M2 CONCRETE & EXCAVATING INC.

OCCUPATIONAL SAFETY AND HEALTH COMPLIANCE MANUAL

M2 Concrete & Excavating, Inc.
4795 Shoshone Street
Denver, CO 80211

January 2022

Prepared by:
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Louisville, CO 80027
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INTENTIONS AND LIMITATIONS

The information in the Manual is provided for the use of our client. Reasonable due diligence has been taken to insure that the information is reliable and accurate. The recommendations contained herein are based upon the professional assessment and judgment of Complete Safety, LLC, as well as information provided by the Client and third parties, upon which Complete Safety has reasonably relied.

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QUESTIONS OR COMMENTS ABOUT THIS MANUAL CONTACT:

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Or email us at: john@completesafety.biz

REVISION RECORD

Revision Date	Corrections By	Changes Made	Reasons For Changes
February 2019	Complete Safety, LLC	New Document	OSHA Compliance
July 2020	Complete Safety, LLC	Updates	Updated

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CHAPTER 1: HEALTH AND SAFETY PROGRAM

January 1, 2022

To All Personal,

In all of its operations, M2 Concrete & Excavating, Inc. is guided by an established accident-prevention policy. This policy is based on a sincere desire to eliminate occupational injuries and illnesses, damage to equipment and property, as well as to protect the general public.

Management and supervision are charged with the responsibility of preventing the occurrence of incidents or conditions that could lead to occupational injury or illness. While the ultimate success of a safety and health program depends upon the full cooperation of each individual employee, it is management's responsibility to provide a safe environment in which to work. It is likewise management's responsibility to see that effective training and education programs are employed to the best advantage.

Safety should never be sacrificed for production. It must be considered an integral part of quality control, cost reduction and job efficiency. Every supervisor will be held accountable for the safety performance demonstrated by the employees under his supervision. In addition, it is the responsibility of each employee to adhere to their safety training and be aware of the hazards around them and practice safe work activities.

M2 Concrete & Excavating, Inc. goal is to achieve an outstanding record in the safety field. Though we believe our program to be very effective, we also recognize that as long as any possibility exists for even one person to suffer injury, we must continue to stress safety and to strive for improvement.

Our goal is to eliminate accidents from our operations. We have provided this Health and Safety Compliance Manual to emphasize the importance of Company Policies and Procedures, as well as serve as a source of reference for our employees. Some OSHA Standards are highlighted herein for reference; however, all Governmental Standards must be adhered to or exceeded as part of our normal operating procedures.

Our policy is to accomplish job progress in the safest possible manner consistent with safe work practices. Every level is charged with the task of translating this policy into positive actions.

IN SHORT: SAFETY IS EVERYONE'S RESPONSIBILITY

Sincerely,

_____

Miguel Mendoza, President

Health and Safety Program

POLICY STATEMENT

The Management Team at M2 Concrete & Excavating, Inc. believes that our people are our most important asset and that the preservation of employee safety and health must remain a constant consideration in every phase of our business. It is our intent to provide a work environment as free of hazards as possible.

All employees are responsible for working safely and productively; always remaining aware of hazards in their jobs and following recognized safe work practices, including the use of personal protective equipment (PPE).

It is also our belief that any safety and health program must have total employee and subcontractor involvement. Therefore this program has management's highest priority, support, participation, and enforcement.

COMPANY GOALS

Safety begins at the top and involves everyone in the company. Our primary goal is to have an injury free work place. This can be achieved by delegating responsibility and accountability to all involved in the company's operation. We will use additional benchmarks as necessary to help us achieve this goal.

***Responsibility*:** Having to answer for activities and results.
***Accountability*:** The active measurement by management to ensure compliance or management doing something to ensure action.

Using this foundation, to reach our goal of a safe work place, everyone needs to take responsibility. Then everyone will be held accountable.

Benefits of achieving our goals are:

- Minimizing all injury and accidents;
- Minimizing loss to property and equipment;
- No fatalities;
- No permanent disabilities;
- Having the best safety and health conditions possible; and
- Improving overall business operations to make us more competitive in the marketplace.

Annual injury and illness goals will be established and reviewed on a quarterly basis.

MANAGEMENT COMMITMENT

The management of M2 Concrete & Excavating, Inc. is committed to the company's safety policy, and to provide direction and motivation by:

- The appointment of a Health & Safety Officer;
- Establishing M2 Concrete & Excavating, Inc. safety goals and objectives;
- Maintaining this written health and safety plan;
- Enforcement of health and safety disciplinary procedures for employees and all tiered subcontractors;
- Support the Health and Safety program with people, authority and training; and
- Establishing accountability and responsibility for management, employees, and subcontractors to follow.

ASSIGNMENT OF RESPONSIBILITY

Health and Safety Officer

M2 Concrete & Excavating, Inc. has designated **Miguel Mendoza** as our Health and Safety Officer for the Company. The Project Foremen are designated as the site specific Health and Safety Officer.

M2 CONCRETE & EXCAVATING, INC. HEALTH AND SAFETY OFFICER:

It shall be the duty of the **M2 Concrete & Excavating, Inc. Health and Safety Officer** to manage the initiation, education, and execution of an effective health and safety program and more specifically the following:

- Oversee the Company Safety Program and recommend changes to policy and procedures.
- Introduce the safety program to new employees.
- Train all new management in Company policy and procedure.
- Follow up on recommendations, suggestions, etc. to insure that hazards reported by employees are evaluated and corrected as needed in a timely manner.
- Develop specific goals related to health and safety for the organization and track them on a regular basis.
- Be thoroughly familiar with the company health and safety program and assist the personnel in the execution and enforcement of standard policies.
- Conduct periodic and as-needed training regarding new policies, procedures and regulations.
- Provide Superintendents with the posters and manuals required by federal, state and local regulations.
- Distribute Safety Meeting agenda items to each job site.
- Conduct safety inspections on a periodical basis.
- Prepare monthly accident reports and investigations.

- Maintain the required elements for written programs and ensure all required inspections and training are conducted.
- Attend OSHA, on-site safety inspections, if possible. Follow up on all action items resulting from such inspections and maintain detailed records of all inspection-related items and actions.

SITE HEALTH AND SAFETY OFFICER (PROJECT FOREMAN):

The M2 Concrete & Excavating, Inc. site **Foreman** will establish an operating atmosphere that insures that health and safety is managed in the same manner and with the same emphasis as customer service, cost, and quality.

It shall be the duty of the **M2 Concrete & Excavating, Inc. site Foreman** to specifically conduct the following:

- Define, if necessary, responsibilities for health and safety of all subordinates and hold each person accountable for their results.
- Regularly emphasizing that accident and health hazard exposure prevention is a condition of employment.
- Maintain safe work practices and safe working conditions within the area under his/her supervision.
- Conduct safety orientations with each Subcontractor Crews and Foreman explaining the site specific safety policies for a M2 Concrete & Excavating, Inc. project, prior to working on the project site (see Forms Section for the "Employee Safety Orientation" form).
- Never short-cut safety for expediency, nor allow workers to do so.
- Enforce safety rules consistently, and follow company's discipline/enforcement procedures.
- Conduct daily job site walk-through and correct noted safety violations.
- Ensure that PPE is provided and used where required.
- Ensure all hazards identified by employees are addressed in a timely manner.
- Conduct and document weekly safety meetings.
- Maintain first aid kits, emergency supplies and information.
- Ensure certified Competent Persons are identified as per M2 Concrete & Excavating requirements. (See "Competent Person Form")
- Ensure each site has current SDS' and a list of Hazardous chemicals used on the site by M2 Concrete & Excavating, Inc. employees.
- **Require each Subcontractor to provide a hard copy of their Company site specific Health and Safety Plan.**
- **Require each Subcontractor to provide a hard copy of SDS' and a list of all hazardous chemicals used by their employees, prior to starting work.**
- Properly display all safety posters supplied by the Safety Officer.
- Maintain all fire extinguishers on the site.
- Provide PPE (hard hats, safety glasses, gloves, safety vests, etc.) as may be required for Company employees and guests.
- Enforce the use of PPE by employees and subcontractors.
- Prepare and post an Emergency Action Plan for use in the event of an emergency.
- Report significant safety incidents, violations and concerns to the Safety Officer.

Items to required in the Safety packet:

- Emergency Evacuation Plan; and
- M2 Concrete & Excavating, Inc. emergency contact Information.

Individual Health and Safety Plan and SDS Book for M2 Concrete & Excavating, Inc. and all Subcontractors are required to be located on a designated shelf in a common area for immediate review.

All safety posters regarding Fall Protection Use and Inspections, and appropriate work site clothing are to de displayed on the wall of the work trailer, and on the site in high worker traffic.

All report Forms and posters are located in the Forms Section of this Plan.

M2 CONCRETE & EXCAVATING, INC. EMPLOYEES AND SUBCONTRACTORS

It is the duty of each and every employee, and all subcontractors to M2 Concrete & Excavating, Inc. to know the safety rules, and conduct his work in compliance with these rules. Disregard of the safety and health rules shall be grounds for disciplinary action up to and including termination. It is the duty of each employee and subcontractor to make full use of the safeguards provided for their protection.

M2 Concrete & Excavating, Inc. Employee responsibilities are:

- Read, understand and follow health and safety rules and procedures.
- Personal protective equipment (PPE) will be worn at all times.
- Suitable work clothes will be worn at all times.
- Employees observed working in a manner that might cause injury to either themselves or other workers shall be warned of the danger and will immediately correct their method of operation.
- **Employees shall report all injuries (including contact with Blood Borne Pathogens), no matter how slight to their Supervisor immediately, and seek treatment promptly.**
- **All workers involved or which have experienced an accident or Near Miss on the site (no matter how small) is required to report the incident immediately to their Supervisor and to the M2 Concrete & Excavating Superintendent.**
- **In addition, a Accident or Near Miss report must be completed by both the M2 Concrete & Excavating Superintendent and the foremen of the subcontractors involved;**
- Employees shall be aware of the location of first aid, eyewash, fire fighting equipment, and other safety devices.
- Report all hazards to your Supervisor immediately.
- Attend any and all required health and safety meetings.
- Participate in all required on-site safety training.
- **Employees/workers are to follow all procedures identified in the health and safety program and shall not perform potentially hazardous tasks or use any hazardous material until properly trained.**
- Provide a documented response to the M2 Concrete & Excavating, Inc. Company Safety Officer and to Complete Safety of all discrepancies identified in Complete Safety's monthly inspections within 4-days of receiving the DRAFT report from Complete Safety.
- M2 Concrete & Excavating, Inc. employees will be expected to focus on the "**Four Areas of Emphasis**" for the Health and Safety Program (see below).
- In addition, all M2 Concrete & Excavating Project site crews will be expected to adhere to exercising "**Good Faith Efforts**":
    - Record all safety issues you address with subcontractors in daily logs.
    - Conduct weekly tool box meetings for M2 Concrete & Excavating employees.
    - Document subcontractor weekly tool box meetings.
    - Document Project HAZCOM Program with SDSs and Chemical Inventory.
    - Notify subcontractors in writing of uncorrected serious safety conditions using "Notice of Noncompliance".

Every employee, including Temporary M2 Concrete & Excavating, Inc. Employees will receive an orientation when hired and receive company health and safety rules and procedures for the Health and Safety Program.

Additional copies of the M2 Concrete & Excavating, Inc. Health and Safety Program are available in the job site trailer or with the Superintendent onsite.

Contractors to M2 Concrete & Excavating, Inc. responsibilities are:

- Read, understand and follow health and safety rules and procedures.
- Personal protective equipment (PPE) will be worn at all times.
- Suitable work clothes will be worn at all times.
- Contractor employees observed working in a manner that might cause injury to either themselves or other workers shall be warned of the danger and will immediately correct their method of operation.
- Contractor employees shall report all injuries (including contact with Blood Borne Pathogens), no matter how slight to their Foreman immediately, and seek treatment promptly.
- Contractor employees shall be aware of the location of first aid, eyewash, fire fighting equipment, and other safety devices.
- Report all hazards to your Forman.
- Attend any and all required health and safety meetings.
- Participate in all required on-site training.
- Contractor employees are to follow all procedures identified in the health and safety program and shall not perform potentially hazardous tasks or use any hazardous material until properly trained.
- M2 Concrete & Excavating, Inc. and all subcontractors will be expected to focus on the "**Four Areas of Emphasis**" for the Health and Safety Program (see below).

The M2 Concrete and Excavating, Inc. project Foremen are to provide a "Site Specific Orientation" with each M2 Concrete and Excavating, Inc. employee and subcontractor Foremen and his employees, prior to those employees beginning work activities.

Subcontractor Foremen are required to ensure that each employee under their supervision receive orientation from a M2 Concrete and Excavating employee, including sub-tier contractors. Completed "Orientation" forms are to be to be provided to the Superintendent. Each orientated worker will receive a hard hat sticker.

All Contractors are required to provide the M2 Concrete & Excavating, Inc. Superintendent with the following:

- If required due to work activities in accordance to OSHA Standards, all Contractors must provide a list and documented proof of all "Competent Persons" prior to starting work activities.
- All necessary Job-Hazard-Analysis (JHAs) prior to beginning that particular work activity.
- Copies of weekly tool box meetings and all inspection checklists.
- Copies of all required equipment inspections.

- Copies of all employee equipment certifications.
- Hard copy of their site specific Health and Safety Plan and SDS Book.

Each Independent Contractor to M2 Concrete & Excavating, Inc. is expected to comply with the M2 Concrete & Excavating, Inc. Health and Safety Program. A copy of the M2 Concrete & Excavating Health and Safety Program will be provided to each contractor during the pre-construction meeting.

Additional copies of the M2 Concrete & Excavating, Inc. Health and Safety Program are available in the job site trailer or with the Superintendent onsite.

Safety Areas of Emphasis

Training - Implementation - Inspection/Enforcement - Documentation

It is M2 Concrete & Excavating, Inc. goal to create a Zero Accident Safety Culture in our company and on all of our jobsites. We know that 100% of accidents can be prevented if employees and our Subcontractors have the proper training and put that training into action on our jobsites.

When we recognize work is out of compliance with safety standards we will correct the deficient work and enforce our disciplinary policy to ensure standards are followed. All of our efforts to create safe jobsites through **training, implementation and inspection/ enforcement will be documented**. Therefore, in an effort to create and maintain a Zero **Accident Safety Culture our Health and Safety Plan will focus on four areas of emphasis: Training, Implementation, Inspection/Enforcement and Documentation**.

Training- M2 Concrete & Excavating, Inc. understands that to achieve safety on our jobsites employees and our Subcontractors need to be educated and trained in safe work practices. M2 Concrete & Excavating, Inc. is committed to training its employees through monthly safety meetings and task specific training. Specific M2 Concrete & Excavating, Inc. employees will receive OSHA 10-Hour and First Aid/CPR Training. We also participate in training our Subcontractors through our mandatory jobsite Safety Orientation Program, work specific safety talks, and weekly Safety Meetings.

Implementation- M2 Concrete & Excavating, Inc. requires a daily task meeting be conducted to discuss safety concerns for the tasks that day. This educates employees about potential hazards and ensures the necessary precautions are in place to prevent accidents and work safely. But knowing how to work safely does not create a safe jobsite. Doing those safe work practices is what creates a safe work environment. M2 Concrete & Excavating, Inc. is committed to its employees to doing everything possible to implement our Health and Safety Program and put safe work practices into action.

Inspection/Enforcement- M2 Concrete & Excavating, Inc. has a responsibility to inspect work activities for safety compliance and require that our Health and Safety Program and OSHA Standards are followed. Foremen and other M2 Concrete & Excavating, Inc. staff inspect the project regularly throughout each day. We also require daily inspections by the onsite subcontractor Competent Person for scaffolding, excavations, fall protection, and equipment. During these inspections, deficiencies are noted and then followed-up on until corrected. We demand safe work practices on our jobsites and use our disciplinary policy of verbal warnings, written warnings and removing people from jobsites as necessary to ensure standards are followed.

Documentation There are two main objectives for Safety Documentation: 1. To plan ahead for hazards created by work activities and create safe work plans. 2. To document all of our Good Faith Efforts and attempts to run safe projects as a means of showing OSHA we are controlling our jobsites and making every effort to make our jobsites safe.

Our **Site Specific Safety Book** is where we keep a record of project specific safety documentation. Our Health and Safety Officer also maintains a record of ongoing safety training and other safety items that are not project specific.

Discipline Policy (Includes all Subcontractors):

It is the policy of M2 Concrete & Excavating, Inc. to enforce compliance with the Health and Safety Program by following the standard procedures listed below:

1) A verbal warning will be communicated to an employee performing an unsafe act;

2) Employees requiring additional warnings due to repeat violations will receive a "Safety Warning Notice" and the Employer will be fined $25.

3) The M2 Concrete & Excavating, Inc. Superintendent reserves the right to suspend the employee from work as a result of any violation and a $50 fine assessed to his Employer; and

4) A third violation, written or verbal, can be cause for immediate termination.

All levels of supervision must enthusiastically maintain the company's high standards of safety and health on the job. Workers, who violate the company safety and health rules, policies, and procedures, must be immediately and positively corrected by their individual supervisors. If a supervisor is not enforcing safety as part of their overall job, they will be removed from their supervisory position.

All levels of "Warnings" are required to be documented by the supervising M2 Concrete & Excavating employee. Warnings can be documented on the "Safety Violation Warning Notice" (see the Forms Section for the "Safety Violation Warning Notice").

Subcontractor who do not abate a safety issue upon request will receive a notice of the deficiency needing correction.

WORKPLACE ANALYSIS

Workplace survey and walkthrough

Annually health and safety survey will be conducted to determine any and all inconsistencies and deficiencies with the OSHA Construction Standards, 29 CFR 1926 and the M2 Concrete & Excavating, Inc. Health and Safety Program for areas conducting construction activities. In areas conducting general busy duties, OSHA General Industry Standards, 29 CFR 1910 will be utilized as comparison. This will be used to analyze new processes or revise the current Program.

The Health and Safety Officer may perform walkthroughs of project sites to review compliance status and recognize any inconsistencies and deficiencies. Additionally, our Health and Safety Consultant will conduct periodic project site inspections. The walkthroughs will be documented and include an action plan for corrective actions.

Job Hazard Analysis (JHA's)

Certain Contractors on the site are required to provide the M2 Concrete & Excavating, Inc. Superintendent with a JHA for work activities prior to beginning work. The need to complete a JHA for your particular works is listed below:

- Framers - all activities including fall protection, forklift picks and sets, crane operation, crane picks and sets;
- Steel Erectors - All activities, including lifts exceeding more than 70% of the crane maximum capacity;
- Excavations or confined spaces in which workers will enter; and
- Confined Space entry.

Reasoning for a JHA:
A hazard analysis is conducted to further assess the hazards of specific jobs, processes, and/or phases of work. The hazard analysis is an orderly process for locating and evaluating hazards that are most probable and have the severest consequences. The hazard analysis will review each step of the process, identifying existing or potential hazards (both safety and health), and recommend changes to eliminate or reduce the hazards.

All hazard analysis' conducted will be documented and reviewed by the M2 Concrete & Excavating, Inc. Superintendent prior to beginning the work activity or when the process or operation changes.

Each M2 Concrete & Excavating, Inc. subcontractor employee and contractor Foreman will sign the Site Specific JHA for their specific work duties prior to beginning work on the project.

If an accident, injury, or illness is associated with a specific job or process, the hazard analysis should be reviewed to determine whether changes are needed.

A hazard analysis will be conducted for each major functional area or operation to determine the need for, and proper selection of, personal protective equipment (see the Forms Section for a "Job Hazard Analysis").

INJURY AND ILLNESS ANALYSIS AND RECORDKEEPING

OSHA 300 Log

Every OSHA recordable injury and illness shall be recorded on an OSHA 300 log within seven calendar days from the time the employer learns of the injury or illness. This log is maintained on a calendar year basis and shall be retained for five years.

M2 Concrete & Excavating, Inc. will post an annual summary of recordable injuries and illnesses, which includes the calendar year, certification signature, title and date. The summary covering the previous calendar year shall be posted no later that February 1st, and remain in place until April 30th.

The safety committee will evaluate the OSHA 300 log to determine trends or patterns in injuries every 12 months. All trends or patterns will be documented and reviewed by the safety team to establish corrective actions.

Accident Investigations:

Health and Safety Officer (site Superintendent):

- Provide first aid, call emergency medical care if required.
- If further medical treatment is required, arrange to have an employee accompany the injured employee to the medical facility.
- Do not clean the scene unless it presents an immediate hazard.
- Secure area, equipment and personnel from injury and further damage.
- Do not permit entry into the scene until properly released.
- Immediately STOP all work on the site if the accident is severe. Safety Stand-down.
- Investigate the incident (injury): gather facts, employee and witness statements, take pictures of incident site and equipment involved.
- Provide a site-wide meeting in the event of a Stand-down prior to resuming work. Collect signatures of all workers who attend the Stand-Down meeting.
- **Complete an incident investigation report within 24-hours and email the Forms and all supporting information to Mr. Miguel Mendoza (Safety Officer M2 Concrete & Excavating, Inc.), and John Cunningham, (Complete Safety) for review.**
- Insure that corrective action to prevent a recurrence is taken.
- Discuss the incident with all employees on the site at the time of the incident, where appropriate, in safety and other employee meetings with the intent to prevent recurrence. At the least, provide a safety toolbox meeting with the employees on the site at the time of the incident, discussing any new measures to be taken on the site to ensure safety is compliant.

M2 Concrete & Excavating, Inc. considers the documentation of “Accidents” as a critical learning tool in improving our overall safety. Accidents must be recorded on the “Accident Investigation” form located in the Forms Section of this Plan.

ACCIDENT REPORTING to OSHA:

All employers must report

1. All work-related fatalities within 8 hours.
2. All work-related inpatient hospitalizations, all amputations, and all losses of an eye within 24 hours.

You can report to OSHA by

1. Calling OSHA's free and confidential number at 1-800-321-OSHA (6742). This phone is monitored during after hours of the Area Office.
2. Calling your closest Area Office during normal business hours.
3. Using the online form from the www.osha.gov website.

Only fatalities occurring within 30 days of the work-related incident must be reported to OSHA. Further, for an in-patient hospitalization, amputation or loss of an eye, these incidents must be reported to OSHA only if they occur within 24 hours of the work-related incident.

Employers do not have to report an event if it: resulted from a motor vehicle accident on a public street or highway (except in a construction work zone); Occurred on a commercial or public transportation system, such as airplane or bus; Involved hospitalization for diagnostic testing or observation only.

Near Misses:

Seventy-five percent of all accidents are preceded by one or more near misses, according to the National Safety Council. Workers may not realize they are expected to report near misses, no matter how trivial they may seem. Although there may not have been a serious outcome, these incidents could result in future accidents. By recognizing near misses and taking action to correct the underlying problems, employees will not only reduce the number of near misses, but more importantly, they will reduce the number of actual accidents in the future.

"Near misses" can be defined as minor accidents or close calls that have the potential for property loss or injury. A near miss will prevent a task from being completed as planned. Most accidents can be predicted by close calls. These are accidents that almost happened or possibly did happen but simply didn't result in an injury this time around. This is a call to Action. Below are some examples of near misses in the workplace:

- A worker trips over an extension cord that lies across the floor but avoids a fall by grabbing an object to regain balance.
- An outward-opening door nearly hits a worker who jumps back just in time to avoid a mishap.
- Instead of using a ladder, an employee stands on a bucket, loses balance and stumbles to the ground. Although the employee is shaken, there is no injury.

Here is a list of questions for workers to ask themselves when a near miss occurs:

- How do you handle these incidents in your workplace?
- What's your attitude toward a near miss?
- Do you feel momentarily relieved that what happened wasn't any worse?
- Do you just return to your routine after the near miss occurs?
- Do you simply tell yourself that you should be more careful next time?
- Do you have a plan for preventing a repeat performance?

M2 Concrete & Excavating, Inc. considers the documentation of "Near Misses" as a critical learning tool in improving our overall safety. "Near Misses" are required to be documented on the "Accident Investigation" Report.

If a more serious incident or "Near Miss" occurs, more detailed reporting is necessary. All "Near Misses" are required to be documented immediately as to train the necessary employees on the site immediately to avoid the incident in the future . Complete the "Accident Investigation" form with details (see Forms Section for the "Accident Investigation"). Add witness statements if applicable.

Report incidents involving major injuries or damage to equipment or property to the Company Health and Safety Officer immediately by phone, and then complete this report.

Hazard Prevention and Control:

Engineering Controls

- Engineering controls involve physical changes to the work area, equipment, facility, or other relevant aspect of the work environment.
- Engineering controls are the preferred method for controlling hazards.
- M2 Concrete & Excavating, Inc. will utilize engineering controls whenever possible.

Administrative Controls

- Administrative Controls are procedures, which significantly limit daily exposure by control or manipulation of the work schedule, or manner in which work is performed.
- Administrative controls do not eliminate or limit the hazard. Consequently, the controls must be consistently used and enforced.

Personal Protective Equipment (PPE)

- PPE is specialized clothing or equipment worn by an employee for protection against a hazard.
- PPE will only be used when other engineering and work practice controls are not feasible or until other controls can be implemented.
- All required PPE is identified in the PPE program and is accessible and provided in appropriate sizes at no cost to the employee.

Maintenance:

- Equipment maintenance is essential to the health and safety program to prevent hazardous breakdowns.
- A preventive maintenance schedule exists for equipment and follows all manufactures' and industry recommendations and consensus standard for maintenance frequency.
- All repairs for safety-related items shall be expedited and all safety device checks shall be documented.
- All equipment needing to be repaired or discarded must be identified with a **M2 Concrete & Excavating Red Tag** and isolated from possible use.

Safety and Health Training

Training is an essential component to M2 Concrete & Excavating, Inc. Health and Safety Program. The company is committed to providing required training for all applicable OSHA standards.

Training will be documented. The training records will be retained in the employee's file for a minimum of three years.

The M2 Concrete & Excavating, Inc. project Superintendent are to provide a "Site Specific Orientation" with each M2 Concrete & Excavating, Inc. employee and subcontractor Foremen, prior to that employee beginning work activities.

Subcontractor Foremen are required to ensure that each employee under their supervision receive orientation from a M2 Concrete & Excavating employee, including sub-tier contractors. Completed "Orientation" forms are to be to be provided to the Superintendent. Each orientated worker will receive a hard hat sticker.

Training will be conducted for all required program elements and be conducted at the following frequency:

- For all new hires;
- When new equipment, materials, or processes are introduced;
- When procedures have been updated or revised;
- When experiences/operations show that employee performance must be improved; and
- Based on the frequency required in the applicable OSHA standard.

Certain M2 Concrete & Excavating, Inc. employees shall also be trained in the recognition of hazards to assist with the prevention of unsafe conditions through an OSHA 10-hour and or OSHA 30-hour Authorized Class.

