Health and Safety Program

1950 Waycross Rd.

Cincinnati, OH 45240

513-353-1430 Phone

513-353-1460 Fax

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SAFETY & HEALTH VISION STATEMENT

Queen City Mechanicals, Inc. demonstrates quality, experience and a proactive attitude in managing the safety and health of the work environment for our employees and coworkers. These qualities are used to help exhibit and support our client's existing compliance efforts and provide their operation with a strong sense of security that we are proactively managing this important business function during construction of their project.

One of Queen City Mechanicals, Inc.'s corporate philosophies is to encourage our employees and co-workers to view safety as a "Personal Core Value" both at work and during their personal time.

Another corporate philosophy is to integrate safety and risk management into our daily operations at all levels so that it becomes a natural part of our operation's culture, enhances management/worker cooperation and provides long-term positive results.

Last, but certainly not least, is our corporate philosophy to demonstrate our vested interest in the protection of employees by voluntarily working with various government agencies, associations and groups to assist in promoting safety consistently in all states in which we work.

Bryan Gilbert

President

Queen City Mechanicals, Inc.

Brad Gilbert

Vice President

Queen City Mechanicals, Inc.

POLICY STATEMENT

The Occupational Safety and Health Act of 1970 clearly states our common goal of safe and healthful working conditions. The safety and health of employees continues to be the first consideration in the operation of our business. It is the intent of Queen City Mechanicals, Inc. to comply with all laws, and in some situations stipulate more stringent regulations than required by OSHA.

The management of Queen City Mechanicals, Inc. is dedicated to providing employees and others a safe and healthy working environment on every project in which we are involved. The exercise of consistency, perseverance, conscientiousness and good judgment on the part of all involved in construction work can create an environment in which the occurrence of accidents is substantially reduced.

Queen City Mechanicals, Inc. is committed to providing a Corporate Safety, Health and Environmental Program designed to meet the needs of the ever-changing conditions which are common to our industry. Recognizing that engineering techniques alone are not enough to ensure that exposure to hazards are controlled, the program includes coordination, monitoring, educating and involvement of all levels of personnel responsible for construction of our projects.

Consistent and proactive implementation of risk control measures will be carried out on all projects as Queen City Mechanicals, Inc. strives for successful and safe completion. These components will be executed through the same principles of management control applied to all phases of our projects.

EQUAL EMPLOYMENT OPPORTUNITY (EEO POLICY)

The policy of Queen City Mechanicals, Inc. is to fully comply with applicable federal, state and local laws, rules, regulations and guidelines in the area of nondiscrimination in employment. Discrimination against employees and applicants due to race, color, religion, sex (including sexual harassment), national origin, disability and age (40 years or older) is prohibited. Queen City Mechanicals, Inc., policy supports and is in concurrence with the Taft Administration Policy commitment to prohibit discriminatory employment practices.

Equal Employment Opportunity and Non-Discriminatory behavior commitments with Queen City Mechanicals, Inc. include, but are not limited to, the areas of hiring, promotions, demotions, or transfers, recruitment, layoff or termination, rate of compensation and in-service training. Queen City Mechanicals, Inc. EEO Policy is filed with the State Equal Opportunity Coordinator and further details the company's action plan.

In summary, our EEO Policy outlines the comprehensive commitment to equal opportunity and non-discrimination made by Queen City Mechanicals, Inc. strategies for affirming the company's commitment to Equal Employment Opportunity include the dissemination of this statement to all employees and displaying the required EEO Posters including the Ohio Fair Employment Practices Law.

Persons who believe they have been subject to employment discrimination by a QCM Company employee should contact a member of the Board of Directors to discuss the complaint(s). If it becomes necessary to formalize a discrimination charge, Queen City Mechanicals, Inc. shall make every effort to resolve the complaint(s) within the timeframe established by the Ohio Administrative Rules (See OAC, Chapter 123:1-49)

Queen City Mechanicals, Inc. employees are required to assist in the effort to achieve Equal Employment Opportunities. Any willful or deliberate violation of the EEO Policy by a Queen City Mechanicals, Inc. employee will be subject to appropriate disciplinary action. Any member of the Board of Directors has full authority for the administration of the program.

Bryan Gilbert, President

Brad Gilbert, Vice President

AFFIRMATIVE ACTION PLAN

The employment policies and practices of the Queen City Mechanicals, Inc. are to recruit and to hire employees without discrimination based upon race, creed, color, sec, national origin or disability and to treat them equally with respect to compensation and opportunities for advancement, including upgrading, promotion and transfers.

