with 99% or greater efficiency and a filter-cleaning mechanism. • Use a HEPA-filtered vacuum when cleaning holes.	None	None
8	Dowel drilling rigs for concrete for tasks performed outdoors only	• Use shroud around drill bit with a dust collection system. • Dust collector must have a filter with 99% or greater efficiency and a filter cleaning mechanism. • Use a HEPA-filtered vacuum when cleaning holes.	N95 (or Greater Efficiency) Filtering Facepiece or Half Mask	N95 (or Greater Efficiency) Filtering Facepiece or Half Mask
9a	Vehicle-mounted drilling rigs for rock and concrete	• Use dust collection system with close capture hood or shroud around drill bit with a low-flow water spray to wet the dust at the discharge point from the dust collector.	None	None
9b	Vehicle-mounted drilling rigs for rock and concrete	• Operate from within an enclosed cab and use water for dust suppression on drill bit.	None	None
10a	Jackhammers and handheld powered chipping tools when used outdoors	• Use tool with water delivery system that supplies a continuous stream or spray of water at the point of impact.	None	N95 (or Greater Efficiency) Filtering Facepiece or Half Mask
10b	Jackhammers and handheld powered chipping tools when used indoors or in an enclosed area	• Use tool with water delivery system that supplies a continuous stream or spray of water at the point of impact.	N95 (or Greater Efficiency) Filtering Facepiece or Half Mask	N95 (or Greater Efficiency) Filtering

Construction Task or Equipment Operation		Engineering and Work Practice Control Methods	Required Respiratory Protection	
			≤ 4 hours/shift	>4 hours/shift
				Facepiece or Half Mask
10c	Jackhammers and handheld powered chipping tools when used outdoors	• Use tool equipped with commercially available shroud and dust collection system. • Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. • Dust collector must provide the air flow recommended by the tool manufacturer, or greater, and have a filter with 99% or greater efficiency and a filter-cleaning mechanism.	None	N95 (or Greater Efficiency) Filtering Facepiece or Half Mask
10d	Jackhammers and handheld powered chipping tools when used indoors or in an enclosed area	• Use tool equipped with commercially available shroud and dust collection system. • Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. • Dust collector must provide the air flow recommended by the tool manufacturer, or greater, and have a filter with 99% or greater efficiency and a filter-cleaning mechanism.	N95 (or Greater Efficiency) Filtering Facepiece or Half Mask	N95 (or Greater Efficiency) Filtering Facepiece or Half Mask
11	Handheld grinders for mortar removal (i.e., tuckpointing)	• Use grinder equipped with commercially available shroud and dust collection system. • Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. • Dust collector must provide 25 cubic feet per minute (cfm) or greater of airflow per inch of wheel diameter and have a filter with 99% or greater efficiency and a cyclonic pre-separator or filter-cleaning mechanism.	N95 (or Greater Efficiency) Filtering Facepiece or Half Mask	Powered Air-Purifying Respirator (PAPR) with P100 Filters
12a	Handheld grinders for uses other than mortar removal for tasks performed outdoors only	• Use grinder equipped with integrated water delivery system that continuously feeds water to the grinding surface. • Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions.	None	None
12b	Handheld grinders for uses other than mortar removal when used outdoors	• Use grinder equipped with commercially available shroud and dust collection system. • Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. • Dust collector must provide 25 cubic feet per minute (cfm) or greater of airflow per inch of	None	None