PROGRAM REVIEW AND EVALUATION

The company health and safety program will be reviewed annually to ensure health and safety program elements are in place. Additionally, goals and objectives shall be reviewed to measure performance of the program and its elements.

A revision record will be maintained to document the changes made to the written programs.

Additional copies of the M2 Concrete & Excavating Health and Safety Program is available in the job site trailer or with the Superintendent on site.

CHAPTER 2: SITE SPECIFIC INFORMATION

M2 Concrete & Excavating, Inc.
Site Specific Safety & Health Manual

Project Name: _____ **Date:** _____

Site Superintendent: _____ **Cell:** _____

Job Site Address: _____
_____

M2 Concrete & Excavating, Inc. Site Team Members:

Name: _____ **Position:** _____ **Cell:** _____

Name: _____ **Position:** _____ **Cell:** _____

Name: _____ **Position:** _____ **Cell:** _____

Name: _____ **Position:** _____ **Cell:** _____

Name: _____ **Position:** _____ **Cell:** _____

Name: _____ **Position:** _____ **Cell:** _____

Work to be be performed:

_____
_____

Minimum Required PPE:
- **ANSI-certified eye protection at <u>all</u> times;**
- **Work-boots;**
- **Long pants;**
- **Safety vest;**
- **Shirts with 4-inch sleeve minimum; and**
- **Hard hat.**

EMERGENCY PLANNING

EMERGENCY RESPONSE COORDINATOR(S)
Project Site Team:

Name: _____ **Position:** _____ **Cell:** _____

Name: _____ **Position:** _____ **Cell:** _____

Name: _____ **Position:** _____ **Cell:** _____

M2 Concrete & Excavating, Inc.	Denver	Main Phone:		970-379-6648
M2 Concrete & Excavating, Inc.	H&S Officer:	Miguel	Cell:	970-379-6648
M2 Concrete & Excavating Safety Consultant		John Cunningham	Cell:	303-587-8337
			Office:	303-494-7233

Site Specific Emergency Response Gathering Area: _____
Emergency Egress Points: _____

M2 Concrete & Excavating, Inc. Contractor Site Team:

Name: _____ **Contractor:** _____ **Cell:** _____

Name: _____ **Contractor:** _____ **Cell:** _____

Name: _____ **Contractor:** _____ **Cell:** _____

Fire Department: ***Dial 911***

Closest Community Hospital: _____
Address:

M2 Concrete & Excavating, Inc. Medical Providers:

Primary Location:

Name of Medical Facility:	
Address:	
Phone Number:	

Secondary Location:

Name of Medical Facility:	
Address:	
Phone Number:	

(Attach map to the nearest hospital following this page)

State Department of Health
Colorado Department of Public Health and Environment
1-877-518-5608

National Response Center
1-800-424-8802

EPA Region VIII, Emergency Response Branch
1-800-227-8917

Large Quantity Hazardous Materials Inventory

	Hazardous Substance ID	Quantity	Location
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			

CHAPTER 3: BLOODBORNE PATHOGENS PROGRAM

Bloodborne Pathogens Program

PURPOSE

To outline the Exposure Control Program for Bloodborne Pathogens at M2 Concrete & Excavating, Inc.. This Program specifies how M2 Concrete & Excavating, Inc. is meeting the requirements of the OSHA's 29 CFR 1926.21(b)(2), 1926.25, and Chapter 5(a)(1) of the OSH Act.

The Health and Safety Coordinator is the Bloodborne Pathogens Program Coordinator who has overall responsibility for the program.

SCOPE

This program applies to individuals with assigned First Aid and CPR response duties.

M2 CONCRETE & EXCAVATING, INC. RESPONSIBILITIES

M2 Concrete & Excavating, Inc. is responsible for knowing all possible activities for providing emergency care in which an employee has the potential of coming into contact with Bloodborne Pathogens. M2 Concrete & Excavating, Inc. Superintendent will inform all Subcontractors during the onsite orientation in the proper procedures for handling bodily waste.

Definitions

Blood means human blood and blood components and products made from human blood.

Bloodborne Pathogens (BBP) are microorganisms present in blood that can cause disease in humans including, but not limited to, hepatitis B (HBV), and human immunodeficiency virus (HIV).

Other Potentially Infectious Materials (OPIM) are human body fluids including; semen, vaginal secretions, cerebrospinal fluid, synovial fluid, pleural fluid, pericardial fluid, peritoneal fluid, amniotic fluid, saliva in dental procedures and any body fluid that is visibly contaminated with blood.

Contaminated means the presence or reasonably anticipated presence of blood or OPIM.

Sharps are any object(s) that can penetrate the skin including, but not limited to, needles, scalpels, broken glass, broken capillary tubes and exposed ends of dental wires.

Exposure Incident means a specific eye, mouth, other mucous membrane, non-intact skin, or parenteral contact with blood or OPIM that may result from the performance of an employee's duties.

Occupational Exposure means any reasonably anticipated skin, eye, mucous membrane or other parenteral contact with blood or OPIM that may result from the performance of an employee's duties not considering the use of personal protective equipment.

Personal Protective Equipment (PPE) is specialized clothing or equipment worn by employees for protection against a hazard. Street clothes are not considered PPE.

Regulated Waste is liquid or semi-liquid blood or OPIM, contaminated items that would release blood or OPIM in a liquid or semi-liquid state if compressed, items that are caked with dried blood or OPIM and are capable of releasing them during handling and contaminated sharps.

Universal Precautions is an approach to infection control where all human blood and OPIM are treated as if known to be infectious for HIV, HBV and other BBPs.

METHODS OF COMPLIANCE

Universal Precautions will be observed at all times when working with blood or OPIM.

Forman must ensure that employees working with blood or OPIM wash their hands immediately after the task is complete or after they remove any personal protective equipment (eye protection, gloves, breathing barrier, etc.).

Each Forman is required to be First Aid/CPR certified.

Broken glass that is potentially contaminated must be picked up with a broom and dustpan. Broken glass must not be picked up by hand.

M2 Concrete & Excavating, Inc. provides appropriate equipment such as sharps containers and regulated waste containers, which meet or exceed the OSHA requirements.

Eating, drinking, smoking, applying cosmetics or lip balm and handling contact lenses is prohibited in locations where blood or OPIM materials are present.

No article of PPE is to be taken out of the area by an employee. M2 Concrete & Excavating, Inc. is responsible for cleaning, disinfecting and/or replacing used PPE.

Disposable gloves must be properly discarded in the biohazard waste container after each use.

DISPOSAL

Any object that may be contaminated will be immediately discarded in the sharps container.

Biohazard containers are disposed of before they are full.

M2 Concrete & Excavating, Inc. contracts with a qualified disposal company to dispose of all contaminated waste. All biohazard waste containers used at M2 Concrete & Excavating, Inc. are color coded **RED**.

TRAINING

M2 Concrete & Excavating, Inc. provides training ANNUALLY as required through OSHA Standard 29CFR1910.1030 to all designated First Aid/CPR/AED providers in the hazards of bloodborne pathogens before they are assigned duties that may result in occupational exposure.

M2 Concrete & Excavating, Inc. employees designated at First Aid/CPR providers will be provided with recertification training every two-years.

M2 Concrete & Excavating, Inc. will instruct each employee in the recognition and avoidance of unsafe conditions and in the regulations applicable to his or her work environment in order to control or eliminate any hazards or other exposure to illness or injury.

Training is provided by the M2 Concrete & Excavating, Inc. Health and Safety Officer or by the M2 Concrete & Excavating, Inc.'s Safety Consultant.

Re-training is provided whenever tasks and procedures are modified that may result in different hazards or procedures.

CHAPTER 4: ELECTRICAL SAFETY PROGRAM

Electrical Safety Program

PURPOSE

The purpose of this program is to establish that M2 Concrete & Excavating, Inc. is complying with the OSHA's 29 CFR 1926, Subpart K, Electrical standards and OSHA's 29 CFR 1910 Subpart S, Electrical standards for the General Industry.

SCOPE

This program applies to all work operations at M2 Concrete & Excavating, Inc. where employees may work with electrical equipment or around electrical installations.

The site Health and Safety Officer is the site Electrical Safety Program Coordinator who has overall responsibility for the program.

M2 CONCRETE & EXCAVATING, INC. RESPONSIBILITIES

M2 Concrete & Excavating, Inc. is responsible for knowing all possible activities in which an employee has the potential of coming into with an electrical hazard. M2 Concrete & Excavating, Inc. Superintendent will inform all Subcontractors during the onsite orientation in the importance for complying with all OSHA Standards associated with electrical equipment.

The site electrical Contractor is contractually obligated to document and maintain all GFCIs inspections associated with all power sources on the project site.

Definitions

Acceptable - An installation or equipment is acceptable to the Assistant Secretary of Labor, and approved within the meaning of this Subpart K: (a) If it is accepted, or certified, or listed, or labeled, or otherwise determined to be safe by a qualified testing laboratory capable of determining the suitability of materials and equipment for installation and use in accordance with this standard; or (b) With respect to an installation or equipment of a kind which no qualified testing laboratory accepts, certifies, lists, labels, or determines to be safe, if it is inspected or tested by another Federal agency, or by a State, municipal, or other local authority responsible for enforcing occupational safety provisions of the National Electrical Code, and found in compliance with those provisions.

Attachment plug (Plug cap or Cap) - A device which, by insertion in a receptacle, establishes connection between the conductors of the attached flexible cord and the conductors connected permanently to the receptacle.

Certified - Equipment is "certified" if it: (a) Has been tested and found by a qualified testing laboratory to meet applicable test standards or to be safe for use in a specified manner, and (b) Is of a kind whose production is periodically inspected by a qualified testing laboratory. **Certified equipment must bear a label, tag, or other record of certification.**

Circuit breaker - A device designed to open and close a circuit by nonautomatic means and to open the circuit automatically on a predetermined over current without injury to itself when properly applied within its rating.

Conductor –

(a) *Bare* - A conductor having no covering or electrical insulation whatsoever.

(b) *Covered* - A conductor encased within material of composition or thickness that is not recognized as electrical insulation.

(c) *Insulated* - A conductor encased within material of composition and thickness that is recognized as electrical insulation.

Ground - A conducting connection, whether intentional or accidental, between an electrical circuit or equipment and the earth, or to some conducting body that serves in place of the earth.

Grounded - Connected to earth or to some conducting body that serves in place of the earth.

Ground-fault circuit interrupter (GFCI) - An electrical device designed to protect people (not equipment) from electrical shock. The GFCI is a very sensitive device that can detect ground leakage currents as low as 5 milliamperes. The GFCI can be provided as part of a receptacle or as part of a circuit breaker. When the GFCI detects a ground leakage current, it either deenergizes the receptacle or trips the circuit breaker.

Location –

(a) *Damp location*. Partially protected locations under canopies, roofed open porches, or interior locations subject to moderate degrees of moisture, such as some basements.

(b) *Dry location*. A location not normally subject to dampness or wetness. A location classified as dry may be temporarily subject to dampness or wetness, as in the case of a building under construction.

(c) *Wet location*. Installations underground or in concrete slabs or masonry in direct contact with the earth, and locations subject to saturation with water or other liquids, such as locations exposed to weather and unprotected.

Over current - Any current in excess of the rated current of equipment or the ampacity of a conductor. It may result from overload (see definition), short circuit, or ground fault.

Power outlet - An enclosed assembly which may include receptacles, circuit breakers, fuse holders, fused switches, buses and watt-hour meter mounting means; intended to serve as a means for distributing power required to operate mobile or temporarily installed equipment.

Receptacle - A receptacle is a contact device installed at the outlet for the connection of a single attachment plug. A single receptacle is a single contact device with no other contact device on the same yoke. A multiple receptacle is a single device containing two or more receptacles.

Voltage - (Of a circuit.) The greatest root-mean-square (effective) difference of potential between any two conductors of the circuit concerned.

Responsibilities

M2 Concrete & Excavating, Inc. Management has overall responsibility for the program. The affected and qualified employee's contractors are responsible for following the program and providing training.

Health and Safety Coordinator (site Superintendent) is responsible for daily compliance with this program.

The contracted and licensed electricians or other qualified contractors will be responsible for the installation and maintenance of electrical systems and site compliance with the Assured Grounding Program.

No workers are ever permitted to work on live energized equipment. If work activities on an energized circuit is necessary, inform M2 Concrete & Excavating, Inc. Management, and M2 Concrete & Excavating Safety Consultant prior to starting work activities.

M2 Concrete & Excavating, Inc. will contract with a licensed electrician. All energized work must follow all applicable OSHA Standards and NFPA 70E, 2014.

Ground Fault Protection Program

M2 Concrete & Excavating, Inc. will use ground-fault circuit interrupters to protect employees on all cords and cord sets at all times on all projects. The electrical contractor onsite will be contractually obligated to provide testing and documentation of all GFCI monthly testing.

All 120-volt, single-phase 15 and 20 ampere receptacle outlets, which are not part of the permanent wiring of the building, will utilize ground-fault circuit interrupters. Receptacles on a two-wire phase portable or vehicle-mounted generator rated not more than 5kW, where the circuit conductors of the generator are insulated from the generator frame and all other grounded surfaces, need to be protected with ground-fault circuit interrupters.

Installation and Maintenance Work

Electrical equipment shall be free from recognized hazards that are likely to cause death or serious physical harm to employees.

Listed or labeled equipment shall be used or installed in accordance with any instructions included in the listing or labeling.

All 120-volt flexible cord sets (extension cords) shall have an equipment-grounding conductor that is connected to the grounding contacts of the connector(s) on each end of the cord. **All extension cords must be at least 12-gauge or larger.**

The exposed non-current carrying metal parts of 120-volt cord and plug connected tools and equipment that are likely to become energized shall be grounded in accordance with the applicable requirements of Article 250-45 and 250-59 of the National Electrical Code.

Upon installation of any electrical power service to any apparatus or device, grounding circuits will be run and checked via resistance ohm-meter (i.e., Megger) for continuity of ground circuit prior to energizing the circuit, whether the purpose for energizing is for temporary test or permanent run-in.

Each disconnecting means required by this subpart for motors, appliances, over current device, and circuits (service, feeder, or branch) shall be legibly marked to indicate its purpose, unless located and arranged so the purpose is evident.

Guarding of Live Parts

The purpose of this requirement is to protect any person who may be in the vicinity of electrical equipment against accidental contact.

All cords must be protected from possible damage at all times.

Live parts of electrical equipment operating at 50 volts or more shall be guarded against accidental contact by approved cabinets, other forms of approved enclosures, or one of the following means:

- By location in a room or vault only accessible to qualified persons.
- By suitable permanent, substantial partitions or screens so that only qualified persons will have access to the space within reach of live parts.
- By elevation of 8 feet or more above the floor or other working surface.

Visual Inspection

M2 Concrete & Excavating, Inc. employees shall be instructed that each cord set, and any tools or equipment connected by cord and plug (except cord sets and receptacles which are fixed and not exposed to damage) must be visually inspected by the user before each day's use for external defects, such as deformed or missing pins, insulation damage, damaged plug ends, and missing ground prongs.

Tools, cords, or equipment found damaged or defective will be removed and/or cut and shall not be used until properly repaired to the manufacture's recommended water-proof standards.

Overhead Power Lines

When work is to be performed near overhead lines, the lines shall be de-energized and grounded. If this is not possible, then other protective measures shall be taken before the work is started.

Arrangements shall be made with the General Contractor or organization that operates or controls the electric circuits when lines are to be de-energized and grounded.

Protective measures used (i.e., guarding, isolating, or insulating) shall prevent direct contact by the qualified person or indirect contact through conductive materials, tools, or equipment. Only **qualified** persons of power transmission and distribution organizations are allowed to install insulating devices on overhead power transmission and distribution lines.

Persons working on the ground are not allowed to bring any conductive object or any insulated object that does not have the proper insulating rating closer to unguarded, energized overhead lines than the distance allowed in the following table.

Voltage to Ground	Minimum Approach Distance
50 KV or less	10 Feet
Over 50 kV	10 feet + 4 inches for every 10 kV over 50 kV

Flexible Cords and Cables

Flexible cords are recognized as more vulnerable than the fixed wire of the building. Therefore, cords should not be used if one of the recognized wiring methods could be used instead.

Flexible cords shall be approved and suitable for conditions of use and location. The OSHA standard lists specific situations in which flexible cords may be used:

- Pendants (a lamp holder or cord-connector body suspended by a length of cord properly secured and terminated directly above the suspended device;
- Wiring of fixtures;
- Connection of portable lamps or equipment;
- Wiring of cranes and hoists where flexibility is necessary; and
- Connection of stationary equipment to facilitate their frequent interchange (equipment which is not normally moved from place to place, but might be on occasion).

CHAPTER 5: EMERGENCIES & FIRE PREVENTION PROGRAM

EMERGENCY PREPAREDNESS and FIRE PREVENTION PROGRAM

PURPOSE

The purpose of this program is to establish that M2 Concrete & Excavating, Inc. is complying with the OSHA's 29 CFR 1926.24, Fire Protection and Prevention; 29 CFR 1926.35, Employee Emergency Action Plans; and, when applicable, 29 CFR 1926.65, Hazardous Waste Operations and Emergency Response standards.

This plan identifies actions to be taken during the response to foreseeable emergencies. The types of foreseeable emergencies addressed in this plan are hazardous substances and waste releases, fire, and explosions.

SCOPE

This program applies to all M2 Concrete & Excavating, Inc. employees and subcontractors. The site Health and Safety Officer (site Superintendent) is responsible for the program implementation and review.

M2 CONCRETE & EXCAVATING, INC. RESPONSIBILITIES

M2 Concrete & Excavating, Inc. is responsible for knowing all possible activities for providing emergency care in which an employee has the potential of coming into contact with hazardous substances and wastes, fire, and explosion, . M2 Concrete & Excavating, Inc. Superintendent will inform all Subcontractors during the onsite orientation in the proper procedures for handling an emergency response.

Definitions

Hazardous Substance means any substance designated or listed below in this definition, exposure to which results, or may result in adverse affects on the health or safety of employees.

- Any substance defined under Chapter 101(14) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA);
- Any petroleum product;
- Any biological agent and other disease causing agent as defined in Chapter 101(33) of CERCLA;
- Any substance listed by the U.S. Department of Transportation as a hazardous material under 49 CFR 172.101 and appendices; and
- Hazardous waste as herein defined:
  - A waste or combination of wastes as defined in 40 CFR 261.3, or
  - Those substances defined as hazardous waste in 49 CFR 171.8

Health Hazard means a chemical, mixture of chemicals or a pathogen from which there is statistically significant evidence based on at least one study conducted in accordance

with established scientific principles that acute or chronic health effects may occur in exposed employees.

EMERGENCY RESPONSE COORDINATORS (ERC)

ERC's (site Superintendent) will be the individual in charge of the incident until a more senior emergency response official responds to the emergency (i.e., local first responders, etc.). At that point, the emergency response coordinator will function as the company liaison with the responding party to provide assistance in the response.

Authority

ERC's have the authority during an emergency to take such action as is necessary to protect personnel, property, and the environment from hazardous substances and for coordinating any and all recovery procedures with the appropriate local, state and or federal agencies.

Specifically, the ERC has authority to take all reasonable measures to ensure that fires, explosions, and releases do not occur, reoccur, or spread to other areas where hazardous materials are generated, accumulated and or stored.

When To Notify

The ERC must be notified whenever there is an incident involving hazardous material or waste so that a decision can be made whether to implement this Plan. The Plan is to be implemented in the event of fires, explosions, and any unplanned release of hazardous material or waste.

EMERGENCY RESPONSE TEAM

M2 Concrete & Excavating, Inc. does not maintain a trained Emergency Response Team and will use the Local Fire Department for all emergencies as defined in 1910.120(q).

EMERGENCY RECOGNITION AND EVACUATION

Recognition

The largest purchased, accumulated, moved, or stored container of hazardous material is 5-gallons. Consequently, the maximum likely spill would be 5-gallons.

If employees observe a spill in the workplace, they are to immediately notify their Supervisor. Based upon the material and quantity involved, Supervisors and/or the EC will make the determination to clean the spill or evacuate and allow a contractor to handle the spill.

This plan will not be implemented unless a spill creates an imminent or actual incident that could threaten human health or the environment. The ERC will use professional judgment to determine whether to implement this plan. This judgment will be based upon the character, exact source, and amount and real extent of the emergency.

Reporting an Emergency

Office Communications:
In the event of an emergency, employees will be notified via verbal communication.

Site Specific Communications:
In the event of an emergency, site-specific communications will be through the use of air horns and verbal communication. Horns blasts will signify the following:

- **One long horn blast** – evacuate the site and move immediately the site meeting location for a head count.
- **Two short horn blasts** – workers are authorized to return to the site to continue working.
- **Three short horn blasts** – Tornados are in the area. Area sirens have blown, and take immediate cover.

Emergency Evacuation/Rescue/Medical Emergency

In the event of an emergency evacuation some individuals may have the responsibility to perform (or shut down) critical operations before evacuating.

In the event of an emergency, all personnel not identified as above shall evacuate the work area using the nearest exit door or access. Employees are not expected to use portable fire extinguishers to attempt to put out a fire prior to evacuation.

All employees will meet at a designated location, the front parking lot at the corporate facility, to take an accurate head count of all employees. The ERC is responsible for notifying the responding Fire/Rescue Incident Commander of any missing employees.

The responding Fire/Rescue service will be solely responsible for ANY and ALL rescue and medical duties. Employees are NOT expected to perform rescue and medical duties.

Site specific emergency evacuation procedures are to be in place once the crews are on site and the layout of the project has been established.

Evacuation procedures should be documented, posted at the project office door, and gone over with all workers during orientation and prior to the start of work.

Workers are not permitted to wear IPods or earplugs or play radios on any M2 Concrete & Excavating, Inc. project.

FIRE PREVENTION

Major workplace fire hazards include:
See Site Specific Information Sheet

The fire protection equipment available to put out fires and to be used in aiding in escaping fires are primarily portable fire extinguishers stored in the "Safety in a Bucket."

The fire protection services are responsible for maintaining all equipment and systems provided to prevent or control ignition or fires.

Site Foremen are responsible for controlling fuel sources and to maintain accumulations of flammable and combustible waste materials in their areas.

Equipment and systems designed to prevent accidental ignition of combustible materials installed on heat producing equipment will be maintained according to manufacturer's instructions.

M2 Concrete & Excavating, Inc. has a housekeeping policy to remove paper, trash, and other combustibles daily on construction sites. Maintain clear walkways to and from all access/egress points.

Smoking is only permitted within certain construction areas of the project.

FIRE EXTINGUISHER USE

Using Portable Fire Extinguishers

In the event of a fire, the correct use of a portable fire extinguisher could mean the difference between suffering a minor loss or a major one. Portable fire extinguishers, if used properly, can make that difference. But there are several things to consider in using fire extinguishers. For instance, you must know the *class* of fire involved and the correct *type* of fire extinguisher to use.

Classes of Fires and Fire Extinguishers:

1. *Class A* Involves ordinary combustibles such as paper, wood, cloth, rubber or plastics. The common extinguishing media is water or dry chemical.
2. *Class B* Flammable liquids, grease or gases are covered under this category. Common extinguishing media are foam, carbon dioxide or dry chemical.
3. *Class C* Live electrical fires are class C fires. CO_2 or dry chemical extinguishers should be used. However, the actual burning product may be class A items.
4. *Class D* Burning materials include combustible metals such as magnesium and sodium. Special extinguishing agents, approved by recognized testing laboratories, are needed when working with these metals.

Responding to Fires:

Sound the fire alarm air horns and call the local fire department immediately if a fire breaks out.

Follow your company's procedures on responding to fires. But attempt to *fight* the fire only if, (1) you know the type of combustible material burning, (2) you have been trained to use the fire extinguisher correctly, and (3) if the fire is still in the incipient (beginning) stage. If the fire gets too large or out of control, evacuate immediately.

Remember P-A-S-S When Using a Fire Extinguisher:

- *P* - Pull. Pull the locking pin before using the fire extinguisher.
- *A* - Aim. Aim the fire extinguisher at the base of the fire. Not at the flames or smoke.
- *S* - Squeeze. Squeeze the lever of the fire extinguisher to operate and discharge.
- *S* - Sweep. Sweep the fire extinguisher back and forth at the *base* of the fire to extinguish.

Most extinguishers will only allow about 10-seconds of extinguishing media. Prevention is the key when it comes to firefighting. Good housekeeping, proper storage procedures, and safe work practices will go a long way toward reducing the likelihood that a fire will destroy valuable property or injure either you or a fellow employee.

Hot Work and Fire Walks
All “Hot Work” requires the acquisition of a “Hot Work” permit. “Hot Work” permits are available from the M2 Concrete & Excavating Superintendent. “Hot Work” permits can be located in the Forms section of this Plan. A “Hot Work” permit is good for one day duration.

At the end of each day or each shift the Superintendent shall walk the project to ensure that the project is secure and that all “Hot Work” has been completed. Special attention needs to be given to storage of flammable materials. All areas where “hot work” permits were issues shall be inspected during the Fire Walk. The Superintendent shall include in the daily report who conducted the Fire Walk and the time of the Fire Walk. Any actions taken by the superintendent during the Fire Walk shall be recorded in the Daily Report.

TRAINING

Site Superintendents are trained to assist in the safe and orderly emergency evacuation of employees.

Supervisors and other individuals who have responsibilities under this Plan will be trained upon initial assignment and annually thereafter.

This plan will be reviewed with all employees within the first week after their hire date and whenever an employee’s duties and/or responsibilities under the plan change.

Employees newly assigned to a new project site will review the site specific duties on the first day of work on the new site.

Site specific emergency evacuation drill information will be provided to all employees on their first day of work on the individual project by the Site Supervisors at orientation.

Critique of Response and Follow-up

After each practice session and actual response, responders and employees will undergo a debriefing and evaluation of the response. This will take place no more than one month after the incident or drill and be documented by the Site Supervisors.

CHAPTER 6: EXCAVATION SAFETY PROGRAM

Excavation Safety Program

PURPOSE

The purpose of this program is to establish that M2 Concrete & Excavating, Inc. is complying with the OSHA's 29 CFR 1926, Subpart P, Excavation standards.

The Health and Safety Coordinator is the program administrator who has overall responsibility for the program.

M2 CONCRETE & EXCAVATING, INC. RESPONSIBILITIES

M2 Concrete & Excavating, Inc. is responsible for knowing all possible excavation and trenching activities in which an employee has the potential or need to enter. M2 Concrete & Excavating, Inc. Superintendent will inform all Subcontractors during the onsite orientation in the requirement to provide an excavation "Competent Person" and to utilize proper protective and sloping techniques.

DEFINITIONS

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

Cave-in means the separation of a mass of soil or rock material from the side of an excavation, or the loss of soil from under a trench shield or support system, and its sudden movement into the excavation, either by falling or sliding, in sufficient quantity so that it could entrap, bury, or other wise injure and immobilize a person.