This company submits this plan to assure compliance with Executive Order #11246 and/or other subsequent orders that may pertain to this program and to reaffirm its continued commitment to a program of Equal Employment Opportunity and merit employment policies.
It agrees to assert leadership within the community and to put forth maximum effort to achieve full employment and utilization of the capabilities and productivity of all our citizens without regard to race, color, sex, national origin, age or disability.

The company further recognizes that the effective application of a policy of merit employment involves more than just a policy statement and will, therefore, undertake a program of Affirmative Action to make known that equal employment opportunities are available on the basis of individual merit and to encourage all persons to seek employment with the company and to strive for advancement on this basis.

Bryan Gilbert, President

Brad Gilbert, Vice President

ASBESTOS POLICY

29-CFR-1926.1101

Asbestos is a mineral derived from the Earth. It is mined much like coal and is used as a thermal barrier against heat. In the late 19th and early 20th centuries, Asbestos was widely used in building materials, laboratory instruments, and automobile parts.

Examples of where Asbestos was used include; anywhere insulation was used in HVAC Systems, particularly Boilers, Pipe Wraps, and Duct Linings. On residential housing it was found in siding tiles, roofing shingles, attic insulation (Vermiculite), pipe insulation, boiler wraps and door linings, floor tiles, window glazing, and all of the adhesives used to attach these products to substrates. Mom even had a pair of oven mitts and trivets for her table and counter tops. Anywhere inexpensive filler was needed such as in floor tile, ceiling tiles, drywall board, joint compound, mastics, window glazing, Asbestos was found. In reality, just about anything that was made using wet methods to mix ingredients together to form a product, Asbestos found its way into the mix.

Asbestos was banned from most products by the U.S.A. in the early 1980's, but many products still are permitted to use Asbestos. Products such as Roofing Cements are still made today with Asbestos. Roofing cement is a thick tar-like substance that contains the fibers of Asbestos making it almost impossible for them to break free and become airborne. Asbestos is still used in products that are banned from using it here in the U.S.A. Products imported from other countries such as Mexico and China contain Asbestos. For this reason, it is important for us to remain vigilant with knowing what to watch for and always request a Material Safety Data Sheet with all new products. We import brake shoes and pads, clutch pads and insulated wire still today that contain Asbestos.

Asbestos will appear naturally in different colors. White, Blue, Brown, with the most common for tradesmen to see is the fluffy white power. This is also the most dangerous! The smaller and fluffier Asbestos becomes, the more likely it is that you will inhale or ingest it. The smaller it is, like needing a microscope to see it, the further it will travel into your lungs.

Once it is in your body, it will remain there for the rest of your life. Once it gets into the air it remains airborne until it is physically removed by HEPA Filtration. If it settles on a surface it will easily get swept up in air currents as people walk by. For this reason, if you suspect Asbestos is present in any area you are working in, leave immediately and contact your supervisor. NEVER attempt to clean up spilled or damaged Asbestos! NEVER! If you damage it accidentally, leave the area and report the damage to building management immediately.

QCM has made the decision that we will not use Asbestos Containing Building Materials (ACBM). Asbestos Containing Materials (ACM) and Presumed Asbestos Containing Materials (PACM) will however crop up in various projects that we take on as we move into the future. It is important that our employees know the following:

1) How to recognize ACBM and PACM.
2) How to recognize damage to ACBM and PACM.
3) How to work in an area containing In-Tact Non-Damaged ACBM and PACM.
4) What to do if they discover damaged ACBM or PACM.

QCM will work in buildings that have Asbestos Containing Building Materials. We will only work in these buildings if the ACBM is undamaged and likely to remain undamaged during the course of our work. If

the ACM, ACBM, or PACM is damaged or likely to become damaged during our work, we will require the building owner to abate the Asbestos prior to our mobilization onto the project.

Building owners are required by USEPA Law to survey their buildings for Asbestos and report the location, type and condition of Asbestos identified to building occupants and companies called to work in those buildings. Once suspected Asbestos is found by any of our employees, we will require the building owner to provide written documentation that the suspect building material has been surveyed and it is safe for us to work.

Any employee or subcontractor of QCM that may encounter asbestos during their assigned work activities must have current annual asbestos awareness training. Specific examples of job titles requiring Asbestos Awareness Training include:

- Project Superintendents.
- Any Hourly employee involved in field demolition of existing structures.
- Any Housekeeping personnel in buildings containing ACBM.