Construction Task or Equipment Operation		Engineering and Work Practice Control Methods	Required Respiratory Protection	
			≤ 4 hours/shift	>4 hours/shift
		wheel diameter and have a filter with 99% or greater efficiency and a cyclonic pre-separator or filter-cleaning mechanism.		
12c	Handheld grinders for uses other than mortar removal when used indoors or in an enclosed area	• Use grinder equipped with commercially available shroud and dust collection system. • Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. • Dust collector must provide 25 cubic feet per minute (cfm) or greater of airflow per inch of wheel diameter and have a filter with 99% or greater efficiency and a cyclonic pre-separator or filter-cleaning mechanism.	None	N95 (or Greater Efficiency) Filtering Facepiece or Half Mask
13a	Walk-behind milling machines and floor grinders	• Use machine equipped with integrated water delivery system that continuously feeds water to the cutting surface. • Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions.	None	None
13b	Walk-behind milling machines and floor grinders	• Use machine equipped with dust collection system recommended by the manufacturer. • Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. • Dust collector must provide the air flow recommended by the manufacturer, or greater, and have a filter with 99% or greater efficiency and a filter-cleaning mechanism. • When used indoors or in an enclosed area, use a HEPA-filtered vacuum to remove loose dust in between passes.	None	None
14	Small drivable milling machines (less than half-lane)	• Use a machine equipped with supplemental water sprays designed to suppress dust. • Water must be combined with a surfactant. • Operate and maintain machine to minimize dust emissions.	None	None
15a	Large drivable milling machines (half-lane and larger) for cuts of any depth on asphalt only	• Use machine equipped with exhaust ventilation on drum enclosure and supplemental water sprays designed to suppress dust. • Operate and maintain machine to minimize dust emissions.	None	None
15b	Large drivable milling machines (half-lane and larger) for cuts of	• Use machine equipped with exhaust ventilation on drum enclosure and supplemental water sprays designed to suppress dust.	None	None

Construction Task or Equipment Operation		Engineering and Work Practice Control Methods	Required Respiratory Protection	
			≤ 4 hours/shift	>4 hours/shift
	four inches in depth or less on any substrate	• Operate and maintain machine to minimize dust emissions.		
15c	Large drivable milling machines (half-lane and larger) for cuts of four inches in depth or less on any substrate	• Use a machine equipped with supplemental water spray designed to suppress dust. • Water must be combined with a surfactant. • Operate and maintain machine to minimize dust emissions.	None	None
16	Crushing machines	• Use equipment designed to deliver water spray or mist for dust suppression at crusher and other points where dust is generated (e.g., hoppers, conveyers, sieves/sizing or vibrating components, and discharge points). • Operate and maintain machine in accordance with manufacturer's instructions to minimize dust emissions. • Use a ventilated booth that provides fresh, climate-controlled air to the operator, or a remote control station.	None	None
17a	Heavy equipment and utility vehicles used to abrade or fracture silica-containing materials (e.g., hoe-ramming, rock ripping) or used during demolition activities involving silica-containing materials	• Operate equipment from within an enclosed cab.	None	None
17b	Heavy equipment and utility vehicles used to abrade or fracture silica-containing materials (e.g., hoe-ramming, rock ripping) or used during demolition activities involving silica-containing materials	• When employees outside of the cab are engaged in the task, apply water and/or dust suppressants as necessary to minimize dust emissions.	None	None
18a	Heavy equipment and utility vehicles for tasks such as grading and excavating but not including demolishing, abrading, or fracturing silica-containing materials	• Apply water and/or dust suppressants as necessary to minimize dust emissions.	None	None

Construction Task or Equipment Operation		Engineering and Work Practice Control Methods	Required Respiratory Protection	
			≤ 4 hours/shift	>4 hours/shift
18b	Heavy equipment and utility vehicles for tasks such as grading and excavating but not including demolishing, abrading, or fracturing silica-containing materials	• When the equipment operator is the only employee engaged in the task, operate equipment from within an enclosed cab.	None	None

BCI - Silica Exposure Control Plan

Operate and maintain all tools in accordance with manufacturer's instructions to minimize dust emissions. All dust collectors must provide the airflow recommended by the tool manufacturer and have a filter with 99% or greater efficiency and a filter-cleaning mechanism.