Competent Person means one who is capable of identifying existing and predictable hazards in the surroundings, or working conditions which are unsanitary, hazardous, or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them.

Excavation means any man-made cut, cavity, trench, or depression in an earth surface, formed by earth removal.

Faces or sides - the vertical or inclined earth surfaces formed as a result of excavation work.

Failure means the breakage, displacement, or permanent deformation of a structural member or connection so as to reduce its structural integrity and its supportive capabilities.

Protective system means a method of protecting employees from cave-ins, from material that could fall or roll from an excavation face or into an excavation, or from the collapse of adjacent structures. Protective systems include support systems, sloping and benching systems, shield systems, and other systems that provide the necessary protection.

Ramp means an inclined walking or working surface that is used to gain access to one point from another, and is constructed from earth or from structural materials such as steel or wood.

Registered Professional Engineer means a person who is registered as a professional engineer in the state where the work is to be performed. However, a professional engineer, registered in any state is deemed to be a "registered professional engineer" within the meaning of this standard when approving designs for "manufactured protective systems" or "tabulated data" to be used in interstate commerce.

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

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

Stable rock means natural solid mineral material that can be excavated with vertical sides and will remain intact while exposed. Unstable rock is considered to be stable when the rock material on the side or sides of the excavation is secured against caving-in or movement by rock bolts or by another protective system that has been designed by a registered professional engineer.

Structural ramp means a ramp built of steel or wood, usually used for vehicle access. Ramps made of soil or rocks are not considered structural ramps.

Type A Soil means cohesive soils with an unconfined, compressive strength of 1.5 ton per square foot (tsf) (144 kPa) or greater. Examples of cohesive soils are: clay, silty clay, sandy clay, clay loam and, in some cases, silty clay loam and sandy clay loam. Cemented soils such as caliche and hardpan are also considered Type A. However, no soil is Type A if: (i) The soil is fissured; or (ii) The soil is subject to vibration from heavy traffic, pile driving, or similar effects; or (iii) The soil has been previously disturbed; or (iv) 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; or (v) The material is subject to other factors that would require it to be classified as a less stable material.

Type B Soil means: (i) Cohesive soil with an unconfined compressive strength greater than 0.5 tsf (48 kPa) but less than 1.5 tsf (144 kPa); or (ii) Granular cohesion less soils including: angular gravel (similar to crushed rock), silt, silt loam, sandy loam and, in some cases, silty clay loam and sandy clay loam. (iii) Previously disturbed soils except those which would otherwise be classed as Type C soil. (iv) Soil that meets the unconfined compressive strength or cementation requirements for Type A, but is fissured or subject to vibration; or (v) Dry rock that is not stable; or (vi) Material that is part of a sloped, layered system where the layers dip into the excavation on a slope less steep than four horizontal to one vertical (4H: 1V), but only if the material would otherwise be classified as Type B.

Type C Soil means: (i) Cohesive soil with an unconfined compressive strength of 0.5 tsf (48kPa) or less; or (ii) Granular soils including gravel, sand, and loamy sand; or (iii) Submerged soil or soil from which water is freely seeping; or (iv) Submerged rock that is not stable, or (v) Material in a sloped, layered system where the layers dip into the excavation or a slope of four horizontal to one vertical (4H:1V) or steeper.

Trench (Trench excavation) means a narrow excavation (in relation to its length) made below the surface of the ground. In general, the depth is greater than the width, but the width of a trench (measured at the bottom) is not greater than 15 feet (4.6 m). If forms or other structures are installed or constructed in an excavation so as to reduce the dimension measured from the forms or structure to the side of the excavation to 15 feet (4.6 m) or less (measured at the bottom of the excavation), the excavation is also considered to be a trench.

SUBCONTRACTOR GENERAL REQUIREMENTS:

- The Contractor "Competent Person" will conduct and document all daily inspections of all excavations prior to entry. All inspections must be documented on an "Excavation Inspection Checklist" and provided to the Superintendent daily (see next page).
- Workers may never be in an excavation or trench when equipment is digging or overhead hazards during lifting exist;
- "Excavation Inspection Checklists" are available from the M2 Concrete & Excavating Superintendent. The Excavation Inspection Checklist can be located in the Form section of this Plan.
- All items that may fall or roll into an excavation must be removed or guarded to prevent hazards.
- Structural ramps used for employee access and egress must be designed by a "Competent Person."
- A stairway, ladder, ramp or other safe means of egress must be located in trench excavations that are 4 feet or more in depth so that no employee has to travel more than 25 feet laterally to reach them.
- All excavations deeper than 5-feet require; either shoring; benching; and/or cave-in protection for all employees entering the excavation.
- Employees working in and around excavations that are exposed to vehicular traffic must be provided with, and wear, warning vests or other suitable garments made with reflectorized or high visibility materials.
- All employees within the excavation will wear hard-hats.

- When mobile equipment must approach the edges of excavations and the operator does not have a clear view of the edge, a warning system such as barricades, hand or mechanical signals, or stop logs must be used.
- Employees are not permitted to work in excavations where water is accumulating or has accumulated unless adequate precautions are taken. These precautions vary with each situation but may include; special support or shield systems to protect from cave-ins, water removal equipment or use of a safety harness and lifeline.
- Support systems (shoring, bracing or underpinning) must be used where the stability of the adjacent structures such as buildings, walls or other structures is endangered.
- Excavations below existing base or footing of any foundation or retaining wall are not permitted unless; an adequate support system is used, or the excavation is in stable rock or a registered "Professional Engineer" has approved the determination that the work will not endanger employees.
- All excavations deeper than 20-feet requires designs from a registered "Professional Engineer" and "Excavation Plan".
- Sidewalks, pavements or other structures must not be undermined unless a support system or other adequate method is used to safeguard employees from collapse of the structures.
- Spoil piles and other materials that could fall into the excavation must be kept at least two feet from the edge.

DRILLING CAISSONS

All holes drilled for caissons larger than 19-inches in width are required to be protected from worker entry at all times.

UTILITIES

All underground utilities must be located and identified before any excavation work is begun. If underground utilities cannot be located accurately appropriate caution must be exercised when the excavation work approaches the general area. Additional attempts to locate the utilities must be made with appropriate detection equipment when the general location is approached.

While the excavation is open, exposed utilities must be protected, supported or removed as necessary to safeguard employees.

DAILY INSPECTIONS

When employees are expected to be working in a trench or excavation, a "Competent Person" must conduct and document daily inspections to look for situations that could lead to possible cave-ins, indications of failures of protective systems, hazardous atmospheres, water accumulations or other situations that could pose hazards to employees. The inspection must be conducted prior to the start of work each day and as needed throughout the day if conditions warrant. Inspections must also be made after

every precipitation event or when frozen ground is thawing due to changing weather conditions.

When the ”Competent Person” believes that employees face hazards associated with cave-ins, failure of protective systems or other reasons he/she must ensure all exposed employees are removed from the hazardous area.

OPTIONS FOR PROTECTIVE SYSTEMS

Adequate protective systems are required in all excavations unless they are made in stable rock or they are less than five feet deep and examination by a competent person indicates there is no potential for cave-in. All inspection activities completed by the competent person should be documented.

All excavations greater than 20 feet deep must have designs for adequate protection approved by a registered "Professional Engineer."

Options for protective systems in excavations include benching and/or sloping or support systems such as shielding and barriers. Within these options you can choose to use information supplied by OSHA or designs approved by registered professional engineers.

The information supplied by OSHA requires knowledge of the type of soil and provides acceptable configurations for specific situations.

MAXIMUM ALLOWABLE SLOPES

Soil or Rock Type	Maximum Allowable Slopes (H:V)[1] for excavations less than 20 feet deep.[2]
Stable Rock	Vertical (90 degrees)
Type A[3]	¾ : 1 (53 degrees)
Type B	1 : 1 (45 degrees)
Type C	1 ½ : 1 (34 degrees)

Notes:
Numbers shown in parentheses next to the maximum allowable slopes are angles expressed in degrees from the horizontal. Angles have been rounded off.
[1]Slopes are expressed in horizontal over vertical.
[2]All protective systems for excavations greater than 20 feet deep must be designed by a registered professional engineer.
[3]Exceptions exist for short term exposures (excavation is open less than 24 hours) in Type A soil only. If the excavation is less than 12 feet deep the maximum slope allowed is ½ : 1 (63 degrees). If the excavation is greater than 12 feet deep the maximum slope allowed in ¾: 1 (53 degrees).

TRAINING

M2 Concrete & Excavating, Inc. employees needing to perform work in a trench or excavation will be provided training under this standard and complying with M2 Concrete & Excavating, Inc. standards.

M2 Concrete & Excavating, Inc. employees are not permitted to enter any excavation or trench until they are provide the necessary training and protection.

CHAPTER 7: FALL PROTECTION SAFETY PROGRAM

Fall Protection Safety Program

PURPOSE

The purpose of this program is to establish that M2 Concrete & Excavating, Inc. is complying with the OSHA's 29 CFR 1926, Subpart M, Fall Protection standards. All M2 Concrete & Excavating, Inc. employees and Subcontractors will adhere to the requirements of this program.

SCOPE

This Program applies to all M2 Concrete & Excavating, Inc. Employees and subcontractors. The Health and Safety Coordinator is the program administrator who has overall responsibility for the program.

GENERAL REQUIREMENTS

All work conducted six feet or more above an adjacent level requires fall protection (including steel erection). Fall protection equipment may consist of a safety net, guardrailing, controlled access zone, personal protective equipment, a properly constructed scaffold, or one of the other types of protection discussed in this program.

Each site under the management of M2 Concrete & Excavating, Inc. will have a separate fall protection program established for the unique hazards present. Consult the site-specific project Superintendent for the feasibility and application of appropriate fall protection plans.

RESPONSIBILITIES

All workers will utilize fall protection systems when working within a "Leading Edge "at all times.

Management and Supervision

The M2 Concrete & Excavating, Inc. management and subcontractor supervisors are responsible for ensuring that all employees who are involved in jobs where fall protection is required are aware of this program.

Formen

Foremen are responsible to M2 Concrete & Excavating, Inc. management and supervision for oversight of this Fall Protection Program, and in this regard, will conduct periodic inspections of workplaces, to ensure that all operations are abiding by all safety standards with respect to fall protection.

The Foremen are authorized to stop work when a serious hazard to safety is identified, and must approve corrective action before work may be resumed.

Employees/Subcontractors

M2 Concrete & Excavating, Inc. employees and employees of subcontractors must abide by all requirements of this program when in areas requiring fall protection. Any deficiencies in this program, which are identified by an employee, shall be brought to the attention of the employee's immediate Supervisor and site Superintendent.

Each Contractor must submit fall protection "Competent Person" certifications.

In, addition each subcontractor is required to submit a JHA detailing the fall protection equipment and device to be used their workers while on a M2 Concrete & Excavating, Inc. project. Included in the JHA, all subcontractors are required to include detailed cut-sheets for all fall equipment used by their employees. This is will later be used as a guide for their employees to follow during installation and use.

All Contractors requiring employees to wear fall harnesses are required to provide documented proof of fall protection awareness training.

DEFINITIONS

Anchorage means a secure point of attachment for lifelines, lanyards or deceleration devices.

Body harness means straps which may be secured about the employee in a manner that will distribute the fall arrest forces over at least the thighs, pelvis, waist, chest and shoulders with means for attaching it to other components of a personal fall arrest system.

Connector means a device which is used to couple (connect) parts of the personal fall arrest system and positioning device systems together. It may be an independent component of the system, such as a carabineer, or it may be an integral component of part of the system (such as a buckle or D-ring sewn into a body belt or body harness, or a snap-hook spliced or sewn to a lanyard or self-retracting lanyard).

Controlled Access Zone (CAZ) means an area in which certain work (e.g., overhand bricklaying) may take place without the use of guardrail systems, personal fall arrest systems, or safety net systems and access to the zone is controlled.

M2 Concrete & Excavating, Inc. requires a CAZ to be erected in the following conditions (not a complete list):

- during overhead work above workers or entrances;
- during all steel erection activities;
- during all stair installations;
- concrete pouring on upper decks;

- concrete form removal areas;
- roofing activities;
- during all electrical panel startups or commissioning activities;
- on all scaffolding systems; and
- during all crane activities.

All "Controlled Access Zones" permits entry to only authorized M2 Concrete & Excavating, Inc. employees and permitted subcontractors within the zone at any time.
Visitors are required to be escorted by the authorized M2 Concrete & Excavating, Inc. employee or the contractor managing the CAZ.

Deceleration device means any mechanism, such as a rope grab, rip-stitch lanyard, specially-woven lanyard, tearing or deforming lanyards, automatic self-retracting lifelines/lanyards, etc., which serves to dissipate a substantial amount of energy during a fall arrest, or otherwise limit the energy imposed on an employee during fall arrest.

Deceleration distance means the additional vertical distance a falling employee travels, excluding lifeline elongation and free fall distance, before stopping, from the point at which the deceleration device begins to operate. It is measured as the distance between the location of an employee's body belt or body harness attachment point at the moment of activation (at the onset of fall arrest forces) of the deceleration device during a fall, and the location of that attachment point after the employee comes to a full stop.

Guardrail system means a barrier erected to prevent employees from falling to lower levels.

Hole means a gap or void 2 inches (5.1 cm) or more in its least dimension, in a floor, roof, or other walking/working surface.

Lanyard means a flexible line of rope, wire rope, or strap which generally has a connector at each end for connecting the body belt or body harness to a deceleration device, lifeline, or anchorage.

Leading Edge means the edge of a floor, roof, or formwork for a floor or other walking/working surface (such as the deck) which changes location as additional floor, roof, decking, or formwork Chapters are placed, formed, or constructed. A leading edge is considered to be an "unprotected side and edge" during periods when it is not actively and continuously under construction. M2 Concrete & Excavating, Inc. will utilize the following "Six-Foot Rule" for fall protection.

Lifeline means a component consisting of a flexible line for connection to an anchorage at one end to hang vertically (vertical lifeline), or for connection to anchorages at both ends to stretch horizontally (horizontal lifeline), and which serves as a means for connecting other components of a personal fall arrest system to the anchorage.

Low-slope roof means a roof having a slope less than or equal to 4 in 12 (vertical to horizontal).

Lower levels - those areas or surfaces to which an employee can fall. Such areas or surfaces include, but are not limited to, ground levels, floors, platforms, ramps, runways, excavations, pits, tanks, material, water, equipment, structures, or portions thereof.

Opening - a gap or void 30 inches (76 cm) or more high and 14 inches or more wide, in a wall or partition, through which employees can fall to a lower level.

Overhand bricklaying and related work means the process of laying bricks and masonry units such that the surface of the wall to be jointed is on the opposite side of the wall from the mason, requiring the mason to lean over the wall to complete the work. Related work includes mason tending and electrical installation incorporated into the brick wall during the overhand bricklaying process.

Personal fall arrest system means a system used to arrest an employee in a fall from a working level. It consists of an anchorage, connectors, a body belt or body harness and may include a lanyard, deceleration device, lifeline, or suitable combinations of these. As of January 1, 1998, the use of a body belt for fall arrest is prohibited.

Positioning device system means a body belt or body harness system rigged to allow an employee to be supported on an elevated vertical surface, such as a wall, and work with both hands free while leaning.

Roofing work means the hoisting, storage, application, and removal of roofing materials and equipment, including related insulation, sheet metal, and vapor barrier work, but not including the construction of the roof deck.

Safety-monitoring system means a safety system in which a Competent Person is responsible for recognizing and warning employees of fall hazards. See M2 Concrete & Excavating specific requirements.

Steep roof means a roof having a slope greater than 4 in 12 (vertical to horizontal).

Six-Foot Rule **is any 6-foot horizontal distance from an edge with a vertical fall distance of 6-feet or greater.**

Unprotected sides and edges - any side or edge (except at entrances to points of access) of a walking/working surface, e.g., floor, roof, ramp, or runway where there is no wall or guardrail system at least 39 inches (1.0 m) high.

Walking/working surface means any surface, whether horizontal or vertical on which an employee walks or works, including, but not limited to, floors, roofs, ramps, bridges, runways, formwork and concrete reinforcing steel but not including ladders, vehicles, or trailers, on which employees must be located in order to perform their job duties.

Warning line system means a barrier erected on a roof to warn employees that they are approaching an unprotected roof side or edge, and which designates an area in which roofing work may take place without the use of guardrail, body belt, or safety net systems to protect employees in the area. See M2 Concrete & Excavating specific requirements.

SPECIFIC WORK ACTIVITIES AND EQUIPMENT

Flat-Roof Work Activities:

M2 Concrete & Excavating employees and subcontractors may utilize the Safety Monitor System while conducting working activities on a flat roof.

Prior to beginning work on the rook and each day prior to beginning work activities the following devices will be installed:

a. Perimeter Warning line to be erected on the provided metal stations with the provided rope equipped with flagging every 6-feet.
b. The line must be erected at a distance no less than 6-feet from the "Leading Edge" or a wall opening less than 39-inches in height or wall opening greater than 14-inches wide.
c. The Warning lIne may not sag to a height less than 34-inches above the walking surface.
d. Workers needing to work within the "Leading Edge" will harness up and use the provided fall straps, roof anchors or life-line devices. All fall protection equipment must be inspected by the Foreman proper to use.
e. Roof anchors attached with nails shall be attached with double-headed nails to prevent prying of the strap to remove.

Steep Sloped-Roof Work Activities:

M2 Concrete & Excavating, Inc. employees and subcontractors will utilize the 100% fall protection when working on a sloped-roof with a pitch greater than 4:1.

Low Sloped-Roof Work Activities:

M2 Concrete & Excavating, Inc. employees and subcontractors may utilize a combination of the "Safety Monitor" system and fall protection when working on a sloped-roof with a pitch less than 4:1.

Safety Monitor's Duties: (May only be used by Roofers)

1. Must be dressed differently than the rest of the crew;
2. May not conduct any other duties other than to Monitor the Crew (includes talking on the phone);
3. Must be able to see all workers;
4. All workers must be able to hear the Safety Monitors directions; and
5. Must warn any employee crossing thew warning line to use fall protection.

Use of Body Harnesses, Lifelines, and Lanyards:

Body harnesses, lifelines, and lanyards shall be used for employee safeguarding. Safety belts or lifelines must be used when working from aerial lifts, crane or derrick hoisted personnel platforms, and other elevated areas. They are also required when complete scaffolds cannot be built.

Body harnesses, lifelines, and lanyards shall be used only for employee fall protection and not to support employees while they work.

Body harnesses, lifelines, lanyards and hardware must meet the specifications set forth in ANSI Standard A-10.14 – 1975, *Requirements for Safety Belts, Harnesses, Lanyards, Lifelines and Drop Lines for Construction and Industrial Use*.

This equipment must be inspected prior to each use. Body harnesses, lifelines, and lanyards with deep cuts or with portions worn through shall not be used. Hardware should be examined, and worn parts replaced. Lanyards shall not be used if cuts or fraying are present. Once a lanyard is used in a fall, it is no longer safe and must be cut up and discarded.

Lanyards shall not exceed six feet in length, including any shock absorbing system.

Safety harness and lanyards shall have all straps and connectors properly fastened at all times when in use.

All synthetic fall protection equipment must be within its manufactures recommended Service-Life. Most manufactures maintain a 5-year maximum.

Positioning Device Systems:

Must be set up so that a worker can free fall no more than 2 feet. They shall be secured to an anchorage point capable of supporting 5,000 lbs. or twice the impact load of an employee fall, whichever is greater. **A double-lanyard is required to be worn and used in conjunction to the positioning device for all work 6-feet or more above the surface in the event of a fall. Double lanyard must be used while climbing.**

Protection from Falling Objects:

When guardrail systems are used to prevent materials from falling from one level to another, any openings must be small enough (2" diameter or greater) to prevent passage of potential falling objects. No materials or equipment except masonry and mortar shall be stored within 4 feet of working edges. Toe-boards are required in any areas in which an object can fall to a lower level occupied by works or the public.

All areas below and around the base of an aerial lift are required to be protected by worker entry at all times.

Warning Lines:
Warning line systems [See 1926.501(b)(10)] and their use shall comply with the following provisions:

- The warning line shall be erected around all sides of the roof work area.
- When mechanical equipment is not being used, the warning line shall be erected not less than 6 feet (1.8 m) from the roof edge.
- When mechanical equipment is being used, the warning line shall be erected not less than 6 feet (1.8 m) from the roof edge which is parallel to the direction of mechanical equipment operation, and not less than 10 feet (3.1 m) from the roof edge which is perpendicular to the direction of mechanical equipment operation.Points of access, materials handling areas, storage areas, and hoisting areas shall be connected to the work area by an access path formed by two warning lines.
- When the path to a point of access is not in use, a rope, wire, chain, or other barricade, equivalent in strength and height to the warning line, shall be placed across the path at the point where the path intersects the warning line erected around the work area, or the path shall be offset such that a person cannot walk directly into the work area.
- Warning lines shall consist of ropes, wires, or chains, and supporting stanchions erected as follows:
    - The rope, wire, or chain shall be flagged at not more than 6-foot (1.8 m) intervals with high-visibility material;
    - The rope, wire, or chain shall be rigged and supported in such a way that its lowest point (including sag) is no less than 34 inches (.9 m) from the walking/working surface and its highest point is no more than 39 inches (1.0 m) from the walking/working surface;
    - After being erected, with the rope, wire, or chain attached, stanchions shall be capable of resisting, without tipping over, a force of at least 16 pounds (71 N) applied horizontally against the stanchion, 30 inches (.8 m) above the walking/working surface, perpendicular to the warning line, and in the direction of the floor, roof, or platform edge;
    - The rope, wire, or chain shall have a minimum tensile strength of 500 pounds (2.22 kN), and after being attached to the stanchions, shall be capable of supporting, without breaking, the loads applied to the stanchions as prescribed in paragraph (f)(2)(iii) of this section; and
    - The line shall be attached at each stanchion in such a way that pulling on one section of the line between stanchions will not result in slack being taken up in adjacent sections before the stanchion tips over.

Controlled Access Zone During Floor Sheathing

The framing contractor crew must establish a Controlled Access Zone (CAZ) at the entry point (Ladder) to the next floor being sheathed. The Warning Line of the CAZ must be established with red "Danger Tape."

Only workers sheathing the floor may enter the CAZ.

Guardrails:

Guardrailing, stairrails, handrailing or other appropriate protection devices must be installed in wall openings 14-inches wide or greater in which a fall hazard due to a "Leading Edge" exists.

Guardrailing is required in wall heights less than 39-inches in height.

Most stair cases require a minimum of at least one handrail. In most cases both a handrail and stair rail are required. Handrailing and stairrailing must be installed immediately after providing the stair access.

The framing crew is contractually obligated to install and maintain all required guardrails immediately once it is needed and for the duration of their work activities.

Aerial Lift Work:

A safety lanyard attached to the boom or basket is required at all times (except scissor lifts).

The maximum lanyard length permitted to be used by a M2 Concrete & Excavating, Inc. employee or Subcontractor is 6-feet with a deceleration device. Retractable lanyards are preferred.

The brakes shall be set, and outriggers, when used, shall be positioned on pads or a solid surface. Wheel chocks shall be installed before using an aerial lift on an incline. **The area below and at the base of the aerial lift must be barricaded to prevent contact by others while in use.**

An aerial lift shall not be moved when the boom is in an elevated position unless the lift was specifically designed for this type of operation as specified in the vehicle's operating manual.

Wood Framing and Sheathing Activities:

Subcontractors performing work in which workers are required to use fall protection equipment are required to have a fall protection "Competent Person" onsite. Workers performing wood framing and sheathing activities are required to use fall protection equipment at all heights above 6-feet or within 6-feet of an edge.

The following OSHA Fact Sheet documents are required to be reviewed prior to conducting the following work framing activities (available is English and Spanish):

- Reducing falls during residential construction - Erecting exterior and interior walls.
- Reducing falls during residential construction - Floor joist installation and decking.
- Reducing falls during residential construction - Installing roof trusses.
- Reducing falls during residential construction - Roof sheathing.

* Note: documents are provided in the OSHA Reference Materials Section of this Plan.

RESCUE

Rescue procedures and equipment will be provided and documented on the Site Specific document for review. Rescue procedures will be determined prior to the use of any fall protection equipment of any type.

Rescue procedures must be detailed in the the site specific JHA.

TRAINING

Each subcontractor is required to provide a Fall Protection Competent Person on the Project to inspect all fall hazard activities and equipment.

Subcontractors will provide documented proof of fall protection training for all employees using fall protection harnesses.

All employees potentially exposed to fall hazards will be trained in the following areas:

- The nature of fall hazards in the work area;
- The correct procedures for erecting, maintaining, disassembling, and inspecting fall protection systems;
- The use and operation of controlled access zones and guardrail, personal fall arrest, warning line, and safety monitoring systems;
- Employee's role in the fall protection program.

CHAPTER 8: STEEL ERECTION AND CRANE SAFETY PROGRAM

Steel Erection and Crane Safety Program

PURPOSE

The purpose of this program is to establish that M2 Concrete & Excavating, Inc. is complying with OSHA's 29 CFR 1926 Subpart N, Crane and Hoist standards, Subpart CC, Crane and Derrick, standards and OSHA's 29 CFR 1910 Subpart N, Materials Handling and Storage standards for the General Industry.

This program applies to all work operations at M2 Concrete & Excavating, Inc. worksites where employees use overhead hoists under normal working conditions.

The Health and Safety Coordinator is the Crane and Hoist Program Coordinator who has overall responsibility for the program.

DEFINITIONS

Overhead Crane is a crane with a moveable bridge carrying a movable or fixed hoisting mechanism and traveling on an overhead fixed runway structure.

Hoist is an apparatus that may be a part of a crane, exerting a force for lifting or lowering.

Floor-operated Crane is a crane, which is pendant or nonconductive rope controlled by an operator on the floor or an independent platform.

SUBCONTRACTOR GENERAL REQUIREMENTS

STEEL ERECTION ACTIVITIES

The Subcontractor performing steel erection activities must:

1) **Provide the site Superintendent with a detailed Steel Erection Plan prior to the beginning of the activities (see the Forms Section for a "Steel Erection" form). The Steel Erection Plan must include all crane sets, fall protection equipment detail and fall protection cut sheets, JHA's, etc.**
2) **In addition, the Subcontractor must complete a "Contractor Lift Plan" prior to starting lift activities.**

LIFTING ACTIVITIES

A completed "Contractor Lift Plan" is required for lifting the following items with any type of crane: (not an all inclusive list)

- **Steel erection**
- **Lifting trusses, rafters, joists, etc.**
- **Bulk pack of sheathing, etc.**
- **Roofing materials; and**
- **MEP equipment lifting.**

All crane and hoist work will follow the manufacturer's specifications and limitations applicable to the operation of any and all cranes. Where manufacturer's specifications are not available, the limitations assigned to the equipment shall be based on the determinations of a qualified engineer designated by the contractor. Attachments used with cranes shall not exceed the capacity, rating, or scope recommended by the manufacturer.