Asbestos Awareness Training is an Annual Requirement. Awareness Training may include such topics as:

- Background information on asbestos.
- Health effects of asbestos
- Worker protection programs
- Potential locations of ACM and Presumed Asbestos-Containing Material (PACM) in buildings
- Recognition of ACM and PACM damage and deterioration
- The O&M program for specific buildings
- Proper response to incidents where damage to ACM occurs

Once you have the knowledge gained from the asbestos awareness training, key things to remember are:

1. You have the right to know where ACM exist in your work space.
2. You are not trained to determine if a material is asbestos, only to recognize materials as a potential hazard.
3. You are not trained or qualified to repair any materials containing asbestos, or to clean up any materials containing asbestos. Walk away, and report.
4. If you see suspect materials, and they have not been disclosed to you through a report, STOP work immediately and report your finding to your supervisor.
5. Supervisors will notify management, and the materials will be assessed by a professional, or the owner will have a report by a professional indicating whether or not the material contains asbestos.

Bloodborne Pathogens Program

Ref: 29-CFR-1910.1030

Queen City Mechanicals, Inc., is committed to providing a safe and healthful work environment for our entire staff. In pursuit of this goal, the following exposure control plan (ECP) is provided to eliminate or minimize occupational exposure to bloodborne pathogens in accordance with OSHA standard 29 CFR 1910.1030, "Occupational Exposure to Bloodborne Pathogens."

The ECP is a key document to assist our organization in implementing and ensuring compliance with the standard, thereby protecting our employees. This ECP includes:

- Determination of employee exposure
- Implementation of various methods of exposure control, including:
    - o Universal precautions
    - o Engineering and work practice controls
    - o Personal protective equipment
    - o Housekeeping

HEPATITIS B VACCINATION

- Post-exposure evaluation and follow-up
- Communication of hazards to employees and training
- Record keeping
- Procedures for evaluating circumstances surrounding exposure incidents

Implementation methods for these elements of the standard are discussed in the subsequent pages of this ECP.

PROGRAM ADMINISTRATION

Safety and Human Resources are responsible for implementation of the ECP. Safety will maintain, review, and update the ECP at least annually, and whenever necessary to include new or modified tasks and procedures. Contact phone number:

Queen City Mechanicals
Robert Wagner
(513) 939-4828
(513) 353-1430

Those employees who are determined to have occupational exposure to blood or other potentially infectious materials (OPIM) must comply with the procedures and work practices outlined in this ECP. ·

Queen City Mechanicals, Inc. safety along with all Job Site Superintendents will provide and maintain all necessary personal protective equipment (PPE), as required by the standard.

The Safety Department will ensure that adequate supplies of the aforementioned equipment are available in the appropriate sizes. Contact Robert Wagner: (513) 939-4828.

The Safety Department will be responsible for ensuring that all medical actions required by the standard are performed and that appropriate employee health and OSHA records are maintained. Contact Robert Wagner: (513) 939-4828.

The Safety Department will be responsible for training, documentation of training, and making the written ECP available to employees, regulators or owner representatives. Contact Rob Wagner: (513) 939-4828.

EMPLOYEE EXPOSURE DETERMINATION

Anytime work is performed with tools or equipment, the potential exists that an injury can occur which causes a potential for exposure to BBP. Employees who are trained to perform CPR / First Aid are at the greatest risk. But these risks can be encountered by anyone working in a construction space due to the nature of the work.

METHODS OF IMPLEMENTATION AND CONTROL UNIVERSAL PRECAUTIONS

All employees will utilize universal precautions when giving first aid/CPR or cleaning up a Bloodborne Pathogens (BBP) incident. Universal Precautions means that under no circumstance will any part of the employee's body or clothing in direct contact with the employee, be Permitted to touch bare body parts, body fluids, contaminated clothing, or materials of another person without the employee wearing approved barrier gloves, clothing and PPE.

There will be hand washing facilities or product available for all exposure incidents.

EXPOSURE CONTROL PLAN

Employees covered by the bloodborne pathogens standard receive an explanation of this ECP during their initial training session. It will also be reviewed in their annual refresher training. All employees can review this plan at any time during their work shifts by contacting The Safety & Human Resources Managers. If requested, we will provide an employee with a copy of the ECP free of charge and within 15 days of the request. The Safety Manager is responsible for reviewing and updating the ECP annually or more frequently if necessary to reflect any new or modified tasks and procedures that affect occupational exposure and to reflect new or revised employee positions with occupational exposure.