Handheld power saws (any blade diameter)

- Engineering Control:
  - Use saw equipped with integrated water delivery system that continuously feeds water to the blade.
- Respiratory Protection: (less than 4 hours per shift)
  - Indoors or Enclosed area: N95 dust mask/filtering facepiece or half mask respirator
  - Outside area: None Required
- Respiratory Protection: (more than 4 hours per shift)
  - Indoors or Enclosed area: N95 dust mask/filtering facepiece or half mask respirator
  - Outside area: N95 dust mask/filtering facepiece or half mask respirator

SOFF Cut – Walk behind Saws

- Engineering Control:
  - Use saw equipped with integrated Soff-Vac collection system or water delivery system that continuously feeds water to the blade.
- Respiratory Protection: (less than 4 hours per shift)
  - Indoors or Enclosed area: N95 dust mask/ filtering facepiece or half mask respirator
  - Outside area: None Required
- Respiratory Protection: (more than 4 hours per shift)
  - Indoors or Enclosed area: N95 dust mask/ filtering facepiece or half mask respirator
  - Outside area: None required

Handheld and Stand Mounted Drills (including impact and rotary hammer drills)

- Engineering Control:
  - Use drill equipped with commercially available shroud or cowling with dust collection system.
  - Use a HEPA-filtered vacuum when cleaning holes.
- Respiratory Protection: None

Jackhammers and handheld powered chipping tools

- Engineering Control:
  - Use tool with water delivery system supplies a continuous stream or spray of water at the point of impact.
  - Use tool with commercially available shroud and dust collection system.
- Respiratory Protection: (less than 4 hours per shift)
  - Indoors or Enclosed area: N95 dust mask/ filtering facepiece or half mask respirator
  - Outside area: None Required
- Respiratory Protection: (more than 4 hours per shift)
  - Indoors or Enclosed area: N95 dust mask/ filtering facepiece or half mask respirator
  - Outside area: N95 dust mask/ filtering facepiece or half mask respirator

Handheld Grinders for Mortar Removal

- Engineering Control:
  - Use grinder equipped with commercially available shroud and dust collection system.
  - Dust collector must provide 25 cubic feet per minute (cfm) or greater of airflow per inch of wheel diameter and have a filter of greater than 99% efficiency or greater efficiency and a cyclonic pre-separator or filter-cleaning mechanism.
- Respiratory Protection: (less than 4 hours per shift)
  - Indoors or Enclosed area: N95 dust mask/ filtering facepiece or half mask respirator
  - Outside area: N95 dust mask/ filtering facepiece or half mask respirator
- Respiratory Protection: (more than 4 hours per shift)
  - Indoors or Enclosed area: Powered air-purifying respirator (PAPR) with P100 filters.
  - Outside area: Powered air-purifying respirator (PAPR) with P100 filters.

Handheld Grinders for Uses Other than Mortar Removal

- Engineering Control:
  - Use grinder equipped with commercially available shroud and dust collection system or equipped with integrated water delivery system that continuously feeds water to the grinding surface.
  - Dust collector must provide 25 cubic feet per minute (cfm) or greater of airflow per inch of wheel diameter and have a filter of greater than 99% efficiency or greater efficiency and a cyclonic pre-separator or filter-cleaning mechanism.
- Respiratory Protection: (less than 4 hours per shift)
  - Indoors or Enclosed area: None required
  - Outside area: None required
- Respiratory Protection: (more than 4 hours per shift)
  - Indoors or Enclosed area: N95 dust mask/ filtering facepiece or half mask respirator
  - Outside area: None required

Heavy Equipment and utility vehicles for tasks such as grading and excavating but not including demolishing, abrading, or fracturing silica-containing materials.

- Engineering Control:
  - Apply water and/or dust suppressants as necessary to minimize dust emissions.
  - When the equipment operator is the only employee engaged in the task, operate equipment from within an enclosed cab.
- Respiratory Protection: (less than 4 hours per shift)
  - None required
- Respiratory Protection: (more than 4 hours per shift)
  - None required

Housekeeping

- Work operations shall not allow dry sweeping (without dry sweep compound) or dry brushing where the activity could contribute to employee exposure to respirable crystalline silica.
  - Utilize wet sweeping methods where applicable.
  - Utilize a HEPA-filtered vacuum to clean the area.
- Compressed air shall not be used to clean clothing or surfaces where such activity could contribute to employee exposure to respirable crystalline silica.