Rated load capacities, special hazard warnings, or instruction, shall be conspicuously posted on all equipment. Instructions or warnings shall be visible to the operator while he is at his control station.

A "Qualified Rigger" and Certified Signalman is required for all materials flown with a crane of any type or when any point of the material flight is blind to the crane operator. Employees must stand clear of listed loads and loads about to be lifted.

In addition to the daily visual inspections by the certified crane operator (NCCCO), a thorough, annual inspection of the hoisting machinery shall be made by a "Competent Person" and proof of certification must be available. The contractor shall maintain a record of the dates and results of inspections for each crane or hoist.

USER CAUTIONS

Unsafe or improper operation of an overhead crane and hoist can result in death; or serious injury to the operator or others as well as damage to other property.

Unauthorized personnel must not operate overhead cranes or hoists.

SUBCONTRACTOR RESPONSIBILITIES

Operators

Operators of overhead cranes and hoists are responsible for ensuring the load is secured to the hoist hook and chain.

The operator shall inspect and document all machinery and equipment prior to each use, and during use, to make sure it is in safe operating condition. Any deficiencies shall be repaired, or defective parts replaced, before continued use.

Operators of overhead cranes and hoists are responsible for safe operation of the equipment.

The swing radius of the crane will be barricaded in all cases.

All steel erection workers must use fall protection equipment at all heights above 6-feet above another surface.

INSPECTIONS

Inspection procedures will follow the recommendations in the American National Standards Institute (ANSI) standard for overhead hoists Section 16-2.1. The minimum inspection requirements for frequent (monthly) and periodic (yearly). *This is in addition to the daily visual inspections completed by the operators.* **All inspections must be documented and copies provided to M2 Concrete & Excavating, Inc..**

OVERHEAD POWERLINES

Any overhead wire shall be considered to be an energized line unless and until the electrical utility authorities indicate that it is not an energized line and it has been visibly grounded.

For lines rated 50 kV or below, minimum clearance between the lines and any part of the crane or load shall be 10 feet;

For lines rated over 50 kV, minimum clearance between the lines and any part of the crane or load shall be 10 feet plus 0.4 inch for each 1 kV over 50 kV, or twice the length of the line insulator, but never less than 10 feet;

A designated employee shall be designated to observe clearance of the equipment and give warning for all operations where it is difficult for the crane operator to maintain the desired clearance visually.

WIRE ROPE

Safe operating practices for **general use** of wire rope slings:

1) Slings that are damaged or defective shall not be used.
2) Slings shall not be shortened with knots or bolts or other makeshift devices.
3) Sling legs shall not be kinked.
4) Slings shall not be loaded in excess of their loaded capacities.
5) Slings used in a basket hitch shall have the loads balanced to prevent slippage.
6) Slings shall be securely attached to their loads.
7) Slings shall be padded or protected from sharp edges of their loads.
8) Suspended loads shall be kept clear of all obstructions.
9) All employees shall be kept clear of loads about to be lifted and suspended.
10) Hands or fingers shall not be placed between the sling and its load while the sling is being tightened around the load.
11) Shock loading is prohibited.
12) A sling shall not be pulled from under a load when the load is resting on the sling.
13) **All wire ropes must have tags indicating its WLLs, manufacture, and size.**
14) Tag lines will always be used.
15) Any wire ropes on the site, including on cranes will be expected to be used.
16) All wire ropes shall be well lubricated.

SYNTHETIC STRAPS

Safe operating practices for **general use** of synthetic straps:

1) Straps that are damaged or defective shall not be used. Any red flagging will qualify a strap as damaged.
2) Straps shall not be shortened with knots or other makeshift devices.
3) Straps shall not be excessively fuzzy or worn.
4) Straps shall not be loaded in excess of their loaded capacities.
5) Straps used in a basket hitch shall have the loads balanced to prevent slippage.
6) Straps shall be securely attached to their loads.
7) Straps shall be padded or protected from sharp edges of their loads.
8) Suspended loads shall be kept clear of all obstructions.
9) All employees shall be kept clear of loads about to be lifted and suspended.
10) Hands or fingers shall not be placed between the sling and its load while the sling is being tightened around the load.
11) Shock loading is prohibited.
12) A strap shall not be pulled from under a load when the load is resting on the strap.
13) **All synthetic straps must have tags indicating its WLLs, manufacture, and size.**
14) Tag lines will always be used.
15) Any synthetic strap on the site, including on cranes will be expected to be used.

HOISTING CHAINS

Safe operating practices for **general use** of hoisting chains:

1) Chains that are damaged or defective shall not be used.
2) All hoisting chains must be Grade 80 or greater.
3) Excessively worn or rusted chains will not be permitted.
4) Chains shall not be loaded in excess of their loaded capacities.
5) Chains used in a basket hitch shall have the loads balanced to prevent slippage.
6) Chains shall be securely attached to their loads.
7) Any chain on the site, including on cranes will be expected to be used.
8) Suspended loads shall be kept clear of all obstructions.
9) All employees shall be kept clear of loads about to be lifted and suspended.
10) Hands or fingers shall not be placed between the sling and its load while the sling is being tightened around the load.
11) Shock loading is prohibited.
12) A chain shall not be pulled from under a load when the load is resting on the strap.
13) **All chains must have tags indicating its WLLs, manufacture, and size.**
14) Tag lines will always be used.

HOISTING SHACKLES

Safe operating practices for **general use** of hoisting shackles:

1) Shackles that are damaged or defective shall not be used.
2) **All shackles must be certified in the United States and indicated on the shackle. Shackles made in CHINA are strictly prohibited.**
3) Excessively worn or rusted shackles will not be permitted.
4) Shackles shall not be loaded in excess of their loaded capacities.
5) **All shackles must indicate its WLLs, manufacture, and size.**
6) Shackles shall be securely attached to their loads.
7) Any shackle on the site, including on cranes will be expected to be used.
8) Suspended loads shall be kept clear of all obstructions.
9) All employees shall be kept clear of loads about to be lifted and suspended.
10) Hands or fingers shall not be placed between the sling and its load while the sling is being tightened around the load.
11) Tag lines will always be used.

CHAPTER 9: HAZARD COMMUNICATION SAFETY PROGRAM

Hazard Communication Program

PURPOSE

The purpose of this program is to establish that M2 Concrete & Excavating, Inc. is complying with the OSHA's 29 CFR 1926.59, Hazard Communication standard (OSHA's 29 CFR 1910.1200, Hazard Communication standard for General Industry incorporated by reference).

SCOPE

This program applies to all work operations at M2 Concrete & Excavating, Inc. where any worker may be exposed to hazardous substances under normal working conditions or during an emergency situation.

The Health and Safety Coordinator is the Hazard Communication Program Coordinator who has overall responsibility for the program.

M2 CONCRETE & EXCAVATING, INC. RESPONSIBILITIES

M2 Concrete & Excavating, Inc. is responsible for knowing all chemicals to be used by all contractors during their assigned work activities. M2 Concrete & Excavating, Inc. Superintendent will inform all Subcontractors during the onsite orientation to provide associated SDSs for any chemical hazards that their employees may encounter in the normal course of their work on the premises.

Each Subcontractor will provide a complete and organized binder with all SDSs for all chemicals to be used on the M2 Concrete & Excavating, Inc. project site.

The labeling system, location of the SDS binder, protective measures and safety handling procedures will be communicated from the contractor to his employees and a copy will be located in the project job trailer.

DEFINITIONS

Carcinogen: A chemical is considered carcinogenic if:

- It has been evaluated by the International Agency for Research on Cancer and found to be a carcinogen or potential carcinogen; or
- It is listed as a carcinogen or potential carcinogen in the Annual Report on Carcinogens; or
- OSHA regulates it as a carcinogen.

Chemical means any element, chemical compound, or mixture of elements and/or compounds.

Chemical name means the scientific designation of a chemical in accordance with the nomenclature system developed by the International Union of Pure and Applied Chemistry (IUPAC) or the Chemical Abstracts Service (CAS) rules of nomenclature, or a name which will clearly identify the chemical for the purpose of conducting a hazard evaluation.

Combustible liquids have a flashpoint at or above 100°F (37.8°C) but below 200°F (93.3°C). The only exceptions are mixtures having components with flashpoints of 200°F (93.3°C) or higher, the total volume of which makes up 99% or more of the volume of the mixture.

Common name means any designation or identification such as code name, code number, trade name, brand name, or generic name used to identify a chemical other than by its chemical name.

Compressed gas means:

- A gas or mixture of gases having, in a container, an absolute pressure exceeding 40 psi at 70°F (21.1°C); or
- A gas or mixture of gases having, in a container, an absolute pressure exceeding 104 psi at 130°F (54.4°C) regardless of the pressure at 70°F (21.1°C); or
- A liquid having a vapor pressure exceeding 40 psi at 100°F (37.8°C).

Container means any bag, barrel, bottle, box, can, cylinder, drum, reaction vessel, storage tank, or the like that contains a hazardous chemical.

Contractor - a person or firm that has entered into an agreement with M2 Concrete & Excavating, Inc. to provide goods or services.

Corrosive chemicals cause visible destruction of, or irreversible alterations in, living tissue by chemical action at the site of contact. This term does not refer to action on inanimate surfaces.

Distributor means a business, other than a chemical manufacturer or importer, which supplies hazardous chemicals to other distributors or to employers.

Employee means a worker receiving any type of compensation from M2 Concrete & Excavating, Inc. to perform a function who may be exposed to hazardous chemicals under normal operating conditions or in foreseeable emergencies.

Employer - a person engaged in a business where chemicals are used, distributed, or are produced for use or distribution, including a contractor or subcontractor.

Explosives cause a sudden, almost instantaneous release of pressure, gas, and heat when subjected to sudden shock, pressure, or high temperature.

Exposure or exposed refers to an employee who has been subjected (by any route of entry) to a chemical that is a physical or health hazard during the course of employment.

Flammables are chemicals that fall into one of the following categories:

- aerosol, flammable means an aerosol that yields a flame projection exceeding 18 inches at full valve opening, or a flashback (a flame extending back to the valve) at any degree of valve opening;
- gas, flammable means:
    i. a gas that, at ambient temperature and pressure, forms a flammable mixture with air at a concentration of 13% by volume or less; or
    ii. a gas that, at ambient temperature and pressure, forms a range of flammable mixtures with air wider than 12% by volume, regardless of the lower limit;
- liquid, flammable means any liquid having a flashpoint below 100°F (37.8°C). The only exceptions are mixtures having components with flashpoints of 100°F (37.8°C) or higher, the total of which make up 99% or more of the total volume of the mixture;
- solid, flammable means a solid, other than a blasting agent or explosive that is liable to cause fire through friction, absorption of moisture, spontaneous chemical change, or retained heat from manufacturing or processing, or which can be ignited readily and when ignited burns so vigorously and persistently as to create a serious hazard. A chemical shall be considered to be a flammable solid if it ignites and burns with a self-sustained flame at a rate greater than 1/10 of an inch per second along its major axis.

Flash point refers to the minimum temperature at which a liquid gives off a vapor in sufficient concentration to ignite. Organic peroxides, which undergo auto accelerating thermal decomposition, are excluded from any of the flashpoint determination methods.

Foreseeable emergency means any potential occurrence such as equipment failure, rupture of containers, or failure of control equipment, which could result in an uncontrolled release of a hazardous chemical into the workplace.

Hazardous chemical implies a chemical, which is a physical hazard or a health hazard.

Hazard warning means any words, pictures, symbols, or combination thereof appearing on a label or other appropriate form of warning which convey the specific physical or health hazard(s), including target organ effects.

Health hazard means a chemical for which there is statistically significant evidence to indicate that acute or chronic effects may occur in an exposed employee. "Health hazard" includes chemicals which are carcinogens, toxic or highly toxic agents, reproductive toxins, irritants, corrosives, sensitizers, hepatotoxins, nephrotoxins, neurotoxins, agents which act on the hematopoietic system, and agents which damage the lungs, skin, eyes, or mucous membranes.

Highly Toxic chemicals fall within any of the following categories:

- A chemical that has a median lethal oral dose (LD50) of 50 milligrams or less;
- A chemical that has a median lethal dermal dose (LD50) of 200 milligrams or less; or
- A chemical that has a median lethal concentration (LC50) in air of 200 parts per million by volume or less of gas or vapor, or 2 milligrams per liter or less of mist, fume, or dust.

Identity refers to a chemical's common name, which is indicated on its MSDS.

Immediate use implies that the chemical will:

- Be under the control of and used only by the person who transfers the chemical from its original container; and
- Be used up within the work shift that it was transferred.

Irritants, which are not corrosives, cause a reversible inflammatory effect on living tissue by chemical action at the site of contact.

Label means any written, printed, or graphic material displayed on or affixed to containers of hazardous chemicals.

Manufacturer means an employer with a workplace where chemical(s) are produced for use or distribution.

Material Safety Data Sheets (MSDS) are the primary means of determining the hazards of any chemical. They summarize the characteristics of a chemical and any safety information that may be used in the workplace to prevent employee exposure.

Mixture refers to the combination of two or more chemicals, which is not the result of a chemical reaction.

Organic peroxides are organic compounds that contain the bivalent -O-O-structure and which may be considered to be a structural derivative of hydrogen peroxide where one or both of the hydrogen atoms has been replaced by an organic radical.

Oxidizers are chemicals other than blasting agents or explosives that initiate or promote combustion in other materials, thereby causing fire either of itself or through the release of oxygen or other gases.

Physical hazard means a chemical for which there is scientifically valid evidence that it is a combustible liquid, compressed gas, explosive, flammable, organic peroxide, an oxidizer, pyrophoric, unstable, or water-reactive.

Produce means to manufacture, process, formulate, blend, extract, generate, emit, or repackage.

Responsible party means someone assigned with responsibilities as described in the Responsible Parties Chapter that can provide additional information on hazardous chemicals and appropriate emergency procedures, if necessary.

Sensitizer: A chemical that causes a substantial proportion of exposed people or animals to develop an allergic reaction in normal tissue after repeated exposure to the chemical.

Target Organ Effects: The following is a table illustrating some examples of target organ affecting chemicals.

Hazard	Target Organ Effect	Signs/ Symptoms	Example Hazardous Chemicals
Hepatotoxins	Liver Damage	Jaundice; Liver Enlargement	Carbon Tetrachloride; Nitrosamines
Nephrotoxins	Kidney Damage	Edema; Proteinuria	Halogenated Hydrocarbons; Uranium
Neurotoxins	Nervous System	Narcosis; Behavioral Changes; Loss Of Motor Function	Mercury; Carbon Disulfide
Blood or Hematopoietic System Toxins	Decrease Hemoglobin Function; Deprive Body Tissues of Oxygen	Cyanosis; Loss Of Consciousness	Carbon Monoxide; Cyanides
Reproductive Toxins	Reproductive Capabilities Including Chromosomal Damage (Mutations) and Effects on Fetuses (Teratogenesis)	Birth Defects; Sterility	Lead; DBCP
Cutaneous Hazards	Dermal Layer of the Body	Defatting Of The Skin; Rashes; Irritation	Ketones; Chlorinated Compounds
Eye Hazards	Affect Eye or Visual Capacity	Conjunctivitis; Corneal Damage	Organic Solvents; Acids

Hazard	Target Organ Effect	Signs/ Symptoms	Example Hazardous Chemicals
Respiratory Toxins	Irritation or Damage of Pulmonary Tissue	Cough; Tightness In Chest; Shortness Of Breath	Silica; Asbestos

Toxic: Chemicals are toxic if they fall into any of the following categories:

- A chemical that has a median lethal oral dose (LD50) of more than 50 milligrams but less than 500 milligrams;
- A chemical that has a LD50 of more than 200 milligrams but less than 1,000 milligrams; or
- A chemical that has a median lethal concentration (LC50) in air of more than 200 parts per million but not more than 2,000 parts per million by volume of gas or vapor, or more than 2 milligrams but less than 20 milligrams per liter of mist, fume, or dust.

Trade Secret means any confidential information that may, if revealed on the MSDS, give a competing company an advantage.

Unstable (Reactive) materials when in a pure state will vigorously polymerize, decompose, condense, or will become self-reactive under conditions of shock, pressure, or temperature.

Use means to package, handle, react, emit, extract, generate as a byproduct, or transfer.

Water reactive chemicals will react with water or moisture in the air to release a gas that is either flammable or presents a health hazard.

Work area means a room, an outside area, or other defined space in a workplace where hazardous chemicals are produced, stored, or used and where employees are present.

LIST OF HAZARDOUS CHEMICALS

Each Subcontractor will maintain a list of all hazardous chemicals and related work practices used at the site.

The list is included in the Safety Data Sheets (SDS) binder located in the jobsite offices.

SAFETY DATA SHEETS

SDS will be maintained for all hazardous chemicals used on site.

SDS are the primary source for health and safety information. The following information can be found on the SDS:

- The identity of the chemical as used on the label.
- Whether the chemical is a single chemical or a mixture of chemicals.
- Physical and chemical characteristics of the hazardous chemical. The physical hazards of the chemical including the potential for fire, explosion, and reactivity.
- The health hazards of the chemical including sign and symptoms of exposure, and any predisposing medical conditions.
- The primary routes of entry.
- The OSHA permissible exposure limits, the threshold exposure limit values, and any other pertinent exposure data.
- Whether the chemical has been listed as a potential carcinogen.
- Precautions for safe handling and use including: hygienic practices, protective measures, and procedures for clean up of spills.
- Measures to control exposures such as engineering controls, work practices, and personal protective equipment.
- Emergency and first aid procedures.
- The date of preparation of the SDS or latest revision.
- The name, addresses, and telephones number of the manufacturer, importer or distributor.

The Subcontractor Foreman is responsible for acquiring and updating SDS as necessary.

LABELS

The Subcontractor Forman will ensure that all their hazardous chemicals on the site are properly labeled and updated as necessary.

Labels shall contain the chemical identity and hazard warnings and precautions.

All manufacturers' labels shall be checked upon receipt to verify that all containers are properly identified.

The employee transferring chemicals from a labeled container is responsible for ensuring the new container is properly labeled. If the container is intended for immediate use, no label is required.

NON-ROUTINE TASKS

When hazardous non-routine tasks are to be performed (e.g. cleaning equipment) and existing procedure(s) do not address the hazards associated with the chemicals, a hazard analysis shall be performed and a pre-job meeting held for involved Superintendents and employees.

The pre-job meeting will utilize SDS to inform employees about any hazards that may be present associated with hazardous materials that will be used and the proper precautions to take to reduce or avoid exposure.

Identified non-routine tasks that may require additional hazard communication training include:

- Maintenance of temporary heating devices (electric, kerosene, and gas.)

TRAINING

The purpose of training is to reinforce and affirm the right of workers to be informed of the chemical hazards they face in the work place and how they can protect themselves from those hazards.

Training is required for newly hired personnel prior to assignment to an area that uses hazardous chemicals and whenever a new hazard is introduced to a work area.

Training will be conducted by the Health and Safety Coordinator and include the following:
The Hazard Communication Standard:

- Purpose and requirements of the standard;
- M2 Concrete & Excavating, Inc.s approach to carrying out these requirements;
- Details of the written hazard communication program; and
- Availability of M2 Concrete & Excavating, Inc. written programs.

Hazardous Chemicals:

- Introduction to physical and health hazards;
- How to identify hazardous chemicals in the work area;
- The general classes of hazardous chemicals (i.e., toxins, corrosives, reactives, flammables/combustibles, and compressed gases);
- Physical and health hazards associated with hazardous chemicals in the work area; and
- Safety procedures to use with each class of hazardous chemical.

Safety Data Sheets:

- Availability of SDS;
- Location of SDS in the work area; and
- How to use a SDS.

Labeling:

- How to read and use information on the warning labels; and
- Secondary container labeling.

Employee Protection Measures:

- Measures that employees may take to protect themselves from hazardous chemicals;
- Methods and observation techniques used to determine the presence or release of hazardous chemicals in the work area; and
- Emergency procedures to follow if a release or an exposure occurs.

Training will be documented using the Employee Training and Information Verification Form. This form can be used for group training or individual training.

All training records will be kept in the employees' training file located in the corporate office.

2014 Globally Harmonized System:

M2 Concrete & Excavating, Inc. will be working toward gradual implementation of the 2014 Global Harmonized System for HAZCOM as per OSHA regulations. The flowing Pictograms are provided in Chapter 21, for 2014 reference.

HCS Pictograms and Hazards

Health Hazard  • Carcinogen • Mutagenicity • Reproductive Toxicity • Respiratory Sensitizer • Target Organ Toxicity • Aspiration Toxicity	**Flame**  • Flammables • Pyrophorics • Self-Heating • Emits Flammable Gas • Self-Reactives • Organic Peroxides	**Exclamation Mark**  • Irritant (skin and eye) • Skin Sensitizer • Acute Toxicity (harmful) • Narcotic Effects • Respiratory Tract Irritant • Hazardous to Ozone Layer (Non-Mandatory)
Gas Cylinder  • Gases Under Pressure	**Corrosion**  • Skin Corrosion/ Burns • Eye Damage • Corrosive to Metals	**Exploding Bomb**  • Explosives • Self-Reactives • Organic Peroxides
Flame Over Circle  • Oxidizers	**Environment** (Non-Mandatory)  • Aquatic Toxicity	**Skull and Crossbones**  • Acute Toxicity (fatal or toxic)

Pictograms y pellagrous sugun la HCS

Peligro para la salud  • Carcinógeno • Mutagenicidad • Toxicidad para la reproducción • Sensibilización respiratoria • Toxicidad especifica de órganos diana • Peligro por aspiración	**Llama**  • Inflamables • Pirofóricos • Calentamiento espontáneo • Desprenden gases inflamables • Reaccionan espontáneamente (autorreactivas) • Peróxidos orgánicos	**Signo de exclamación**  • Irritante (piel y ojos) • Sensibilizador cutáneo • Toxicidad aguda (dañino) • Efecto narcótico • Irritante de vías respiratorias • Peligros para la capa de ozono (no obligatorio)
Botella de gas  • Gases a presión	**Corrosión**  • Corrosión o quemaduras cutáneas • Lesion ocular • Corrosivo para los metales	**Bomba explotando**  • Explosivos • Reaccionan espontáneamente (autorreactivas) • Peróxidos orgánicos
Llama sobre círculo  • Comburentes	**Medio ambiente** (No obligatorio)  • Toxicidad acuática	**Calavera y tibias cruzadas**  • Toxicidad aguda (mortal o tóxica)

CHAPTER 10: HEARING CONSERVATION SAFETY PROGRAM

Hearing Conservation Program

PURPOSE

The purpose of this program is to establish that M2 Concrete & Excavating, Inc. is complying with OSHA's 29 CFR 1926.52, Occupational Noise Exposure standard and OSHA's 29 CFR 1910 Subpart G, Occupational Health and Environmental Control standards for the General Industry.

SCOPE

This Program applies to all M2 Concrete & Excavating, Inc. employees and subcontractors.

M2 Concrete & Excavating, Inc. employees are provided with ear plugs at each site. Employee use is currently voluntary. M2 Concrete & Excavating, Inc. may conduct occasional monitoring of loud operations on the site, to determine if a hearing conservation program is necessary. When monitoring indicates employees are exposed to noise levels above the Permissible Exposure Limit (PEL) the company will implement a hearing conservation program.

The Health and Safety Coordinator (site Superintendent) is the Hearing Conservation Program Coordinator, who has overall responsibility for the program at their sites.

M2 CONCRETE & EXCAVATING, INC. RESPONSIBILITIES

The M2 Concrete & Excavating, Inc. Superintendent will inform all Subcontractors during the onsite orientation to provide associated the required hearing protection for their employees exposed to noise greater than the Permissible Exposure Limit.

DEFINITIONS

A-weighted decibels (dBA) - a measured noise using the A-weighting network on a sound level meter or dosimeter.

Baseline Audiogram is an audiometric test that is conducted within six months of an employee's hire date or within six months of an employee moving into a job position that is included in the hearing conservation program.

Noise Reduction Rating (NRR) is the manufacturer rating used to estimate the hearing protector's real effect.

Permissible Exposure Limit (PEL) is 85 dBA averaged over an 8 hour shift.

Standard Threshold Shift (STS) is a change in hearing threshold relative to the baseline audiogram of an average of 10 dB or more at 2,000, 3,000 and 4,000 Hertz frequency in either ear.

MONITORING

All continuous, intermittent and impulsive sound levels from 100 dBA to 130 dBA will be captured by monitoring equipment.

M2 Concrete & Excavating, Inc. employees and subcontractors are required to wear the provided hearing protection when sound levels exceed 85-dBA.

Monitoring equipment will be calibrated before and after measurements are taken to insure accuracy.

Monitoring will be will be repeated whenever there is a change in production, process, equipment or controls which may increase noise levels so that additional employees may be exposed over the PEL or hearing protectors in use may not offer adequate protection.

Employees who are exposed to noise over the PEL will be enrolled in the hearing conservation program and notified of the monitoring results via a written memo within one week of collecting the data.

Employees are required to participate in all noise monitoring efforts.

HEARING PROTECTORS

Hearing protectors are made available to any and all employees by M2 Concrete & Excavating, Inc.. All types of hearing protection available have an adequate noise reduction rating (NRR) for our operations.

Employees cannot provide or bring their own hearing protection devices for use in required areas unless specifically approved by a Health and Safety Officer or Coordinator.

The use of hearing protection is required in areas that are posted throughout the site. All other uses of hearing protection are voluntary.

Health and Safety Coordinators are required to insure that hearing protection is being properly utilized in their functional areas.