ENGINEERING CONTROLS AND WORK PRACTICES

Engineering controls and work practice controls will be used to prevent or minimize exposure to bloodborne pathogens. Sharps disposal containers are not required since Queen City Mechanicals, Inc., Inc. is not a licensed medical facility. Any sharps generated in the course of first aid or CPR should be disposed of by the medical personnel using them. If they fail then following universal precautions, QCM employees will contain the sharps in a liquid-tight, closed, sharps safe container and dispose of them in an outside dumpster. They will not be placed in any waste container that must then be emptied to the dumpster.

Both front-line employees and management officials are involved in this process in the following manner: Anyone becoming aware of a change in products or procedures is to communicate in writing to the Safety Manager the information they have found.

The Safety and Human Resources Managers are responsible for ensuring that these recommendations are implemented if they are found to be appropriate and applicable.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

PPE is provided to our employees at no cost to them. Training in the use of the appropriate PPE for specific tasks or procedures is provided by the Safety Department. The types of PPE available to employees are as follows:

- Eye and Face Protection
- Hand Protection such as surgical gloves

PPE is located in the warehouse at the shop and in the job trailer at all major job sites and may be obtained through the Safety Department or Job Site Superintendent.

All employees using PPE must observe the following precautions:

- Wash hands immediately or as soon as feasible after removing gloves or other PPE.
- Remove PPE after it becomes contaminated and before leaving the work area
- Used PPE may be disposed of in outside trash dumpsters. If it is visibly soiled with potential Bloodborne Pathogens, then it must be placed in a liquid-tight container prior to be disposed of in the trash dumpster. Liquid –tight containers can be as simple as a zipper lock food storage bag.
- Wear appropriate gloves when it is reasonably anticipated that there may be hand contact with blood or OPIM, and when handling or touching contaminated items or surfaces; replace gloves if torn, punctured or contaminated, or if their ability to function as a barrier is compromised.
- Wear appropriate face and eye protection when splashes, sprays, spatters, or droplets of blood or OPIM pose a hazard to the eye, nose, or mouth.
- Remove immediately or as soon as feasible any garment contaminated by blood or OPIM, in such a way as to avoid skin contact with the outer surface.
- Wash any areas of the skin that have or may have been in contact with blood or other OPIM.
- All PPE used in Bloodborne Pathogens exposure activities including cleanup will be discarded.

HOUSEKEEPING

Regulated waste is placed in containers which are closable, constructed to contain all contents and prevent leakage, and closed prior to removal to prevent spillage or protrusion of contents during handling. All wastes associated with First Aid and CPR or any cleanup labeled BBP clean-up will be collected by the employee conducting the clean-up and disposed of in appropriate liquid tight containers placed into an outside trash dumpster which is emptied without need for human touch.

If a bucket, Bin or Pail is used to clean up a BBP, the bucket, bin or pail may be cleaned with the same disinfectant used to clean other surfaces. The disinfectant will be a household bleach and water mixture. A 10% household bleach solution can be made by mixing one-part household bleach with 9 parts water. The bleach should remain in contact with the spill or waste material for approximately 20 minutes to ensure adequate germicidal action. Decontaminated liquid biological waste may then be poured into a sanitary sewer drain. If it cannot be adequately cleaned due to earlier stuck-on debris, the bucket, bin or pail will be disposed of as a BBP Contaminated Waste. If it is not feasible to disinfect any

other clean up tools that may be used such as mops or rags, these items are to be disposed of in an outside dumpster.

HEPATITIS B VACCINATION

The Safety Department will provide training to employees on hepatitis B vaccinations, addressing safety, benefits, efficacy, methods of administration, and availability. The hepatitis B vaccination series is available at no cost after initial employee training and within 10 days of initial assignment to all employees identified in the exposure determination section of this plan. Vaccination is encouraged unless:

1) Documentation exists that the employee has previously received the series;
2) Antibody testing reveals that the employee is immune; or
3) Medical evaluation shows that vaccination is contraindicated.

However, if an employee declines the vaccination, the employee must sign a declination form. Employees who decline may request and obtain the vaccination at a later date at no cost. Documentation of refusal of the vaccination will be kept at on a Master List in the Human Resources Department and individually in each employee's medical record file or if none exists their Employee file. Vaccination will be provided by any licensed health care provider approved by the company.

POST-EXPOSURE EVALUATION AND FOLLOW-UP

Should an exposure incident occur, contact Robert Wagner at the following number: (513) 939-4828. An immediately available confidential medical evaluation and follow-up will be conducted by the licensed health care provider of the employee's choice. Following initial first aid (clean the wound, flush eyes or other mucous membrane, etc.), the following activities will be performed:

- Document the routes of exposure and how the exposure occurred.
- Identify and document the source individual (unless the employer can establish that identification is infeasible or prohibited by state or local law).