Noise Exposure Chart

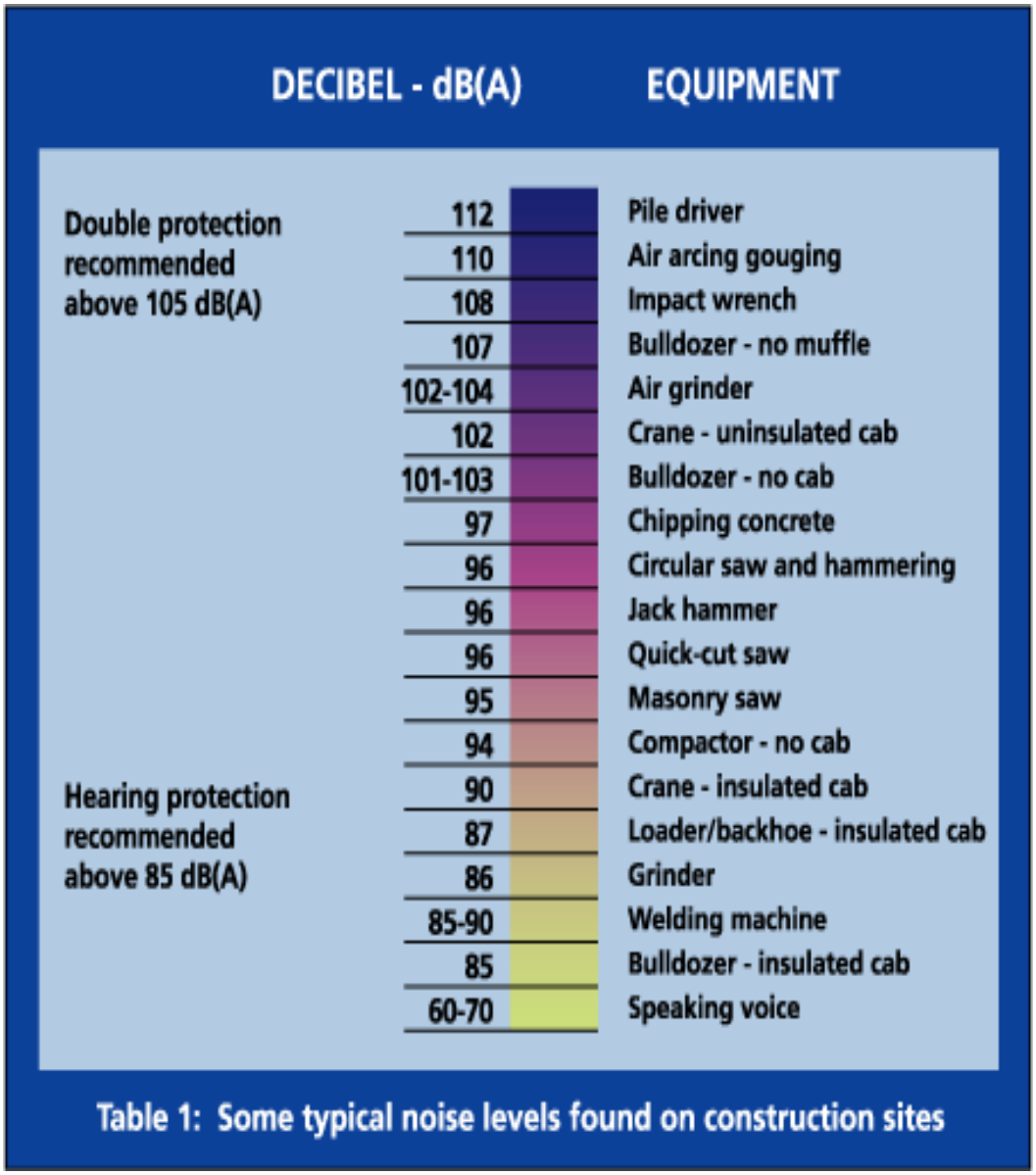


Table 1: Some typical noise levels found on construction sites

TRAINING

All employees enrolled in the hearing conservation program will participate in an annual training program.

Employees are informed of the effects of noise on hearing, the purpose of hearing protectors; the advantages, disadvantages, and attenuation of various types, and instructions on selection, fitting, use and care; and the purpose of the audiometric testing and an explanation of the test procedures.

Copies of the noise standard are also available to employees through the Health and Safety Coordinator.

Recordkeeping

Should M2 Concrete & Excavating, Inc. require a hearing conservation program, all audiometric tests conducted for employees will be maintained by M2 Concrete & Excavating, Inc. for the duration of the individual's employment.

These records will contain the following items:

- Employee's name and job classification;
- Date of the audiogram;
- Examiners name;
- Date of the last calibration of the audiometer;
- Employee's most recent noise exposure assessment; and
- Background sound pressure levels in the audiometric test room.

Noise exposure assessments conducted by M2 Concrete & Excavating, Inc. will be maintained by the company for at least two years.

Employees, former employees and representatives of these employees may have access to their individual noise assessment results and audiometric test results upon request. Records will be kept by the corporate office.

CHAPTER 11: LOCKOUT / TAGOUT SAFETY PROGRAM

Lockout/Tagout Program

PURPOSE

The purpose of this program is to establish that M2 Concrete & Excavating, Inc. is complying with the OSHA's 29 CFR 1910.147, Control of Hazardous Energy standard.

SCOPE

This program applies to all work operations at M2 Concrete & Excavating, Inc. where employees or subcontractors may be exposed to potentially stored energy during maintenance and servicing on equipment and machinery.

M2 CONCRETE & EXCAVATING, INC. RESPONSIBILITIES

M2 Concrete & Excavating, Inc. is responsible for knowing all possible activities in which a workers activities may expose him to an energized line. M2 Concrete & Excavating, Inc. Superintendent will inform all Subcontractors during the onsite orientation to provide associated LOTO Procedures and equipment for any equipment lockdowns.

No employees or Subcontractors and their employees are ever permitted to work-on a energized line. Energized electrical work is not permitted on a M2 Concrete & Excavating, Inc. project.

If work is required to be conducted on an energized line, the M2 Concrete & Excavating Superintendent will assist the Subcontractor in providing a completed "Energized Work Permit" as per NFPA 70e, 2012, prior to starting work. The "Energized Work Permit" must be authorized by the Subcontractor Management, the M2 Concrete & Excavating, Inc. Safety Officer, and Safety Consultant.

DEFINITIONS

Affected employee is an employee whose job requires him/her to operate or use a machine or equipment on which servicing or maintenance is being performed under lockout or tagout, or whose job requires him/her to work in an area in which such servicing or maintenance is being performed.

Authorized employee is a person who locks out or tags out machines or equipment in order to perform servicing or maintenance on that machine or equipment. An affected employee becomes an authorized employee when that employee's duties include performing servicing or maintenance covered under this Chapter.

Capable of being locked out means an energy isolating device is capable of being locked out if it has a hasp or other means of attachment to which, or through which, a lock can be affixed, or it has a locking mechanism built into it. Other energy isolating devices are capable of being locked out, if lockout can be achieved without the need to dismantle, rebuild, or replace the energy-isolating device or permanently alter its energy control capability.
Energized means connected to an energy source or containing residual or stored energy.

Energy isolating device is a mechanical device that physically prevents the transmission or release of energy, including but not limited to the following: A manually operated electrical circuit breaker; a disconnect switch; a manually operated switch by which the conductors of a circuit can be disconnected from all ungrounded supply conductors and, in addition, no pole can be operated independently; a line valve; a block; and any similar device used to block or isolate energy. Push buttons, selector switches and other control circuit type devices are not energy isolating devices.

Energy source is any source of electrical, mechanical, hydraulic, pneumatic, chemical, thermal or other energy.

Lockout is the placement of a lockout device on an energy-isolating device, in accordance with an established procedure, ensuring that the energy isolating device and the equipment being controlled cannot be operated until the lockout device is removed.

Lockout device is a device that utilizes a positive means such as a lock, either key or combination type, to hold an energy-isolating device in the safe position and prevent the energizing of a machine or equipment. Included are blank flanges and bolted slip blinds.

Normal production operations - the utilization of a machine or equipment to perform its intended production function.

Servicing and/or maintenance means workplace activities such as constructing, installing, setting up, adjusting, inspecting, modifying, and maintaining and/or servicing machines or equipment. These activities include lubrication, cleaning or unjamming of machines or equipment and making adjustments or tool changes, where the employee may be exposed to the unexpected energization or startup of the equipment or release of hazardous energy.

Setting up means any work performed to prepare a machine or equipment to perform its normal production operation.

Tagout means the placement of a tagout device on an energy-isolating device, in accordance with an established procedure, to indicate that the energy isolating device and the equipment being controlled may not be operated until the tagout device is removed.

RESPONSIBILITIES

Authorized employees are the managers and technicians who are skilled to perform maintenance, repair or service on a machine, piece of equipment or a system and who have the responsibility to use this procedure prior to servicing, maintenance or repair.

Affected employees are all employees(s) and any other visiting trades into the facility whose interaction with equipment being serviced is secondary to the maintenance activities. Affected employees responsibilities are to recognize and adhere to all lockout/tagout warnings.

The Subcontractor Foreman will ensure all locks and tags used at M2 Concrete & Excavating, Inc. will be standardized according to color, shape, and size. Locks and tags used to comply with the provisions of this program will be used only for the purpose of controlling energy and that all devices meet the minimum requirements of the standard.

The exposing Subcontractor will conduct training for all Affected and Authorized employees upon initial assignment and annually thereafter. Affected employees will be trained at initial assignment and may be retrained prior to work beginning if necessary.

Preparation for Lockout/Tagout

Identify equipment to be locked-out/tagged-out and determine if it has multiple energy sources. If the equipment has multiple energy sources, a specific procedure will be included at the end of this written program.

Locate and select the control device based on the type of energy to be isolated and/or controlled.

Sequence of Lockout/Tagout System Procedure

Authorized employees will conduct the following when lockout tagout procedures are necessary:

1. Notify immediately affected employees that a lockout system is going to be utilized and the reasons therefore.
2. If machine or equipment is operating, shut it down by the normal stopping procedures.
3. Utilize one of the following isolating/control devices based on the energy, which requires control.
    - *Electrical Energy* isolation/control is accomplished by placing manually operated electrical circuit breakers, disconnect switched, a manually operated switches in the “off” position. A lockout device such as a “Plugout or Lock a Plug” for plug-in equipment or a hasp and lock for disconnect switches shall be used.

- *Pneumatic energy* isolation/control is accomplished by disconnecting the air supply from the equipment and using a device such as a "Plugout or Lock a Plug" for the end of the air source.
- *Potential energy* involving gravity isolation/control is accomplished by placing blocks made of wood, metal or others suitable materials under the mechanism or by pinning the linkages in a position where gravity will not cause the mechanism to fall.
- *Energy involving springs* isolation/control is accomplished by blocking the spring in a safe position, either by pinning or clamping, or by securing the device in some other manner to eliminate the potential unrestricted or undesired movement.
- *Hydraulic energy* isolation/control is accomplished by identifying the energy source for the hydraulic pump and controlling that energy source. The residual pressure in the system must be released.
- *Thermal energy* and potential energy involving pressure isolation/control is accomplished by closing valves and maintaining an open-bleed condition in the system to prevent energy build-up. Residual thermal energy for example in a heat sealer should be given adequate time to disperse the energy prior to servicing.
- *Tanks and piping systems* isolation/control is accomplished by closing valves. The pipes should be disconnected and a pipe blank inserted in the pipeline. After the tank or lines have been drained, you may still have to flush them out to purge them of any remaining chemicals. If possible, lockout drain ends to prevent back feed.

4. An authorized employee must affix appropriate and effective lockout and/or tagout devices to each energy-isolating device. Lockout devices shall be affixed in a manner that will hold the energy-isolating device in a "safe" or "off" position. Tagout devices cannot be used when the equipment can accept locking devices except in rare circumstances when additional precautions are taken. Devices are to be affixed in such a manner that will clearly indicate that the operation or movement of energy isolating devices from the "safe" or "off" position is prohibited.
5. Lockout the energy isolating device(s) with assigned individual lock(s).
6. Stored or residual energy, such as that in capacitors, springs, elevated machine members, rotating flywheels, hydraulic system, air, gas, steam or water pressure, must be dissipated or restrained by methods such as grounding, repositioning, blocking, bleeding down, or any other approved method.
7. Ensure that the equipment is disconnected from the energy source(s) by first checking that no personnel are exposed, then verify the isolation of the equipment by operating the push button or other normal operating control(s) or by testing to make certain the equipment will not operate. Return operating controls to neutral or "off" position after verifying the isolation of the equipment.

Now that the machine and/or equipment has been isolated, locked-out, properly tagged, and energy released or controlled, the repair, maintenance, or service can be initiated.

In situations where lockout devices must be temporally removed from the energy isolating device or when an energy isolating device can not be applied due to the need to operate the equipment during maintenance activities, the authorized employee must maintain control of the energy sources at all times. If at any time during the maintenance activities the authorized employee must leave the machine, all systems must be de-energized and energy control measures must be used.

The use of a group lockout device such as a lockbox or a trade lockout device can be used during shift changes, which occur during the continued maintenance or servicing of equipment.

Sequence of Lockout/Tagout Removal

Prior to removal of lockout devices, authorized employees must inspect the work area to ensure that components are operationally intact and all nonessential items are removed.

Prior to removal of lockout devices, the work area must be checked to ensure that all employees have been safely positioned or removed.

Once the area and equipment have been inspected thoroughly, authorized employees can proceed to remove the lockout and tagout with the following steps:

1. Begin the lockout/tagout removal by starting at the most “downstream” switch or valve, checking to see that everything is in the “OFF” position or closed.
2. Remove all blanks and reconnect all pipes or air supply.
3. Remove all locks and tags.
4. Make sure all guards are in place, the work site is clean, all tools are removed, and all personnel are accounted for and in a safe position.
5. Refer to the Standard Operating Procedures for the correct start-up procedures and return the equipment to service.

PERIODIC INSPECTIONS

An authorized employee, other than those involved in performing the procedure being inspected, will conduct periodic inspections of these procedures at least annually. A certification, signed by the Site Superintendent will be completed to indicate the equipment on which the energy control procedure was utilized, the date of the inspection, the employees included in the inspection and the person performing the inspection.

CHAPTER 12: PERSONAL PROTECTIVE EQUIPMENT PROGRAM

Personal Protective Equipment Program

PURPOSE

The purpose of this program is to establish that M2 Concrete & Excavating, Inc. is complying with the OSHA's 29 CFR 1926 Subpart E, Personal Protection Equipment standards and OSHA's 29 CFR 1910 Subpart I, Personal Protection Equipment standards for the General Industry.

SCOPE

This program applies to all work operations at M2 Concrete & Excavating, Inc. where physical and chemical hazards may be reduced or eliminated using personal protective equipment. This Chapter applies to all workers on a construction site.

The Health and Safety Coordinator (site Superintendent) is the Personal Protective Equipment Coordinator for each site and have overall responsibility for the program on their sites.

The minimum required PPE permitted on a M2 Concrete & Excavating, Inc. Project and is required to be worn 100% of the time are the following:

- **Hard hats;**
- **Safety glasses;**
- **Hi-vis safety vest or hi-vis shirt;**
- **Proper work boots; (tennis shoes are permitted while on a Steep Roof only.**
- **Shirts with a minimum 4-inch sleeve;**
- **Long pants; and**
- **Shorts are not permitted.**

M2 CONCRETE & EXCAVATING, INC. RESPONSIBILITIES

M2 Concrete & Excavating, Inc. and the Subcontractor Foreman are responsible for knowing all possible activities in which a workers activities may expose a worker to hazards. M2 Concrete & Excavating, Inc. Superintendent will inform all Subcontractors during the onsite orientation to provide the required PPE associated for their employees work procedures.

HAZARD ASSESSMENT AND EQUIPMENT SELECTION

The Site Foreman will conduct a walk-through survey of each work area to identify potential hazards that are not adequately controlled with traditional means, such as engineering, work practice and administrative controls prior to project startup. These hazards may result in injuries to the face and eyes, hands, arms, feet or legs or illnesses affecting the lungs, skin or other body systems and organs.

Once the hazards of a workplace have been identified on the Site Specific Information Form, the site Superintendent will determine the suitability of the PPE presently available and as necessary, select new or additional equipment, which ensures a level of protection greater than the minimum required to protect the employees from the hazards. Care will be taken to recognize the possibility of multiple and simultaneous exposure to a variety of hazards. Adequate protection against the highest level of each of the hazards will be provided or recommended for purchase.

Protective Devices

All personal protective clothing and equipment will be of safe design and construction for the work to be performed and shall be maintained in a sanitary and reliable condition. Only those items of protective clothing and equipment that meet NIOSH (National Institute for Occupational Safety and Health) or ANSI (American National Standards Institute) standards will be procured or accepted for use. Newly purchased PPE must conform to the updated ANSI standards, which have been incorporated into the OSHA PPE regulations, as follows:

- Eye and Face Protection ANSI Z87.1-1989
- Foot Protection ANSI Z41.1-1991
- Hand Protection. There are no ANSI standards for gloves; however, selection must be based on the performance characteristics of the glove in relation to the tasks to be performed.
- Head Protection ANSI Z89.1-1986

Careful consideration will be given to comfort and fit of PPE in order to ensure that it will be used. Protective devices are generally available in a variety of sizes. Care should be taken to ensure that the right size is selected.

Eye and Face Protection

Prevention of eye injuries requires that all persons who may be in eye hazard areas wear protective eyewear. This includes employees, visitors, customers, or others passing through an identified eye hazard area. **To provide protection for these personnel, Subcontractor shall procure a sufficient quantity of goggles and/or plastic eye protectors, which afford the maximum amount of protection possible.** If these personnel wear personal glasses, they shall be provided with a suitable eye protector to wear over their glasses.

Suitable protectors shall be used when employees are exposed to hazards from flying particles, molten metal, acids or caustic liquids, chemical liquids, gases, or vapors, bioaerosols, or potentially injurious light radiation.

Wearers of contact lenses must also wear appropriate eye and face protection devices in a hazardous environment.

Side protectors shall be used when there is a hazard from flying objects.

Goggles and face shields shall be used when there is a hazard from chemical splash.

Face shields are required for workers cutting or grinding with an abrasive disk. Face shields shall only be worn over primary eye protection (safety glasses or goggles).

For employees who wear prescription lenses, eye protectors shall either incorporate the prescription in the design or fit properly over the prescription lenses.

Protectors shall be marked to identify the manufacturer.

Equipment fitted with appropriate filter lenses shall be used to protect against light radiation. Tinted and shaded lenses are not filter lenses unless they are marked or identified as such.

Prescription Safety Eyewear:

OSHA regulations require that each affected employee who wears prescription lenses while engaged in operations that involve eye hazards shall wear eye protection that incorporates the prescription in its design, or shall wear eye protection that can be worn over the prescription lenses (goggles, face shields) without disturbing the proper position of the prescription lenses or the protective lenses.

Emergency Eyewash Facilities:

Emergency eyewash facilities meeting the requirements of ANSI Z358.1 will be provided in all areas where the eyes of any employee may be exposed to corrosive materials. All such emergency facilities will be located where they are easily accessible in an emergency.

Head Protection:

Head protection will be furnished to, and used by, all employees and contractors engaged in construction and other miscellaneous work. Head protection is also required to be worn when hazards from falling or fixed objects or electrical shock are present. Bump caps/skull guards will be issued and worn for protection against scalp lacerations from contact with sharp objects. However, they will not be worn as substitutes for safety caps/hats because they do not afford protection from high impact forces or penetration by falling objects.

Hard hats have a 5-year service life and may not be worn if expired or damaged.

Hard hat use is required 100% of the time while on a M2 Concrete & Excavating, Inc. project.

Foot Protection:

All safety footwear shall comply with ANSI Z41-1991, "American National Standard for Personal Protection - Protective Footwear."

NOTE: The use of open-toed shoes or sandals out on the project sites is not permitted at anytime by anyone.

Safety shoes or boots with impact protection are required to be worn in work areas where carrying or handling materials such as packages, objects, parts or heavy tools, which could be dropped; and for other activities where objects might fall onto the feet. Safety shoes or boots with compression protection are required for work activities involving skid trucks (manual materials handling cars) or other activities in which materials or equipment could potentially roll over an employee's feet.

Tennis shoes can not be used in lieu of work boots. Workers walking on asphalt shingle roofs are required to wear tennis shoes. Tennis shoes may only be worn on the roof. Work boots must be put on prior to the worker leaving the structure and walking the remainder of the project site.

NO EXCEPTIONS. Unless approved by the site Superintendent.

Hand Protection:

Suitable gloves shall be worn when hazards from chemicals, cuts, lacerations, abrasions, punctures, burns, biologicals, and harmful temperature extremes are present. Glove selection shall be based on performance characteristics of the gloves, conditions, duration of use, and hazards present. One type of glove will not work in all situations.

The first consideration in the selection of gloves for use against chemicals is to determine, if possible, the exact nature of the substances to be encountered. Read instructions and warnings on chemical container labels and the MSDS before working with any chemical. Recommended glove types are often listed in the Chapter for personal protective equipment.

Chemicals eventually permeate all glove materials. However, they can be used safely for limited time periods if specific use and other characteristics (i.e., thickness and permeation rate and time) are known.

Cleaning and Maintenance

It is important that all PPE be kept clean and properly maintained. Cleaning is particularly important for eye and face protection where dirty or fogged lenses could impair vision. PPE should be inspected, cleaned, and maintained by the employee at regular intervals so that the PPE provides the requisite protection. Personal protective equipment shall not be shared between employees until it has been properly cleaned and sanitized. PPE will be distributed for individual use whenever possible.

It is also important to ensure that contaminated PPE, which cannot be decontaminated, is disposed of in a manner that protects employees from exposure to hazards.

TRAINING

Any worker required to wear PPE shall receive training in the proper use and care of PPE. Periodic retraining shall be conducted as needed. The training shall include, but not necessarily be limited to, the following subjects:

- When PPE needs to be worn.
- What PPE is necessary?
- How to properly put on, take off, adjust, and wear PPE.
- The limitations of the PPE.
- The proper care, maintenance, useful life and disposal of the PPE.

After the training, the employees shall demonstrate that they understand the components of the PPE Program and how to use PPE properly, or they shall be retrained.

RECORDKEEPING

Written records shall be kept of the names of persons trained, the type of training provided, and the dates when training occurred. M2 Concrete & Excavating, Inc. shall maintain their employees' training records for at least 5 years.

PPE SPECIFICATIONS

Appropriate clothing is required at all jobsites. Respirators or dust masks may need to be used for specific tasks though more information can be found in the Respiratory Protection Program. Fall protection is to be used at all necessary times and is further discussed in the Fall Protection Program. Other PPE specifications are listed in the table below.

Jobsite	Eye	Face	Foot	Hand	Head	Hearing	Hi-Vis.
All	R	T	R	T	R	T	R

R- Required
O-Optional
T- Task Specific

CHAPTER 13: FORKLIFT SAFETY PROGRAM

Forklift Safety Program

PURPOSE

The purpose of this program is to establish that M2 Concrete & Excavating, Inc. is complying with OSHA's 29 CFR 1910.178, Powered Industrial Truck (Forklift) standard.

SCOPE

This program applies to all M2 Concrete & Excavating, Inc. employees and Subcontractor employees who are required to operate powered industrial trucks (forklift).

The Health and Safety Coordinator is the Forklift Safety Program Coordinator and has overall responsibility for the program.

M2 CONCRETE & EXCAVATING, INC. RESPONSIBILITIES

M2 Concrete & Excavating, Inc. and the Subcontractor Foreman are responsible for knowing all possible activities in which a workers activities require the use of a forklift. M2 Concrete & Excavating, Inc. Superintendent will inform **all Subcontractors during the onsite orientation to provide the required certifications of all authorized forklift operators.**

Workers operating a forklift in properly will be required to provide documentation of retaining prior to using a forklift following an incident.

Improper use violations include (not an all inclusive list):

- Tires leaving the ground at any time;
- Operator leaving the forklift while the engine is running or the forks are in the air;
- Multiple riders;
- Using none ANSI or OSHA certified equipment (i.e, none-certified man basket); and
- Permitting workers to stand on the forks in any manner;

DEFINITIONS

Powered Industrial Truck (Forklift) is a mobile, power-propelled truck used to carry, push, pull, lift, stack, or tier material e.g., a forklift, stock picker, or powered pallet jack.

Authorized Industrial Truck Operator is an employee who holds a current license for operation of a specific industrial truck.

Authorized Operator Trainer is an authorized operator who has successfully completed the requirements of a powered industrial truck trainer and has been authorized to conduct the operator evaluations, practical exercises, and driver examinations.

USER CAUTIONS

Unsafe or improper operation of a forklift can result in death; or serious injury to the operator or others; damage to the forklift or other property.

Non-certified (non-authorized) personnel may not operate forklifts.

Operator may never walk away from a forklift with its forks in the air or a running forklift.

OPERATOR RESPONSIBILITIES

Operators

Operators of powered industrial trucks (forklifts) are responsible for successfully completing all certification requirements. Proof of certification is required prior to operating the forklifts.

Operators of powered industrial trucks are responsible for safe operation of equipment.

PROCEDURES TO OBTAIN A CERTIFICATE

The employee must have a current, state-issued driver's license.

If the employee does not have a valid driver's license, the employee may proceed with the industrial truck certification requirements with management approval.

The employee must complete a training class administered by an outside training source, which includes classroom training and practical operation test.

The employee must pass the written exam with a score of at least 80%.

If the employee does not pass the written examination with a score of at least 80%, the employee and the Trainer will review training materials and evaluate competence in each problem area.

The trainee must pass a practical driving examination given by an authorized operator trainer.

The operator must pass the driving examination with a score of at least 80%.

If the employee does not pass the driving examination with a score of at least 80%, the employee will be required to repeat the practical training and driver's examination.

Practical instruction and re-examination should emphasize problem areas.

Upon successful completion of the training requirements, a powered industrial forklift license will be issued to the employee for the specific type(s) of equipment the trainee has been qualified to operate.

TRAINING PROGRAM CONTENT

Powered forklift operator training must meet the requirements of the OSHA Standard, 29 CFR 1910.178.

CERTIFICATION

The Trainer shall certify that each operator has received the required training, has been evaluated as required, has demonstrated competency in the performance of operator's duties, and has satisfactorily completed all required examinations.

The certification (operator license) must include the name of the operator, the date of the training, the date of the evaluation, and the identity of the person(s) performing the training and/or evaluation).

REFRESHER TRAINING AND EVALUATION

Refresher training will be conducted to ensure that operators retain the skills necessary to operate a powered industrial truck safely.

An evaluation of the performance of each operator will be conducted at least very three (3) years and will include:

- Observation of the operator during normal operations to determine if the operator is performing safely.
- Completion of a practical driving examination to document compliance with evaluation procedures and assess the need for refresher training.

RECORDKEEPING

Training records on current personnel must be kept until project completion.

Training records on former employees shall be kept for at least three years from the date the employee last worked on the project.

Daily forklift inspections by the authorized operator are required to be documented each day the forklift is in use and prior to its use each day.

Training certifications for M2 Concrete & Excavating, Inc. employees are located in Chapter 20.

CHAPTER 14: RESPIRATORY PROTECTION PROGRAM

Respiratory Protection Program

PURPOSE

The purpose of this program is to establish that M2 Concrete & Excavating, Inc. is complying with OSHA's 29 CFR 1926.103, Respiratory Protection standard and OSHA's 29 CFR 1910 Subpart I, Respiratory Protection standards for the General Industry.

There is currently not any work conducted by M2 Concrete & Excavating, Inc. employees that requires the use of respiratory protection. This program applies to all work operations at M2 Concrete & Excavating, Inc. where employees voluntarily wear respiratory protection.

The Health and Safety Coordinator are the Respiratory Protection Program Coordinators, who have overall responsibility for the program at their site.

M2 CONCRETE & EXCAVATING, INC. RESPONSIBILITIES

M2 Concrete & Excavating, Inc. and the Subcontractor Foreman are responsible for knowing all possible activities in which a workers activities require the use of respiratory protection. M2 Concrete & Excavating, Inc. Superintendent will inform **all Subcontractors during the onsite orientation to provide the required certifications for workers authorized and using respirators.**

Workers may not provide their own respirators or dust masks.

DEFINITIONS

Immediately Dangerous to Life or Health (IDLH) is an atmosphere that is an immediate threat to life would cause irreversible adverse health effects or would impair an individual's ability to escape from a dangerous atmosphere.

Oxygen Deficiency occurs when the level of oxygen in breathing air is less than 19.5% by volume. Oxygen deficiency can occur in confined spaces by displacement of air by other gases and vapors or due to processes, which consume air such as fire, rusting, aerobic bacteria, etc.

Positive Pressure Respirator is a respirator that has breathing air supplied to the face-piece creating a slight positive pressure inside the mask. Breathing resistance is minimal.

Pressure Demand Respirator is a positive pressure, atmosphere-supplying respirator that delivers breathing air to the face-piece when the user inhales.

Qualitative Fit Test is a pass/fail fit test to check respirator fit that relies on the respirator user's sensory response to detect a challenge agent.

Quantitative Fit Test is a fit test used to measure respirator fit that uses an instrument to measure the challenge agent inside and outside the face piece.

Respirator is a device designed to protect the user from inhalation of hazardous atmospheres. This includes air-purifying respirators (e.g. half-mask with filter cartridges and disposable paper-type devices) or air-supplied respirators (e.g. SCBA or airline respirators).

Self-Contained Breathing Apparatus (SCBA) is an atmosphere-supplying respirator in which the user carries the air supply.

Supplied Air Respirator (SAR) is a class of respirators that supplies a respirable atmosphere, independent of the workplace atmosphere (e.g. SCBA or air-line respirator).

PROCEDURE

Program Administrator

The M2 Concrete & Excavating, Inc. Health and Safety Coordinator will administer the program. The program administrator shall oversee the program and conduct the required evaluations of the program effectiveness.

M2 Concrete & Excavating, Inc. employees and subcontractors are not permitted to use half-face or full-face respirators at any time without prior approval by the M2 Concrete & Excavating, Inc. Health and Safety Coordinator.

Hazard Assessment

Prior to any employee being assigned respiratory protection or wearing a respirator, the Site Superintendents shall determine, based on the information available and work to be performed, the type of respiratory protection that is necessary. This selection will be based on respiratory hazards to which the worker is exposed under routine and reasonably foreseeable emergency situations, workplace, and user factors that affect respirator performance and reliability.

Once the determination that respiratory protection is necessary the Subcontractor shall provide the M2 Concrete & Excavating, Inc. copies of the following information for each employee that have received and completed:

- **A medical evaluation;**
- **A respirator fit test; and**
- **Appropriate respiratory protection training.**

Hazard Control

Respirators are considered the last line of defense for protecting employee health and should only be used when control techniques are not feasible or completely successful in reducing personal exposures to hazardous atmospheres. The following are examples of control techniques that must be used to reduce airborne contamination as low as practical (listed in order of preference depending on the nature of the hazard):

Substitution: Replacing hazardous materials with materials with a lower hazard potential (e.g. substituting a chlorinated solvent with a non-chlorinated solvent).

Local exhaust ventilation: Capturing hazardous materials at the point of generation by means of exhaust ventilation (e.g. exhaust ventilation hood).

Evaluation for Hazardous Atmospheres

M2 Concrete & Excavating, Inc. has an established an Occupational Safety and Health Program that provides a number of ways to identify potential hazardous atmospheres.

- Routine work place inspections are conducted on a periodic basis.
- Industrial hygiene air monitoring is conducted to determine where respiratory protection is required. This monitoring will usually consist of air sampling and analysis. Where air monitoring is not possible, appropriate calculations will be completed to determine potential exposure to the respiratory hazard in question.
- Chemical Hazard Communication and Respiratory Protection training provides employees with knowledge about identification and control of respiratory hazards.

Voluntary Use

Where respirator use is determined not to be required (e.g., periodically sweeping the floor, small grinding tasks, etc.), employees may choose to wear filtering face pieces (dust masks). **However, the user must review and sign off on the Voluntary Respirator Use Information Sheet (OSHA's 29 CFR 1910.134, Appendix D) located in Chapter 21.**

Voluntary use of respirators other than dust masks must be approved prior to use.

Medical Evaluation

When respirators are required and prior to the employee being issued a respirator, or being fit tested, the employee must complete the questionnaire provided in Appendix C of the OSHA standard or undergo a medical evaluation to determine the his/her ability to wear a respirator. All medical evaluations must be provided by a physician or other licensed health care professional (PLHCP).

Respirator Selection

The issuance and use of disposable respirators will only be permitted for protection against nonhazardous or nuisance dust conditions (e.g., cutting materials, sweeping floors).

Respirator Fit Testing

For voluntary use of dust masks, a fit test shall be performed utilizing appropriate fit test methodologies. The Site Superintendent will conduct a quantitative or qualitative respirator fit test to determine the ability of the individual to obtain a satisfactory fit. The results of the fit test shall be recorded on the respirator fit test data form.

TRAINING

Before an employee is assigned a respirator, mandatory training on proper use is required. The training must be comprehensive, understandable, and recur annually. After completion of the training the employee must be able to demonstrate knowledge of the following:

- Why the respirator is necessary and how improper fit, use, or maintenance can compromise the protective effect of the respirator.
- What the limitations and capabilities of the respirator are.
- How to use the respirator effectively in emergency situations, including situations in which the respirator malfunctions.
- How to inspect, put on and remove, use, and check the seals of the respirator.
- How to recognize medical signs and symptoms that may limit or prevent the effective use of respirators.
- The general requirements of the standard.

CHAPTER 15: SAFE WORK PRACTICES PROGRAM

Safe Work Practices Program

PURPOSE

The purpose of this program is to establish that M2 Concrete & Excavating, Inc. informs its employees and Subcontractors on the safe work practices for working with or around ladders, power tools, material lifting, and fire extinguishers as well as implementing traffic control and airport safety. This program applies to all work operations at M2 Concrete & Excavating, Inc. where any employee may utilize this equipment or practices.

M2 CONCRETE & EXCAVATING, INC. RESPONSIBILITIES

M2 Concrete & Excavating, Inc. and the Subcontractor Foreman are responsible for knowing all possible activities in which a workers activities require the use of ladders, power tools, and traffic control. M2 Concrete & Excavating, Inc. Superintendent will inform **all Subcontractors during the onsite orientation to ensure employee compliance with general safe work practices.**

SAFETY RULES AND PROCEDURES

- No employee is expected to undertake a job until that person has received adequate training.
- No employee is required to work under conditions, which are unsanitary, dangerous or hazardous to their health.
- Only certified and trained personnel are permitted to operate machinery or equipment.
- All injuries must be reported to management.
- Manufacturer's specification, limitations instructions shall be followed.
- All manufactured supplied guards shall be maintained and not removed.
- Employees working in areas that require PPE shall use the designated PPE provided by the company.
- All hand and power tools and similar equipment, whether furnished by the employer or the employee shall be maintained in a safe condition.
- All materials stored in tiers shall be stacked, racked, blocked, interlocked, or otherwise secured to prevent sliding, falling or collapse.
- All electrical equipment shall be free from recognized hazards that are likely to cause death or serious physical harm to employees.
- The project sites shall be kept clean, the floor of every work area shall be maintained, so far as practicable, in a dry condition; standing water shall be removed.
- To facilitate cleaning, every floor, working place, and passageway shall be kept free of hazards.

Workers are not permitted to wear IPods or earplugs or play radios in any M2 Concrete & Excavating, Inc. project.

Smoking is not permitted within the construction areas of a project.

LADDER SAFETY

Ladders are one of the most OSHA cited hazards on a construction site and present one of the major hazards for employees. Improper ladder use is the cause of many serious accidents in construction.

It has been determined that accidents involving ladders revealed that the four major causes of such accidents are:

- Ascending or descending improperly.
- Failure to secure ladder at top and/or bottom.
- Structural failure of the ladder itself.
- Carrying objects in hands while ascending or descending.

Great care should be used in the selection of the proper size and design of the ladder to be used, the proper maintenance and storage of a ladder when not in use, and frequent inspections should be made on all ladders.

Ladders of all types should be carefully inspected prior to each use, and if accidentally dropped or otherwise damaged in use. Ladders found to be defective should be repaired or, if necessary, destroyed.

General Use

All ladders must have legible load information labels.

Match the duty rating to the total weight that will be on the ladder and the work application.

The use of ladders with broken or missing rungs or steps, broken or split side rails, or other faulty or defective construction is prohibited.

Portable ladder feet shall be placed on a substantial base, and the area around the top and bottom of the ladder shall be kept clear.

Ladders shall not be placed in access ways or other locations where they may be displaced unless protected by barricades or guards.

In ascending or descending ladders, workers should face the ladder and use both hands to hold on to side rails. Material should not be carried on ladders.

Portable ladders shall be used at such a pitch that the horizontal distance from the top support to the foot of the ladder is about one-quarter of the working length of the ladder. The acute angle with the horizontal must not be less than 75 degrees or the distance to height ration is 4:1.

Extension ladders used to access another level, the side rails shall extend not less than 36 inches above the landing. Ladders used to access another platform, must be secured with rigid material, at the top and bottom of the ladder. When this is not practical, grab rails, which provide a secure grip for an employee moving to or from the point of access, shall be installed.

Stepladders are not permitted to use for access to another level. Stepladders must used in the open position at all times.

Workers may not stand on the top two steps of any stepladder at any time.

Portable ladders shall rest on a firm foundation capable of supporting the load without displacement in any direction.

Ladders shall be equipped with safety shoed, spurs, spikes, tread feet, or other approved slip-resistant devices at the base section of each rail.

Portable metal ladders shall not be used for electrical work where they may contact electrical conductors.

Extension ladder sections shall not be used as independent ladders or sections.

Portable ladders are approved for one-man use only.

POWER TOOL SAFETY

All employees shall be familiar with the safe operation of all hand and power tools before use.

Power Tool Precautions

- Always follow the manufacturer's instructions and intended use of the tool.
- Never carry a tool by the cord or hose.
- Never yank the cord or the hose to disconnect it from the receptacle.
- Keep cords and hoses away from heat, oil, and sharp edges.Disconnect tools when not in use, before servicing, and when changing accessories such as blades, bits and cutters.
- All observers should be kept at a safe distance away from the work area.
- **Secure work with clamps or a vise, freeing both hands to operate the tool.**
- Avoid accidental starting. The worker should not hold a finger on the switch button while carrying a plugged-in tool.
- Tools should be maintained with care. They should be kept sharp and clean for the best performance. Follow instructions in the user's manual for lubricating and changing accessories.
- Be sure to keep good footing and maintain good balance.
- The proper apparel should be worn. Loose clothing, ties, or jewelry can become caught in moving parts.
- All portable electric tools that are damaged shall be removed from use and tagged "Do Not Use."
- Guards shall always be installed and operable during operation of the tool.
- Proper hand and eye protection shall be worn at all times.

MATERIAL HANDLING

Management and staff employees should be aware of good work practices that minimize the possibility of injury.

Safe work practices that can minimize material/equipment handling injuries include:

- Test every load before you lift by pushing the object lightly with your hands or feet. This will give you a relative idea of how heavy it is.
- In general, if the load weighs more than 50 lbs., have two people make the lift or use mechanical means.
- Try to arrange lifting tasks by storing heavy loads at waist height to reduce the effort needed to lift them. Avoid storing heavy items blow the knee or above shoulder height.
- Use slow and smooth movements.
- Keep your body square with the object. Carry the load between your shoulders and waist.
- Change direction of the load by moving your feet, DO NOT TWIST.
- Keep the load close to your body.
- Bend at your knees and lift with your legs.

CUTTING MATERIALS

All materials (framing studs, sheathing, pipe, conduit, rebar, etc.) being cut with a hand power tool are required to be cut on a table, saw hose, secured stock pile, etc. at all times.

Worker body parts may not come within 10-inches of the material being cut. Guards must be used at all times.

Workers using saws or grinders equipped with an abrasive wheel must wear a face shield in addition to eye protection at all times.

TRAFFIC CONTROL

Traffic control will only be conducted by M2 Concrete & Excavating, Inc. employees in parking lots. Traffic control outside of parking lots will require the use of certified flaggers. The Traffic Control Plan must be approved by the M2 Concrete & Excavating, Inc. Superintendent, and local Authorities where required prior to implementation.

FIRE PROTECTION and PREVENTION

All employers are required to provide a fire extinguisher for their individual task activities.

Work activities in which sparks and hot slag are required to obtain a current Hot Work Permit prior to beginning the activity. A 30-minute fire watch is also required following the activity or prior to taking a break.

Fire extinguishers must be full and annually inspected.

Site specific extinguishers must be located every 100-feet or every 3,000 square-feet.

CHAPTER 16: SCAFFOLD AND MAN LIFTS SAFETY PROGRAM

Scaffold Safety Program

The purpose of this program is to establish that M2 Concrete & Excavating, Inc. is complying with the OSHA 29 CFR 1926, Subpart L standards.

This program applies to all work operations at M2 Concrete & Excavating, Inc. project sites where employees and Subcontractors will be working on or around elevated scaffolds.

M2 CONCRETE & EXCAVATING, INC. RESPONSIBILITIES

M2 Concrete & Excavating, Inc. and the Subcontractor Foreman are responsible for knowing all possible activities in which a workers activities require the use of any type of scaffolding (hydromobile, mobile, fabricated frame, swing-stage, pump-jacks, etc.). M2 Concrete & Excavating, Inc. Superintendent will inform **all Subcontractors during the onsite orientation to ensure employee compliance with all OSHA requirements as they pertain to scaffolding, ladders, controlled-access-zones, and fall protection.**

DEFINITIONS

Bearer (putlog) means a horizontal transverse scaffold member (which may be supported by ledgers or runners) upon which the scaffold platform rests and which joins scaffold uprights, posts, poles, and similar members.

Body harness means a design of straps which may be secured about the employee in a manner to distribute the fall arrest forces over at least the thighs, pelvis, waist, chest and shoulders, with means for attaching it to other components of a personal fall arrest system.

Brace means a rigid connection that holds one scaffold member in a fixed position with respect to another member, or to a building or structure.

Cleat means a structural block used at the end of a platform to prevent the platform from slipping off its supports. Cleats are also used to provide footing on sloped surfaces such as crawling boards.

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

Coupler means a device for locking together the tubes of a tube and coupler scaffold.

Crawling board (chicken ladder) means a supported scaffold consisting of a plank with cleats spaced and secured to provide footing, for use on sloped surfaces such as roofs.

Deceleration device means any mechanism, such as a rope grab, rip-stitch lanyard, specially-woven lanyard, tearing or deforming lanyard, or automatic self-retracting lifeline lanyard, which dissipates a substantial amount of energy during a fall arrest or limits the energy imposed on an employee during fall arrest.

Fabricated decking and planking means manufactured platforms made of wood (including laminated wood, and solid sawn wood planks), metal or other materials.

Failure means load refusal, breakage, or separation of component parts. Load refusal is the point where the ultimate strength is exceeded.

Hoist means a manual or power-operated mechanical device to raise or lower a suspended scaffold.

Landing means a platform at the end of a flight of stairs.

Lifeline means a component consisting of a flexible line that connects to an anchorage at one end to hang vertically (vertical lifeline), or that connects to anchorages at both ends to stretch horizontally (horizontal lifeline), and which serves as a means for connecting other components of a personal fall arrest system to the anchorage.

Lower levels means areas below the level where the employee is located and to which an employee can fall. Such areas include, but are not limited to, ground levels, floors, roofs, ramps, runways, excavations, pits, tanks, materials, water, and equipment.

Maximum intended load means the total load of all persons, equipment, tools, materials, transmitted loads, and other loads reasonably anticipated to be applied to a scaffold or scaffold component at any one time.

Open sides and ends means the edges of a platform that are more than 14-inches (36 cm) away horizontally from a sturdy, continuous, vertical surface (such as a building wall) or a sturdy, continuous horizontal surface (such as a floor), or a point of access. Exception: For plastering and lathing operations the horizontal threshold distance is 18-inches (46 cm).
Outrigger means the structural member of a supported scaffold used to increase the base width of a scaffold in order to provide support for and increased stability of the scaffold.

Overhand bricklaying means the process of laying bricks and masonry units such that the surface of the wall to be jointed is on the opposite side of the wall from the mason, requiring the mason to lean over the wall to complete the work. It includes mason tending and electrical installation incorporated into the brick wall during the overhand bricklaying process.

Personal fall arrest system means a system used to arrest an employee's fall. It consists of an anchorage, connectors, a body belt or body harness and may include a lanyard, deceleration device, lifeline, or combinations of these.

Platform means a work surface elevated above lower levels. Platforms can be constructed using individual wood planks, fabricated planks, fabricated decks, and fabricated platforms.

Qualified means one who, by possession of a recognized degree, certificate, or professional standing, or who by extensive knowledge, training, and experience, has successfully demonstrated his/her ability to solve or resolve problems related to the subject matter, the work, or the project.

Rated load means the manufacturer's specified maximum load to be lifted by a hoist or to be applied to a scaffold or scaffold component.

Runner (ledger or ribbon) means the lengthwise horizontal spacing or bracing member which may support the bearers.

Scaffold means any temporary elevated platform (supported or suspended) and its supporting structure (including points of anchorage), used for supporting employees or materials or both.

Stair tower (Scaffold stairway/tower) means a tower comprised of scaffold components and which contains internal stairway units and rest platforms. These towers are used to provide access to scaffold platforms and other elevated points such as floors and roofs.

Stilts means a pair of poles or similar supports with raised footrests, used to permit walking above the ground or working surface.

Walkway means a portion of a scaffold platform used only for access and not as a work level.

GENERAL REQUIREMENTS FOR SCAFFOLD USE

This guideline covers all types of scaffolding used in construction activities. There are general requirements that apply to all scaffolding and other requirements that are unique to specific scaffolds. Always follow the manufacturer's instructions and guidelines for assembly and use.

This program applies to all work operations at M2 Concrete & Excavating, Inc. project sites where employees and Subcontractors will be working on or around elevated scaffolds.

All types of scaffolding (pump jack, hydromobile, frame, tube and coupler, Morgan, A-frame, etc.) are included in the requirements below:

The Subcontractor's "Competent Person" is responsible for inspecting and supervising the erection, dismantling, and use of scaffolding equipment at all times.

All types of scaffolding on a M2 Concrete & Excavating, Inc. project site are to be considered to be a Controlled Access Zone. Only authorized workers associated with the scaffold construction and the scaffolding Contractor may access the scaffolding.

Employees of Subcontractors not associated with the scaffold construction and need to access to the scaffolding are required to:

- **Provide a scaffolding "Competent Person" for the individual Subcontractor to conduct daily inspections: or**
- **Provide a signed waiver for each worker not on the scaffold crew and needing to access the scaffolding.**

All scaffolding is considered to be a Controlled Access zone (CAZ). Scaffold contractor must place CAZ signage on the scaffolding prior to use.

General Requirements

- "Competent Persons" must supervise erection, modification, use, and dismantling of all scaffolds at all times.
- **Scaffold designs must be provided to the M2 Concrete & Excavating site Superintendent prior to beginning work activities.**
- **All workers erecting or dismantling any type of scaffolding is required to use fall protection harnesses and associated equipment at all times above 6-feet in height. NO EXCEPTIONS. Contact the M2 Concrete & Excavating, Inc. Safety Consultant if compliance is not attainable for alternatives.**
- Footing and anchorages must be sound, rigid, and capable of supporting the intended weight without settling or displacement. Do not use unstable objects such as bricks, boxes, barrels, etc. to level support scaffolds.
- Employees on and below the scaffold will be protected from falling objects through the installation of toe boards, screens, barricades, or guardrail systems.
- Guardrails must be approximately 42-inches high and supports cannot exceed eight feet apart.
- Toe boards must be at least 3 1/2 inches high.
- When persons must work or pass under the scaffold a screen of No. 18 gauge wire ½ inch mesh is required between the toe board and the top rail.
- Scaffolds must be designed and installed to support at least four times the intended load.
- All load carrying planking lumber must be scaffold grade or equivalent.
- Maximum spans for lumber planks depend on the width and thickness of the planks and expected loading. The following table applies to 2-inches x 10-inches or wider planks:

	Full Thickness Undressed Lumber			Nominal Thickness Lumber	
Working Load (lbs/ft²)	25	50	75	25	50
Permissible Span (ft.)	10	8	6	8	6

- The maximum span for 1 ¼-inch x 9-inches or wider plank of full thickness is 4-feet. with medium duty loading of 50 lbs/ft^2.
- All planking of platforms must be overlapped a minimum of 12-inches or secured to prevent movement.
- Planks must extend over their end supports no less than 6-inches and no more than 12-inches unless the planks are fastened to the supporting members.
- An access ladder must be provided when the scaffold platforms are more than 2 feet above or below a point of access.
- Poles, legs and uprights must be plumb and securely or rigidly braced to prevent swaying and displacement.
- Shore or lean-to scaffolds are prohibited.
- Materials hoisted onto a scaffold must have a tag line.
- Employees cannot work on scaffolds during high winds (above 25-mph) or other inclement weather.
- Scaffold cross-bracing must be installed at all frames, unless otherwise approved by the scaffold design or engineer.
- All employees on a scaffold more than 10 feet above the next lower level will be protected through fall prevention (guardrails) or fall protection equipment (personal fall arrest system).

INSPECTION

Scaffolds and scaffold components on M2 Concrete & Excavating, Inc.s projects will be inspected and documented for visible defects by a "Competent Person" before each work shift, and after any occurrence that could affect a scaffold's structural integrity.

Scaffold tags will be provided at all access points to the scaffolding.

All damaged or weakened components will be replaced immediately.

Only authorized workers will be permitted on any scaffolding at any times. All other employees are strongly prohibited from accessing the systems. See above requirements.

GENERAL REQUIREMENTS FOR STAIR TOWER USE

This guideline covers all types of stair towers used in construction activities. There are general requirements that apply to all stair towers, scaffolding and other requirements that are unique to specific scaffolds.

The "Competent Person" is responsible for inspecting and documenting daily inspections of the stair tower. Daily documented inspections will permit the use of the stair tower by M2 Concrete & Excavating, Inc. employees and subcontractors.

GENERAL REQUIREMENTS FOR MOBILE MAN LIFT USE

M2 Concrete & Excavating, Inc. employees and subcontractors working from a mobile man lift of any type will be trained by a qualified person to understand standard operating procedures and hazard identification.

All certified operators of mobile man lifts will do the following during operation:
1. Conduct a pre-operation inspection and document the inspection on the Inspection Form located in Chapter 21.
2. Barricade the areas below and around the base of the lift and basket to eliminate fall object hazards.
3. All workers conducting work activities from an aerial lift must use the required fall protection as explained in Chapter 7.
4. Follow the manufactures recommendations for operation.
5. Do not operate within 10-feet of overhead power lines.
6. Do not operate near pits or drop-offs.
7. Workers may not exit the lift while it is elevated.
8. Do not operate on ramps or slopes

TRAINING

M2 Concrete & Excavating, Inc. employees and subcontractors do not access or work from scaffolding, but on the rare occasion, M2 Concrete & Excavating, Inc. agrees that each employee performing work on a scaffold will be trained by a qualified person to understand standard operating procedures and hazard identification. All employees involved in the erecting, disassembling, moving, repairing, or inspecting will be trained by a competent person to understand the hazards in question.

M2 Concrete & Excavating, Inc.s employees performing the work on a scaffolding or mobile man lifts will be provided training under this standard and complying with M2 Concrete & Excavating, Inc. standards.

Documentation of certified training must be provided to the M2 Concrete & Excavating Superintendent.

CHAPTER 17: ANIMAL, INSECTS, AND PLANTS SAFETY PROGRAM

Animal, Insects, and Plants Safety Program

PURPOSE

The purpose of this program is to establish that M2 Concrete & Excavating, Inc. has informed and trained employees in the recognition, avoidance, and health hazards associated with various insects. This Chapter is not a regulated standard under the jurisdiction of OSHA.

SCOPE

This program applies to all M2 Concrete & Excavating, Inc. employees who are required to conduct work activities outdoors and in rural areas.

The Health and Safety Coordinator and the M2 Concrete & Excavating, Inc.'s site Superintendent (Site Safety Coordinator) have overall responsibility for the program.

M2 CONCRETE & EXCAVATING, INC. RESPONSIBILITIES

M2 Concrete & Excavating, Inc. and the Subcontractor Foreman are responsible for knowing all possible activities in which a workers activities may be exposed to hazardous animals, plants, and insects. M2 Concrete & Excavating, Inc. Superintendent will inform **all Subcontractors during the onsite orientation to be aware of the site specific hazards associated with this Chapter.**

GENERAL CAUTIONS

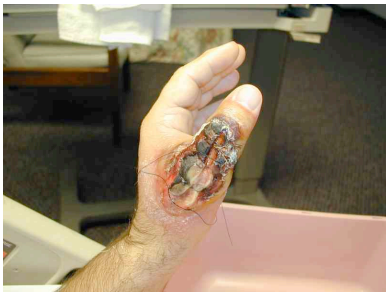
Workers who have severe allergic reactions to insect bites are encouraged to have in their possession a fresh doctor recommended Epinephrin Auto Injector Pin (if medically required).

Venomous Spiders

Brown Recluse Spider Health and Safety Information:

- How to identify a Brown Recluse spider: 0.5 in long with a dark violin shaped mark on the head/midChapter
- Most commonly found in dark barns, crawl spaces, dark closets, and small crevices in wood, brick, and rock piles (hot and dry areas).

- Mild symptoms from a bite includes: reddened skin followed by a blister around the bite site, small amount of pain and itching (may last 2-8 hours after bite), and an open sore that may form at the site of the bite after 3-4 days.



- More severe symptoms include: fever, chills, nausea, vomiting, skin rash on entire body, and joint pain
- How to treat a Brown Recluse Spider bite: gently apply a cold, wet cloth or ice bag to the bite site, and sit still as to not spread the venom. Call for professional medical treatment.

Black Widow Spider Health and Safety Information:

- How to identify a black widow spider: coal-black, shiny, long-legged spider with an orange, red, or yellow hourglass shaped figure on their under side.

- Commonly found in old stumps or wood piles and bites to children or infants are much more severe
- Mild symptoms include moderate or sharp pain soon followed by swelling and redness at the site of the bite. Two small red spots are indicated as fang marks.
- More severe symptoms include: muscle cramps, chills, fever, nausea, vomiting, severe abdominal pain, seizures, high blood pressure, and shock
- How to treat a black widow spider bite: gently apply ice to the bite immediately and sit still as to not spread the venom. Seek medical attention immediately.

Bees and Wasps Health and Safety Information:

- How to identify a a bee: coal-black, 1/2-inch to 1 1/2-inches in length, shiny with some hair, short-legged with general colors being yellow on black, or tan with black, and most often with wings longer than their body.
- How to identify a wasps or hornet: hornets are a species of wasps which can grown to approximately 2 1/2-inches long and most often colored black and yellow.

Honey Bee

Bubble Bee

Wasp / Hornet/ Yellow Jacket

Common Wasp Nest

- Bees are commonly found in in colonies such as honey bees. It is not uncommon for carpenter bees to live in individual wood borrowed nests nearby a colony. Bees can also be found on flowers, in old stumps or wood piles, and hives made of various materials.
- Wasps and hornets are often aggressive and live in colonies.
- Bee stings can very from mild symptoms including moderate or sharp pain soon followed by swelling and redness at the site of the bite. One small red spot is indicated by the stinger. Often times the stinger remains on the skin.
- More severe bee sting symptoms include: muscle cramps, chills, fever, nausea, vomiting, severe abdominal pain, seizures, high blood pressure, and shock. Bites to children or infants are much more severe.
- Wasp and hornet stings can vary from moderate to severe pain, and in some cases fatal depending on both the insect and the victim. Some hornets are know to be the most venomous insect know.

- How to treat a moderate reaction to a bee or wasp sting: remove the stinger from the victim by scraping it away with a flat surface such as a credit card orr tweezers if available. Wash would with soap and dress the wound. Apply ice. If the victim appears to be having an allergic reaction call 911.
- How to treat a severe reaction to a bee, wasp, or hornet sting: people who are allergic to bee or wasp venom, may also be allergic to hornet stings. Allergic reactions are commonly treated with epinephrine (adrenaline) injection using a device such as an epinephrine auto injector, with prompt follow-up treatment in a hospital. In severe cases, allergic individuals may go into anaphylactic shock and die unless treated promptly.

MAMMALS

Coyote:

- Coyote's are known to be most active at dusk and during the cooler part of the year.
- Screaming and waving the arms is a good defensive mechanism, but in some instances coyotes may not have a fear of humans. In these cases, pepper spray may be necessary.
- Coyote's tend to hide in dense or high weeds. Take caution when in these areas at high risk times during the day.
- If you encounter a coyote, never feed it and do all that you can to make sure it does not feel familiar coming back to the area (if they do not fear humans or the area, problems will persist and an attack could occur in the future).

Skunk:

- Although an odor is usually associated with skunks, a more pressing issue is its ability to be a reservoir for rabies. If bitten by a skunk, seek medical attention immediately to find out if further steps are necessary (tetanus shot, etc.).
- If you encounter a skunk, do not surprise it. It only sprays when if threatened or surprised.
- If sprayed, symptoms include: irritation and temporary blindness.
- Treatment includes: washing skin with tomato juice, vinegar, or carbolic soap and water to remove the smell.
- To control skunks, keep all trash in sealed cans and build fences 1 to 2 feet high around houses.
- They are commonly found in wood or junk piles.

Bears:

If you come across a bear, the important thing to remember is to remain CALM and to not turn your back on the bear.

- Never come up behind or surprise a bear.
- Identify yourself: let the bear know you are near by waving your arms, or talking to it, but do not make eye contact. At this point, the bear may walk toward you curiously. Make sure to stay where you are and not to run or make sudden movements.

- Do NOT run: you will not be able to outrun the bear. If the bear gets to close, you may need to continue talking to the bear sternly, waving your arms, or banging pots and pans to divert attention. Do not imitate bear noises or make high pitched squeals.
- If attacked: Surrender! Lie flat on your stomach, or curl up in a ball with your hands behind your neck. Remain motionless. The bear should no longer assume you are food. Then, when it is safe, leave in the same direction you came.

Mountain Lions/ Panthers:
If encountered by a mountain lion:

- Make as much noise as possible to make your presence known. Do not surprise the mountain lion.
- Make eye contact and do not turn your back on the mountain lion.
- Do NOT run. Keep children in arms or close to keep from running as mountain lions are especially drawn to children.
- ALWAYS hike or be in groups when in this type of environment
- Do NOT crouch or bend over to appear as tall and as large as possible. Speak firmly, wave arms, and throw stones to divert attention and try to gain control of the situation.
- Do NOT approach the mountain lion.

VENOMOUS SNAKES

GENERAL INFORMATION:

How to treat any snake bite:

- Stay calm and still since movement helps to spread the venom.
- Keep the injured part of the body below the heart.
- Wrap a bandage loosely above the area that was bitten careful not to cutoff blood supply, gently wash out the bite area with soap and water, apply a cool wet cloth (not ice) over the bite, and call for emergency assistance. If emergency assistance is not nearby, carefully transport the victim to a medical facility without disturbing the bite area.
- **DO NOT** constrict the area around bite, cut wound, use mouth to suck out venom, apply electric shock, or let victim drink alcohol.

Rattle Snakes:

- How to identify a rattlesnake: a rattlesnake's head, neck, and tail are not the same diameter.
- Commonly found in rock crevices near an abundant supply of rodents.
- Symptoms for a rattlesnake bite include: swelling, pain, bleeding at the site, nausea, vomiting, sweating, chills, dizziness, salivation, thirst, swollen eyelids, blurred vision, muscle spasms and unconsciousness.

Copperhead Snakes:

- Can be identified by their copper, orange, or pink color with reddish-brown cross bands. They can range in size from 23 to 53 inches. The tops of their heads are unmarked.

- Their habitat includes the hillside and rock crevices above streams and ponds.
- The bites of Copperhead snakes are known to be very painful.

Coral Snakes:

- Most commonly found in tropical regions and in some areas of Texas in woodlands, canyons and coastal plains.
- Can be identified by the red, yellow and black bands along the length of the body.

- Shortly after the bite, a mild pain may be noticed.
- 12-24 hours after the bite is administered, symptoms may include: increased salivation and drooling, drowsiness or euphoria, slurred speech, nausea and vomiting, numbness and tingling, and in some cases double vision and difficulty breathing, muscle aches and confusion (less common).
- In very rare cases, death may occur.
- If a bite is thought to have occurred, seek medical attention immediately.

Timber Rattlesnakes:

- Can be identified by its brown, black, yellow, or pinkish color, a reddish brown middorsal stripe, and usually is seen to be about 36 to 60 inches in length.

- Commonly found in rock crevices and on forest floors.

Diamond Back Rattlesnake:

- Western diamondback rattlesnakes are recognized by their gray-brown color but can also be seen in pinkish brown, brick red, yellow, pink or chalky white. The distinctive diamond shaped blotches give it its name.

- Commonly found in rocky country, prairies, and low mountains, but are also known to be excellent swimmers.
- The Diamond Back is responsible for a large number of fatalities in the US and anyone bitten should be carefully deal with and receive emergency medical attention.

OTHER IMPORTANT SNAKES (NOT POISONOUS)

Boa Constrictors:

- Boa Constrictors are most commonly found in deserts, wet tropical forests, open savannas and cultivated fields.
- Can be recognized by their pink or tan color with dark cross bands and can grow from 20 in to as great as 18 feet.

- Boa constrictors are not poisonous.
- They use constriction and therefore squeeze their prey until it can no longer breathe
- Found commonly as pets.

Bullsnake:

- Bullsnakes can be recognized by their yellow coloring, with brown, black or sometimes reddish colored blotching.

- The Bull Snake does not bite and it is not venomous. It is a constrictor, meaning it squeezes its prey until it can no longer breath.
- It makes a hissing sound which can easily be confused with a rattlesnake.
- The Bullsnake (also known as the Gopher Snake) is commonly found in sandy areas, prairies, open forests, agricultural fields, and brush.

PLANTS

Poison-Ivy:

- Allergic reactions to poison-ivy are one of the most common are one allergic reactions.
- Direct contact with the plant and release of Urushiol oil is needed to cause a rash. Spread of this rash to another part of the body or to another person can only occur from excess Urushiol oil on the rash site or from the plant itself.
- Severe signs include: swelling within 4-12 hours (instead of the normal 24-48hrs), eyes swelling shut, or blisters erupting and are emergency signs. The patient should seek medical attention immediately.
- A shot of corticosteroids will bring the swelling down.
- Usually found in wooded areas at 4-10 in. high or on supported vines.
- Not usually found above 5,000 ft in altitude.
- Appearance: almond shaped leaflets with grayish white berries.
- Most muscle pain and itching improves with the application of very hot water.

Summer

Spring

Fall

Poison-Oak:

- Found in forests, thickets and dry, sandy fields.
- Appearance: 3ft tall shrub with three leaflets (variable in size and shape).

- All parts of the plant contain Urushiol oil which causes the rash and possible allergic reaction similar to poison ivy.
- Treatment: immediately wash with COLD water and waterless soap (this will keep the poison from spreading), and then treat itching with calamine lotion, hydrocortisone cream, aloe vera, and other drug store aids such as Benadryl (in small amounts on small areas).
- Do not burn poison oak as the smoke will severely damage lungs.

CHAPTER 18: SILICA DUST PROGRAM

Safety for Manual Silica Exposure Activities

GENERAL COMPANY POLICY

The purpose of this program is to establish that that M2 Concrete & Excavating, Inc. has informed and trained employees in the recognition, avoidance, and health hazards associated with silica exposures and is complying with the OSHA 29 CFR 1926.25, Subpart D standards.

This program applies to all work operations at M2 Concrete & Excavating, Inc. where employees will be conducting work activities which liberates airborne silica.

The site Superintendent is the Site Safety Coordinator and has overall responsibility for the program.

M2 CONCRETE & EXCAVATING, INC. RESPONSIBILITIES

M2 Concrete & Excavating, Inc. and the Subcontractor Foreman are responsible for knowing all possible activities in which a workers activities may be exposed to silica dust hazards. M2 Concrete & Excavating, Inc. Superintendent will inform **all Subcontractors that proper respiratory protection is required when working with products containing more than 1% silica dust (i.e., concrete, cement, cementitious siding, Monokote, stone, brick, etc.).**

As a General Rule, water is to be used at all times when conducting activities that liberate airborne silica to reduce the amount of potential silica exposure on products resistant to water. Ensure all electrical equipment is protected with a functioning GFCI in circuit.

On products not resistant to water, the use of a NIOSH N95 dust mask or better is required. The use of a HEPA vacuum, isolation methods, and engineering controls will also be used when needed to protect other workers in the area.

SUBCONTRACTOR COMPLIANCE REQUIREMENTS

Each subcontractor is responsible for the health and safety of its own workers, regardless of whether the company created the hazard. M2 Concrete & Excavating, Inc. is responsible for overall health and safety on the project. Therefore, control of silica dust must be a coordinated, joint effort.

M2 Concrete & Excavating, Inc. must be aware of the contractors' silica control programs and agree to assist in their successful implementation.

- Prior to the start of the job, all contractors should meet to identify potential silica exposures, along with other health and safety issues expected during the project (e.g. rock drilling, concrete grinding or sawing).

• Prior to the start of the job, each contractor responsible for activities that may release silica dust should develop an action plan to avoid exposure of his own workers and those of other contractors. The plan should include:
• Specific tasks that could release significant amounts of silica;
• Anticipated location, starting and ending dates for each task;
• Specific controls that will be used to reduce or eliminate silica release, (e.g. wet sawing or drilling, misting of dust, use of local exhausted power tools).

If silica levels exceed the permissible exposure limits (PEL), OSHA requires that engineering and work practice controls be applied first to reduce contamination to below the PEL. If exposures can not be brought down to below the PEL, respiratory protection can then be used to reduce exposure. In the event that respirators are required, the contractor must have a respiratory protection program in place.

Engineering Controls
The use of properly designed engineering controls is the best approach for controlling dust from crystalline silica-containing materials. The contractor should review the project to determine which, if any, engineering controls are feasible on this particular project (see attached list of manufacturers).

Below are some additional engineering controls:
- Wet sawing or drilling. If wet suppression systems are used, spray nozzles and associated piping should be maintained to assure that adequate wetting agent is applied.
- Enclosed work areas should be under positive pressure and provided with clean make-up air.
- Engineering design of equipment should include, where feasible, provisions to reduce exposure of workers to respirable crystalline silica dust to below the PEL. This may include HEPA filtered local exhaust power tools.

Administrative Controls
Administrative controls can be used in conjunction with engineering controls to further reduce the likelihood of worker exposure.

- Contractors who anticipate doing silica dust creating work should notify all other on-site contractors as far in advance as possible as to: location, date, start time, duration.
- Contractors should, to the extent feasible, limit silica generating work to off-hours, or coordinate times when other contractors can vacate the immediate work area.
- Contractors should, to the extent feasible, leave the immediate work area while other contractors are conducting silica generating operations.
- Contractors on all projects with silica generating activities will notify their workers of the potential for silica exposure by:
    - Posting silica warning signs where other worker notices are posted.
    - Having the area flagged off, if necessary and feasible, to prevent unauthorized workers from entering during silica generating operations.

Personal Protective Equipment (PPE)
If the contractor determines that engineering controls and administrative controls may not adequately protect the workers, personal protective equipment must be used. The need for all of the following PPE should be evaluated for each project, as all this equipment may not necessarily be needed on every project.
Basic PPE

- Eye protection
- Face protection (face shield)
- Hearing protection (ear plugs or muffs)
- Coveralls (either disposable or reusable)
- Foot protection (sturdy work shoe required, safety shoes recommended)
- Head protection (hard hat, blast helmet)
- Respiratory protection - *In many cases with engineering and administrative controls in-place, respirator use can be avoided entirely, or at least limited.*

Voluntary Use Respirators
This section applies if an employer requires respirators to be worn even though exposure monitoring has shown that silica exposure is *below* OSHA's PEL. This section of OSHA's standard also applies in the event that an employee requests a respirator even though exposure monitoring has shown that the employee is exposed to silica less than the PEL.

The following are requirements of the voluntary use section of OSHA's respiratory protection standard 1910.134.

- The employer must determine that the employee's voluntary use will not create a hazard.
- **Information provided in Appendix D (Voluntary Respirator Use Information Sheet) must be provided to all employees. (see the FORMS Section)**
- Unless the respirator is a filtering face-piece respirator (paper dust mask, etc.) a program must be put together describing how the employer will meet the previous requirements.

Worker Training Requirements

All workers must be trained to at least OSHA's Hazard Communication Standards (1926.21) level of awareness of silica, which consist of:

- Adverse health effects of silica.
- Jobs that generate silica.
- Procedures and equipment used to minimize silica dust exposures.
- Availability of medical records and air monitoring results.
- If respirators are required, full compliance with OSHA respirator standard.

Personal Hygiene

- All workers exposed to silica dust should wash face and hands prior to smoking, drinking, eating and at the end of the shift.
- Eating, drinking, smoking, use of chewing gum or tobacco is prohibited in all areas contaminated with silica dust, at or above the OSHA permissible limit.
- To the extent feasible, all vehicles and equipment should be parked away from any anticipated silica dust generating operation.
- Workers with exposures at or above the OSHA permissible limit should wear worker protective clothing (e.g., disposable or washable work clothing) that stays on site.

CHAPTER 19: WEATHER RELATED ILLNESS PROGRAM

Weather Related Illness Program

PURPOSE

The purpose of this program is to establish that M2 Concrete & Excavating, Inc. has informed and trained employees in the recognition, avoidance, and health hazards associated with weather related illnesses. This Chapter is not a regulated standard under the jurisdiction of OSHA.

SCOPE

This program applies to all M2 Concrete & Excavating, Inc. employees who are required to conduct work activities outdoors and in rural areas.

The Health and Safety Coordinator and the M2 Concrete & Excavating, Inc.'s site Superintendent (Site Safety Coordinator) have overall responsibility for the program.

M2 CONCRETE & EXCAVATING, INC. RESPONSIBILITIES

M2 Concrete & Excavating, Inc. and the Subcontractor Foreman are responsible for knowing all possible activities in which a workers activities may be exposed to heat and cold related illnesses. The M2 Concrete & Excavating, Inc. Superintendent will inform **all Subcontractors during the onsite orientation to be aware of the site specific hazards associated with this Chapter.**

GENERAL CAUTIONS

Workers in the construction industry are one of the most susceptible group of workers to illnesses related to severe cold or heat. Workers exposed to high humidity and high temperatures in the workplace are at especially high risk. Knowing the symptoms, treatment, and how to avoid illness are key in dealing with temperature related illness.

Heat Related Illnesses

The human body regulates its internal temperature by sweating. Sweating assists the body in cooling down. Body temperature can rise to dangerous levels if precautions are not taken. Heat illnesses range from heat rash and heat cramps to heat exhaustion and heat stroke. Heat stroke requires **immediate medical attention** and can result in **death**.

Employers are responsible for providing workplaces that are safe from excessive heat. Employers should provide workers with water, rest and shade; should gradually increase workloads and allow more frequent breaks for new workers or workers who have been away for a week or more to build a tolerance for working in the heat; and should educate workers about the symptoms heat-related illnesses and their prevention.

Employers should also include the steps to prevent heat illness in worksite training and plans as well as what to do in an emergency. Acting quickly can save lives!
OSHA's key pieces of advice for workers are:

- Drink water every 15 minutes, even if you're not thirsty.
- Rest in the shade to cool down.
- Wear a hat and light-colored clothing.
- Learn the signs of heat illness and what to do in an emergency.
- Keep an eye on fellow workers.

Heat Index

The Heat Index is a calculation of the actual outside temperature based on temperature and humidity.

NOAA's National Weather Service

Heat Index

Temperature (°F)

Relative Humidity (%)	80	82	84	86	88	90	92	94	96	98	100	102	104	106	108	110
40	80	81	83	85	88	91	94	97	101	105	109	114	119	124	130	136
45	80	82	84	87	89	93	96	100	104	109	114	119	124	130	137	
50	81	83	85	88	91	95	99	103	108	113	118	124	131	137		
55	81	84	86	89	93	97	101	106	112	117	124	130	137			
60	82	84	88	91	95	100	105	110	116	123	129	137				
65	82	85	89	93	98	103	108	114	121	128	136					
70	83	86	90	95	100	105	112	119	126	134						
75	84	88	92	97	103	109	116	124	132							
80	84	89	94	100	106	113	121	129								
85	85	90	96	102	110	117	126	135								
90	86	91	98	105	113	122	131									
95	86	93	100	108	117	127										
100	87	95	103	112	121	132										

Likelihood of Heat Disorders with Prolonged Exposure or Strenuous Activity

Caution | Extreme Caution | Danger | Extreme Danger

The three levels of heat related illnesses are:

- Heat cramps;
- Heat exhaustion; and
- Heat stroke.

Heat cramp symptoms include:

- Severe, sometimes disabling, cramps that typically begin suddenly in the hands, calves, or feet; and
- Hard, tense muscles.

Heat cramps requires gradual cooling, drink liquids to hydrate, rest in the shade.

Heat Exhaustion symptoms include:

- Fatigue;
- Nausea;
- Headaches;
- Excessive thirst;
- Muscle aches and cramps;
- Weakness;
- Confusion or anxiety;
- Drenching sweats, often accompanied by cold, clammy skin;
- Slowed or weakened heartbeat;
- Dizziness;
- Fainting; and
- Agitation.

Heat exhaustion requires immediate attention but is not usually life-threatening.

Heat stroke symptoms include:

- Nausea and vomiting;
- Headache;
- Dizziness or vertigo;
- Fatigue;
- Hot, flushed, dry skin;
- Rapid heart rate;
- Decreased sweating;
- Shortness of breath;
- Decreased urination;
- Blood in urine or stool;
- Increased body temperature (104 degrees to 106 degrees F);
- Confusion, delirium, or loss of consciousness; and
- Convulsions.

Heat stroke can occur suddenly, without any symptoms of heat exhaustion. If a person is experiencing symptoms of heat exhaustion or heat stroke, GET MEDICAL CARE IMMEDIATELY.

Cold Related Illness

Hypothermia

Hypothermia is a potentially dangerous drop in body temperature, usually caused by prolonged exposure to cold temperatures. The risk of cold exposure increases as the winter months arrive. But if you're exposed to cold temperatures on a spring hike or capsized on a summer sail, you can also be at risk of hypothermia.

Normal body temperature averages 98.6 degrees. With hypothermia, core temperature drops below 95 degrees. In severe hypothermia, core body temperature drops to 86 degrees or lower.

Cold exposure is when the balance between the body's heat production and heat loss tips toward heat loss for a prolonged period, hypothermia can occur.

Hypothermia symptoms for adults include:

- Shivering, which may stop as hypothermia progresses. (Shivering is actually a good sign that a person's heat regulation systems are still active.)
- Slow, shallow breathing.
- Confusion and memory loss.
- Drowsiness or exhaustion.
- Slurred or mumbled speech.
- Loss of coordination, fumbling hands, stumbling steps.
- A slow, weak pulse.
- In severe hypothermia, a person may be unconscious without signs of breathing or a pulse.

Treatment for hypothermia:

If medical care isn't immediately available:

- Remove any wet clothes, hats, gloves, shoes, and socks.
- Protect the person against wind, drafts, and further heat loss with warm, dry clothes and blankets.
- Move gently to a warm, dry shelter as soon as possible.
- Begin rewarming the person with extra clothing. Use warm blankets. Other helpful items for warming are: an electric blanket to the torso area and hot packs and heating pad on the torso, armpits, neck, and groin; however, these can cause burns to the skin. Use your own body heat if nothing else is available.
- Take the person's temperature if a thermometer is available.
- Offer warm liquids, but avoid alcohol and caffeine, which speed up heat loss. Don't try to give fluids to an unconscious person.

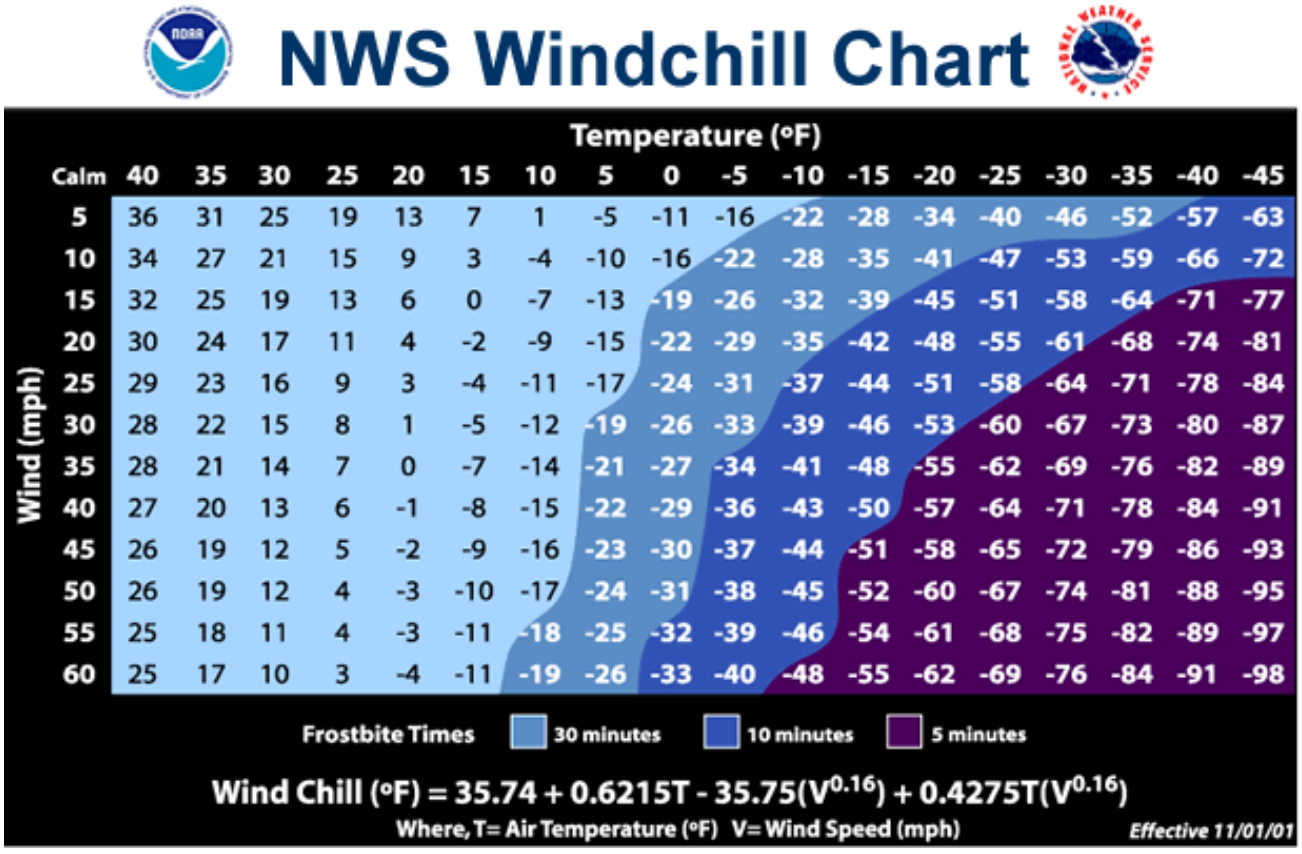
Frost Bite

Frostbite occurs when tissues freeze. This condition happens when you are exposed to temperatures below the freezing point of skin. The nose, cheeks, ears, fingers, and toes (your extremities) are most commonly affected. Everyone is susceptible, even people who have been living in cold climates for most of their lives.

Frostbite is caused by 2 different means: cell death at the time of exposure and further cell deterioration and death because of a lack of oxygen.

- In superficial frostbite, you may experience burning, numbness, tingling, itching, or cold sensations in the affected areas. The regions appear white and frozen, but if you press on them, they retain some resistance.
- In deep frostbite, there is an initial decrease in sensation that is eventually completely lost. Swelling and blood-filled blisters are noted over white or yellowish skin that looks waxy and turns a purplish blue as it rewarms. The area is hard, has no resistance when pressed on, and may even appear blackened and dead.

Frostbite is a serious medical condition therefore GET MEDICAL CARE IMMEDIATELY.



CHAPTER 20: CONFINED SPACE PROGRAM

CONFINED SPACE ACTIVITIES PROGRAM

PURPOSE

The purpose of this program is to establish that that M2 Concrete & Excavating, Inc. Company has informed employees in the recognition, avoidance, and health hazards associated with working in Confined Spaces and is complying with the OSHA 29 CFR 1910.146, Subpart J standards.

This program applies to all work operations at M2 Concrete & Excavating, Inc. Company where employees will be conducting working in Confined Spaces.

The Health and Safety Coordinator is the Site Superintendent and has overall responsibility for the program.

INTRODUCTION

Every employer is responsible for setting policies to properly handle work operations in confined spaces, as a result, M2 Concrete & Excavating, Inc. Company has established the following confined space policy and procedures. Superintendents are responsible to ensure that proper procedures are carried out in all phases of confined space entry operations.

M2 Concrete & Excavating Policy - No employee shall enter any confined space without the expressed permission of his/her supervisor or M2 Concrete & Excavating Superintendent.

M2 Concrete & Excavating Policy - All confined space entries are required to be documented via a Confined Space Permit. Confined Space Permits are available from the Project Superintendent. A Confined Space Permit is located in the Forms section of this Plan. Allow a few days to process the Permit once provided to M2 Concrete & Excavating personnel for review.

What is a Confined Space?

A confined space is a space that:

- Is large enough and so arranged that an employee can bodily enter it;
- Has limited or restricted means for entry or exit; and
- Is not designated for continuous employee occupancy.
- The need to use a ladder or movable stairs, or stairs that are narrow or twisted;
- A door that is difficult to open or a doorway that is too small to exit while walking upright;
- Obstructions such as pipes, conduits, ducts, or materials that a worker would need to crawl over or under or squeeze around;
- The need to travel a long distance to a point of safety.

A space is not designed for continuous employee occupancy if it is not designed with features such as ventilation, lighting, and sufficient room to work and move about that are needed if people are to occupy it continuously.

The following list is OSHA's list on confined spaces on construction projects (not a complete list):

- Manholes (such as sewer, storm drain, electrical, communication, or other utility);
- Precast concrete and other pre-formed manhole units;
- Drilled shafts;
- Enclosed beams;
- Vessels;
- Digesters;
- Cesspools;
- Silos;
- Air receivers;
- Sludge gates;
- Air preheaters;
- Transformers;
- Turbines;
- Chillers;
- Bag houses;
- Mixers/reactors;
- Crawl spaces;
- Attics;
- Basements (before steps are installed);
- Sewers;
- Storm drains;
- Water mains;
- Lift stations;
- Tanks (such as fuel, chemical, water or other liquid, solid or gas);
- Pits (such as elevator, escalator pump, valve or other equipment);
- Bins;
- Boilers;
- Incinerators;
- Scrubbers;
- Concrete pier columns;
- Transformer vaults; and
- Heating, ventilation, and air- conditioning (HVAC) ducts.

GENERAL RESPONSIBILITIES

1. M2 Concrete & Excavating, Inc. Company is responsible to see that the overall employee work procedures and equipment meet this policy and applicable OSHA standards.

a. The site Superintendent is responsible for ensuring that the proper safety equipment is available and used and for the safety of the employees during confined space entry. A designated lead person may be assigned the responsibility for directing the permit confined space entry.

b. The *entry supervisors* are designated employees who have received training on how to evaluate and control confined space hazards. These employees shall be responsible for:

- Evaluation of all confined spaces including those that are non-permit required to ensure that all hazards are controlled.
- Completion of the work permit indicating the safety equipment required.
- Special precautions to be observed.
- The number of employees permitted to enter.
- The duration of the permit.
- Cancellation of the permit.

c. The *entry supervisors* are responsible for maintaining copies of all permits issued for one year.

2. The Health and Safety Coordinator is responsible to see that affected employees are trained in this program. The Health and Safety Coordinator is be available to assist subcontractors in completing Confined Space Assessments.

3. **Safety Committee** is responsible to conduct quarterly inspection audits regarding overall facilities safety. Confined space entry procedures and equipment should be evaluated as routine part of the inspection activities.

4. **All Subcontractors** are to follow the appropriate confined space entry procedures and ensure that the equipment in use if performing properly. This plan specifically addresses the following employees who have access to confined spaces or hire outside contractors for entry into confined spaces.

- **Facilities Services Personnel:** Electrical, HVAC, Building Facilities Servicing
- **Construction Personnel:** for purpose of entering telephone vaults, and crawl spaces in attics or under building spaces.

Examples of a Confined Space: means a space that:

1. Is large enough and so configured that an employee can bodily enter and perform assigned work; and
2. Has limited or restricted means for entry or exit (for example, tanks, vessels, silos, storage bins, hoppers, vaults, and pits are spaces that may have limited means of entry); and
3. Is not designed for continuous employee occupancy.

All confined spaces are considered a Permit Confined Space, until air sampling measurements prove otherwise.

Permit-Required Space: means a confined space that has *one or more* of the following characteristics:

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

Non-Permit Space: 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. Examples include: vented vaults, motor control cabinets, and dropped ceilings. Although they are "confined spaces", these spaces have either natural or permanent mechanical ventilation to prevent the accumulation of a hazardous atmosphere, and they do not present engulfment or other serious hazards.

- **Entry:** Entry into a confined space occurs as soon as any part of the entrant's body breaks the plane of an opening into the space.
- **Entry Permit:** The written permit defines the conditions under which the permit space may be entered.
- **Entry Supervisor:** means the person (such as employer, foreman, or crew chief) responsible to determine if acceptable entry conditions are present at a permit space where entry is planned, for authorizing entry and overseeing entry operations, and for terminating entry as required by this section.

  NOTE: *An entry supervisor also may serve as an attendant or as an authorized entrant, as long as that person is trained and equipped as required by this section for each role he or she fills. Also, the duties of the entry supervisor may be passed from one individual to another during the course of the entry operation.*

- **Hazardous atmosphere:** means an atmosphere which exposes employees to a risk of death, incapacitation, injury or acute illness from one or more of the following causes:
  - A flammable gas, vapor, or mist in excess of 10% of its lower flammable limit (LFL).
  - An atmospheric oxygen concentration below 19.5% or above 23.5%.
  - A combustible dust environment.
  - An atmospheric concentration of any substance for which an employee exposure would exceed the permissible exposure limit (PEL).
  - Any atmospheric condition recognized as immediately dangerous to life or health.
- **Immediately dangerous to life or health:** means any condition which poses an immediate threat of loss of life; or may result in irreversible or immediate-severe health effects or other conditions which could impair escape from the permit space.

- **Permissible Exposure Limits (PEL):** means an airborne chemical exposure limit established by Colorado OSHA which can not be exceeded without proper respiratory protection and the implementation of feasible engineering controls.

Space Classification

The classification of confined spaces was based on the following OSHA required terms and assessment procedures. The following listing shows the general type of confined spaces found in facilities operations.

Classes

- **Permit-Required Space-** means a space with an atmosphere which exposes employees to a risk of death, incapacitation, injury or acute illness from on or more of the following causes: flammable or combustible gases, oxygen deficient or enriched atmosphere, toxic atmosphere, engulfment, and *other serious physical hazards*. Any welding or hot work being done in a confined space requires both a Confined Space Permit and **Hot Work Permit.**
- **Non-Permit confined space-** means a space where there is an extremely low likelihood that an IDLH (immediately dangerous to life and health) or engulfment hazard could be present, and where all other serious hazards have been controlled. The OSHA standard defines a non-permit space as:
  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. Examples of non-permit confined spaces include: vented vaults, motor control cabinets, and dropped ceilings. Although they are "confined space" these spaces have either natural or permanent mechanical ventilation to prevent the accumulation of a hazardous atmosphere, and they do not present engulfment or other serious hazards.

  The *OSHA standard does not apply to non-permit confined space* so if there are no atmospheric hazards or any other uncontrolled hazard then requirements in the OSHA standard do not apply. IF THE CONDITIONS IN THE SPACE CHANGE SO THAT a hazardous atmosphere could develop or other serious safety and health hazards exist then the space must be RECLASSIFIED AS A PERMIT-REQUIRING CONFINED SPACE.

  It is **critical to note that some non-permit confined space can still be very hazardous and additional controls are needed** when working in the space. Reclassification is addressed in Appendix A Confined Space Assessment.

- PERMIT REQUIRED SPACES THAT CAN USE **Alternative Procedures** are allowed if the Person Authorizing the Permit can show the following:

1. The only hazard posed by the permit space is a potential or actual hazardous atmosphere and that continuous force air ventilation alone is sufficient to maintain that permit space safe for entry. This also assures that all physical hazards such as mechanical equipment can be safely locked-out from outside the space prior to entry.

2. *Person authorizing the permit* has air monitoring data to show that the air quality is safe and is maintained during the work in the space. A written record of the testing is maintained. SEE Certification Form in this policy.
3. Since an outside standby person is not required at these entrances, *when covers are removed,* the worker shall promptly have the opening guarded by a railing, temporary cover, or other temporary barrier that will prevent an accidental fall through the opening and that will protect each employee working in the space from foreign objects entering the space.
4. Before the employee enters the space, the internal atmosphere shall be tested for potential hazards. The *person authorizing the permit* will determine the type of direct reading testing, but at a minimum, it shall include oxygen deficiency and flammable/combustible gases. Testing shall be done periodically while the employee(s) is/are in the space.
5. Continuous forced air ventilation shall be used. The air must be from a clean source.
6. If a hazardous atmosphere is detected then the entrant will immediately leave the space and entry would only be made with an entry permit, if changes in the space can not render it fully safe.

   *NOTE: This **confined space policy** only addresses the type of spaces that are regulated under OSHA 1910.146 (a) Permit Required Confined Spaces. The next pages provide an overview of the space - please review closely. There may also be additional spaces not identified during the initial assessments. For any other spaces meeting this criteria, permits or alternative procedures must be used. The additional space assessments will need to be added to this procedure.*

ENTRY PROCEDURES

1. The initial step is the **assessment of spaces that are confined spaces** under the OSHA rules. It must then be determined if the spaces are permit or non-permit required. This is the on-going responsibility of Foster Electric Corporation's management to see that new facilities are reviewed as potential confined spaces and that program changes are added to this procedure.
2. *Only trained employees* will perform work in confined space. Supervisors shall ensure that **only authorized** employees who have received the appropriate training are permitted to enter confined spaces. Each affected Department will identify the employees who enter confined spaces and ensure that the employees are trained and proficient in the duties assigned.
3. *Signs* shall be posted on or near permit spaces in the facilities to notify employees what hazards may be present and that only authorized workers may enter those spaces. Signs are not practical nor feasible for the street type manholes thus all those areas are automatically considered confined spaces and only authorized employees will have access. Warning signs will be placed on interior tank or process equipment. All manholes will automatically be considered a confined space.
4. The safety equipment to be used in a confined space must be inspected by a qualified person designated by FACILITIES MANAGEMENT who certifies that the equipment is in working condition as outlined by the OSHA rules or by the manufacturer's specifications. The inspection frequency varies depending on specific rule requirement and by the manufacturer's specifications. See APPENDIX C Equipment Inspection Procedures.
   The equipment includes, but is not limited to:
   - Ladders
   - Personnel-hoists
   - Safety Harness or life lines
   - Gas Monitors
   - Power ventilators
   - Respiratory Protection Devices
   - Communication systems
5. A *Confined Space Entry-Hazardous Atmosphere Work Permit* must be issued for each permit required confined space entry. The permit will be properly filled out and followed. Specific Permit instructions are given in APPENDIX B.
   a. The permit is required to be kept for one year. Entry Supervisors will maintain copies of the permits and will send copies to the EH&S manager at the end of the year to provide information for the annual review of this policy.
   b. Permits may be granted for the duration **of the project requiring confined space entry.** The permit is only valid as long as the physical conditions set out in the permit are met.
   c. The permits are to be posted at the work area or kept in the vehicle in use at the work site if it is not feasible due to location or the weather to post the permit at the space.

2. *Testing of the air* within confined spaces shall be performed prior to entry to determine oxygen content, toxic gas potential and flammable or explosive atmospheres.
    - Entry into a confined space is prohibited until initial testing of the atmosphere has been done from outside the space.
    - The tests performed shall include those for oxygen content, flammable/ combustible gases, and hydrogen sulfide. Additional tests may be required by the Entry Supervisor depending on the entry circumstances.

3. If the space meets the criteria for **ALTERNATIVE PROCEDURES** then the entry supervisor will fill out a certificate noting the evaluation and at a minimum the following procedures would be required:
    - Provide continuous ventilation.
    - Provide continuous air monitoring.
    - When *entrance covers are removed,* the opening shall be promptly guarded by a railing, temporary cover, or other temporary barrier that will prevent an accidental fall through the opening and that will protect each employee working in the space from foreign objects entering the space. (Note: this is not required if there is a standby attendant)

    NOTE: No standby attendant, special rescue devices, or full permit would be required if alternative procedures are allowed.

1. If the space meets the following air quality standards then entry may be done without a SCBA or continuous airline with escape bottle:
    - Oxygen level between 19.5% - 23.5%
    - Flammable vapors below 10%* (note: this level could be a significant health risk depending on the type of vapors - any readings on combustible gas meter will need further evaluation if an employee is entering the space without respirator protection)
    - Hydrogen sulfide below the PEL of 10 ppm
    - Carbon Monoxide below the PEL of 35 ppm
    - Even under these conditions an entrant may be required to wear an air-purifying respirator for protection against other chemicals.
    - **NOTE:** If unusual odors are present, entry shall NOT be made until it is determined what the source of the odor is and the potential hazard. The presence of odors is not always related to the degree of hazard just as the lack of odor does not mean that it is safe; however, odors could be the result of illegal chemical dumping or an accidental spill which could affect your health and safety. The space needs further evaluation prior to entry.

2. The atmosphere with one or more of the following characteristics may be entered only with SCBA or airlinge with 5 minute escape bottle because the environment would be defined as Dangerous and/or IDLH. It is the Foster Electric Corporation's policy to ventilate, purge, and clean confined spaces until such time the atmosphere is below dangerous levels.
    - Oxygen levels below 19.5% (never enter oxygen enriched environment equal to or greater than 23.5% oxygen

- Flammable vapors below 10% LFL - **No one shall enter a potentially explosive environment (over 10% LFL).**
- Hydrogen sulfide above the PEL of 10 ppm.
- Carbon Monoxide above the PEL of 35 ppm.
- Other hazardous air contaminates in excess of the permissible exposure limits

a. *Where a confined space cannot be purged and ventilated* to provide and maintain a safe atmosphere, then a worker entering a confined space shall use all of the following:

- A self-contained breathing apparatus (SCBA) or a continuous air-line system with a 5 minute escape bottle.
- Continuous air monitoring to ensure levels are below 10% LFL.
- A safety harness of a type which will keep the worker in a position to permit rescue. Where feasible the harness line should be attached to the mechanical hoisting device.
- A life line attached to the safety harness which is tended by the outside attendant.
- A spare SCBA, life line and harness and additional staff must be available for rescue if a tripod device is not able to be used because of the configuration of the space.

1. Ventilation of confined spaces shall be used to provide adequate levels of oxygen, to dilute toxic and flammable gases and to improve general air quality. The ventilation equipment shall be explosion proof if it is placed inside the confined space.
2. The Material Safety Data Sheets (MSDSs) of all products and cleaning materials used in confined space must be reviewed before entry unless the products have already been covered with the employees in the routine hazard communication training. The MSDS must be available with the permit at the permit-required confined space entry area.
3. Mechanical and electrical equipment installed in the confined space must be disconnected from its power source and locked out. Our lock-out program must be followed (See: Energy Control Plan - Lock-out Policy for further details).
4. Only double insulated electric tools or tools on a ground fault circuit interrupter system are used in confined spaces.
5. All portable lights and tools shall be explosion proof when working in a confined space where there is a potential flammable or explosive atmosphere.
6. The Entry Supervisor is to ensure that the proper procedures and equipment necessary to rescue an entrant from a permit space are implemented and provided. This includes:
    a. Safety harness, life line and tripod hoist or other type of rescue devices as needed for the permit space being entered which are a vertical entrance of more than 5 feet.
    b. Communication with other entry team members by Mobile Radio, Telephone or other effective means is provided.
    c. First aid and emergency response by notification of the Foster Electric Corporation first aid/CPR trained.

2. The Entry Supervisor is to ensure that all pedestrian, vehicle or other barriers necessary to protect workers from external hazards are provided when the space is in *traffic areas*.
3. When any *hot work* involving sources of ignition including welding and burning is done in a confined space, then all fire hazards and flammable atmospheres must be controlled. All combustible material shall be protected. Hot work permit and instructions are found in Appendix B. These procedures are in addition to the general Hazardous Atmosphere Permit Entry requirements.
4. Many other occupational safety regulations relate directly or indirectly to conditions found in confined spaces. Appendix D provides a listing of possible related issues and the rule references. If you have any questions about these other safety issues please contact the entry supervisor.
5. When the M2 Concrete & Excavating, Inc. Company hires an *outside contractor* to conduct confined space work then the M2 Concrete & Excavating, Inc. Company management responsible for the contract work must insure that the contractor is provided with information about the hazards associated with the confined spaces involved in the contract.
6. The following procedures provide the minimum required for preparation and entry steps into a permit required space. Remember each entry needs to be evaluated and the specific conditions for the entry are to be based on hazards of the space and the type of work procedures.

APPENDIX A - CONFINED SPACE ASSESSMENT

CONFINED SPACE ASSESSMENT WORKSHEET:
The *confined space assessment worksheet* will be done by our trained entry supervisors. Space characteristics and controls may change as a result a space may be initially documented as a permit space and then need to be reclassified. Management must keep documentation on the space change in a form of a certification form enclosed. The following form provides documentation for the assessment of non-permit space for reclassification.

The following information must be gathered and recorded. The evaluator must also sign the assessment sheet and make sure that this is available to employees entering the space.

The initial step in assessing a space is to determine if the space is a "confined space" then to assess the space as to whether it is permit-required or non-permit. It is critical that the assessor uses Colorado OSHA's definition for each of these types of spaces in making the determination:

Step 1: Confined Space Determination

1. Is large enough and so configured that an employee can bodily enter and perform assigned work; and
2. Has limited or restricted means for entry or exit (for example, tanks, vessels, silos, storage bins, hoppers, vaults, and pits are spaces that may have limited means of entry); and
3. Is not designed for continuous employee occupancy.

Step 2: Non-permit Space
Non-permit confined space - means a space where there is an extremely low likelihood that an IDLH (immediately dangerous to life and health) or engulfment hazard could be present, and where all other serious hazards have been controlled. The OSHA standard defines a non-permit space as:
"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."

Examples of non-permit confined spaces includes: vented vaults, motor control cabinets, and dropped ceilings. Although they are "confined space" these spaces have either natural or permanent mechanical ventilation to prevent the accumulation of a hazardous atmosphere, and they do not present engulfment or other serious hazards.

Step 3: Permit Required
Permit-Required Spaces: means an atmosphere which exposes employees to a risk of death, incapacitation, injury or acute illness from one or more of the following causes: flammable or combustible gases, oxygen deficient or enriched atmospheres, toxic atmospheres, engulfment, and other serious physical hazards.

These type of spaces will have limited or restricted means for entry or exit. **Examples** given in the regulations include tanks, vessels, silos, storage bins, hoppers, vaults, pits and diked areas. These spaces are also not designed for continuous employee occupancy.

Step 4: Determining Need for Hot Work Permit

Hot Work Permit: Any welding or hot work being done in a confined space requires both a Confined Space Permit and **Hot Work Permit** even if the confined space is originally defined as Non-permit.

Step 5: Reclassification of Permit Space to Alternative or Non-Permit
A space can be reclassified as non-permit space under the following conditions:

1. If the permit space poses no actual or potential atmospheric hazards and if all hazards within the space are eliminated without entry into the space, then the permit space may be reclassified as a non-permit space.
2. If testing and inspection during a permit entry demonstrate that the hazards within the permit space have been eliminated, the permit space may be reclassified.
3. The Department must document this determination.
4. If hazards arise within a declassified space then the employees shall exit and a permit will be required with appropriate safeguards.

CONFINED SPACE - ASSESSMENT WORKSHEET
DOCUMENTATION OF CONFINED SPACE ASSESSMENT AND CLASSIFICATION FOR ALTERNATIVE PROCEDURES

1. **Potential Confined Space and Specific Location:**
   _____
   _____
   _____
2. **Reasons for Entry and how frequent:**
   _____
   _____
   _____
3. **Is there a potential hazardous atmosphere? If not why?**
   _____
   _____
   _____
4. **List other potential hazards:**
   _____
   _____
   _____
5. **Who last entered and why? Any comments on possible problems during the entries?**
   _____
   _____
   _____
6. **Specific Conditions of the Space and Space Test Data:**
   _____
   _____
   _____

SPACE CLASSIFICATION: This space meets the following requirements: (**Note** if the space is classed as IDLH/Dangerous then a permit must be issued.)
PERMIT_____ ALTERNATIVE PROCEDURES_____ NON-PERMIT_____

Safety Officer/Entry Supervisor _____
Date _____

APPENDIX B: ENTRY PERMIT FORMS AND EXPLANATION

Confined Space Entry Permit Forms

A written permit is necessary because of the special precautions that must be taken to ensure that the confined space work is performed safely. The permit functions as a checklist to ensure proper work preparation and atmospheric testing. The permit establishes expiration time and date which prevents the entry permit from being used for unauthorized entries. The permit also requires signature of the responsible supervisor/ lead person in charge and employees who will perform the work.

There are 2 permit forms:

1. **Confined Space Entry Permit** - The permit requires that the entry be evaluated for safety and health hazards and necessary controls.
2. **Hot Work Permit** to be used with the Confined Space Entry Permit which addresses the additional hazards from welding and other hot work.

Confined Space Permit Entry Instructions - The Permit form includes the following information:

1. The identity of the permit space or location of work.
2. The purpose of entry (nature of job being done).
3. The individual authorizing the entry shall sign the permit before the entry begins. Entry is not permitted until all actions and conditions necessary for safe entry have been performed (on-site supervisor).
4. Special instructions prior or during entry.
5. Space classification. Note if the space is determined not to be a confined space a record should be made and noted on the form.
6. The measures for isolation of hazardous energy sources in the permit space which includes lock-out procedures to be performed.
7. Type of hazardous work being performed which takes additional precautions including: painting, sand blasting, electrical work, welding, etc. If hot work is required then the Hot Work Permit will also be required.
8. Special precautions that will be needed including procedures for purging, inerting, ventilating and flushing the space to remove or control the potential hazards.
9. The communication procedures and equipment used by authorized workers and attendants to maintain contact.
10. Rescue procedures, equipment, and other services which would be summoned in case of emergency and means of communication with those services.
11. The personal protective equipment, such as: hard hats, gloves, coveralls, respirators, safety harness, and retrieval lines, provided in order to ensure employee safety.
12. Acceptable environmental conditions with regards to the hazards identified in the permit space by monitoring the air quality.
13. The date of entry and authorized duration.
14. The authorized confined space workers' signatures.
15. Upon completion of the entry covered by the permit, and after all workers have exited the permit space, the individual authorizing the entry shall cancel the permit.

APPENDIX C: EQUIPMENT INSPECTION PROCEDURES

Requirement
The safety equipment used in a confined space must be inspected by a qualified person designated by our management staff. The inspection evaluates the equipment to ensure that it is functioning as required by the OSHA rules or by the manufacturer's specifications. The inspection frequency varies depending on specific rule requirements and on the manufacturer's specifications.

OSHA has specific inspection and/or maintenance rules for ladders and respiratory equipment. General standards that require an employer to assure a safe workplace and that equipment be in "good repair" would apply to other devices used in the workplace. However for specific inspection protocols the manufacture's specifications or ANSI standards will need to be used for the personnel-lift (hoist), safety harness, gas monitoring equipment, power ventilators, and communication systems.

Inspection Log
Our employees inspecting the equipment will use an inspection log to keep track of the equipment condition and ensure that all the relevant items are evaluated.

INSPECTION PROTOCOLS:

- **Respirators**: Only to be used by medically qualified personnel. You must be approved to use a respirator, by M2 Concrete & Excavating, Inc. Company prior to using the respirator.

- SCBA's and airline systems used routinely are to be checked after each use. Those used for emergency or infrequently need to be checked monthly. The checks are to assure that the equipment is kept clean and in proper working condition. The respirator inspection shall include an evaluation of:
    - Tightness of the connections
    - Condition of the face piece
    - Condition of the headbands
    - Condition of the cartridges or tank pressure
    - Condition of the valves
    - Pliability and cleanliness of the face piece material

APPENDIX D: CONTRACTOR NOTIFICATION FORM

The **contractor notification** will be done by M2 Concrete & Excavating, Inc. Company.

This notification is to ensure that the company complies with rule 1910.146(c)(8) of the Confined Space regulations. If M2 Concrete & Excavating, Inc. Company contracts for confined space entry work as the host employer is responsible to:

1. Inform the contractor that a permit required space is involved in the work. This includes information about any chemicals in the space per Hazard Communication requirements.
2. Apprise the contractor of the hazards the M2 Concrete & Excavating, Inc. Company has identified and any experience the M2 Concrete & Excavating, Inc. Company 's employees have had with the space.
3. Apprise the contractor of any precautions the M2 Concrete & Excavating, Inc. Company 's employees have taken for entry.
4. Coordinate entry operations with the contractor if more than one contractor or if the M2 Concrete & Excavating, Inc. Company 's employees will also be entering the space.
5. Debrief the contractor to determine if any problems were encountered requiring changes in procedures.

APPENDIX E: EMPLOYEE TRAINING PROGRAM

Objectives

Employees who are required to work in a confined space, or in support of those working in a confined space shall have the following training:

- Understand the hazards associated with confined spaces.
  - General hazards and the specific hazards for each confined space that will be entered.
  - Recognition of the signs and symptoms of exposure to a hazard and the consequences of the exposure.
- How the communications will be maintained between the attendant and the workers in the confined space.
- Emergency entry and exit procedures
- Use of respirators and other protective equipment
- First aid and CPR
- Lockout and isolation procedures
- Safety equipment use
- Rescue procedures
- Permit system
- Work practices required under the permit

Supervisor Training

The individual in charge or authorizing the entry shall have additional training on how to evaluate the confined space ensuring that the permit calls for adequate safeguards. This individual needs to know how to use the testing and monitoring equipment and all other aspects of the entry program. This additional training will be arranged by our Management including arrangements with equipment manufacturer's training programs.

Training Certificate

The M2 Concrete & Excavating, Inc. Company will use the training certificate to document training, which contains the name of each employee trained, the signatures of the trainer(s), and the date of the training.

Training Frequency

Training frequency required by the OSHA standard is:

- Before the employee is first assigned duties involving confined space.
- Whenever there is a change in permit space operations that presents a hazard about which an employee has not previously been trained.
- Whenever there are deficiencies in the program and/or employee performance relating to the safety of the confined space entry.

CHAPTER 21: M2 EMPLOYEE CERTIFICATIONS

Forklift Operator Certificates

The following M2 Concrete & Excavating , Inc. Employees are Foreman:

- Adan Olivo
- Julio Olivo
- Alejandro Cordova
- Hector Bailon
- Rafael Ochoa
- Luis Aguirre
- David Nunes
- Juvenal Cortez
- Teo Davalos

Aerial Lift Certifications

Fall Protection Training Certifications

First Aid/CPR Certifications

CHAPTER 22: SAFETY FORMS

CHAPTER 23: SAFETY DATA SHEETS