- Obtain consent and make arrangements to have the source individual tested as soon as possible to determine HIV, HCV, and HBV infectivity; document that the source individual's test results were conveyed to the employee's health care provider.

- If the source individual is already known to be HIV, HCV and/or HBV positive, new testing need not be performed.

- Assure that the exposed employee is provided with the source individual's test results and with information about applicable disclosure laws and regulations concerning the identity and infectious status of the source individual (e.g., laws protecting confidentiality).

- After obtaining consent, collect exposed employee's blood as soon as feasible after exposure incident, and test blood for HBV and HIV serological status

- If the employee does not give consent for HIV serological testing during collection of blood for baseline testing, preserve the baseline blood sample for at least 90 days; if the exposed employee elects to have the baseline sample tested during this waiting period, perform testing as soon as feasible.

ADMINISTRATION OF POST-EXPOSURE AND FOLLOW-UP EXAMINATION

The Safety and Human Resources Departments will ensure that health care professional(s) responsible for employee's hepatitis B vaccination and post exposure evaluation and follow-up are given a copy of OSHA's bloodborne pathogens standard. The Safety & Human Resources Department will ensure that the health care professional evaluating an employee after an exposure incident receives the following:

- a description of the employee's job duties relevant to the exposure incident
- route(s) of exposure
- circumstances of exposure
- if possible, results of the source individual's blood test
- relevant employee medical records, including vaccination status

The Safety & Human Resources Departments will provide the employee with a copy of the evaluating health care professional's written opinion within 15 days after completion of the evaluation.

EMPLOYEE TRAINING

All employees who have occupational exposure to bloodborne pathogens receive initial and annual training conducted by the Safety Department either internally or through an outside vendor skilled in this topic area. All employees who have occupational exposure to bloodborne pathogens receive training on the epidemiology, symptoms, and transmission of bloodborne pathogen diseases. In addition, the training program covers, at a minimum, the following elements:

- a copy and explanation of the OSHA bloodborne pathogen standard
- an explanation of our ECP and how to obtain a copy
- an explanation of methods to recognize tasks and other activities that may involve exposure to blood and OPIM, including what constitutes an exposure incident
- an explanation of the use and limitations of engineering controls, work practices, and PPE
- an explanation of the types, uses, location, removal, handling, decontamination, and disposal of PPE
- an explanation of the basis for PPE selection
- information on the hepatitis B vaccine, including information on its efficacy, safety, method of administration, the benefits of being vaccinated, and that the vaccine will be offered free of charge
- information on the appropriate actions to take and persons to contact in an emergency involving blood or OPIM
- an explanation of the procedure to follow if an exposure incident occurs, including the method of reporting the incident and the medical follow-up that will be made available

- information on the post-exposure evaluation and follow-up that the employer is required to provide for the employee following an exposure incident

RECORD KEEPING

Training records are completed for each employee upon completion of training. These documents will be kept for at least three years at the Safety or Human Resources Office.

MEDICAL RECORDS

Medical records are maintained for each employee with occupational exposure in accordance with 29 CFR 1910.1020, "Access to Employee Exposure and Medical Records." The Human Resources office is responsible for maintenance of the required medical records. These confidential records are kept in Human Resources Department for at least the duration of employment plus 30 years.

Employee medical records are provided upon request of the employee or to anyone having written consent of the employee within 15 working days. Such requests should be sent to QCM Human Resources Manager.

OSHA RECORD KEEPING

An exposure incident is evaluated to determine if the case meets OSHA's Record keeping Requirements (29 CFR 1904). This determination and the recording activities are done by QCM Safety Director.

HEPATITIS B VACCINE DECLINATION (MANDATORY)

I understand that due to my occupational exposure to blood or other potentially infectious materials I may be at risk of acquiring hepatitis B virus (HBV) infection. I have been given the opportunity to be vaccinated with hepatitis B vaccine, at no charge to myself. However, I decline hepatitis B vaccination at this time. I understand that by declining this vaccine, I continue to be at risk of acquiring hepatitis B, a serious disease. If in the future I continue to have occupational exposure to blood or other potentially infectious materials and I want to be vaccinated with hepatitis B vaccine, I can receive the vaccination series at no charge to me.

Signed: (Employee Name) _____

Date: _____

COMPRESSED GAS CYLINDERS

Reference: 29 CFR 1910.101; 1926.350;CGA standards

PURPOSE

The purpose of this policy is to ensure employees handle Compressed Gas Cylinders safely and properly.

BASIC REQUIREMENTS

Various agencies, including local, state and federal agencies and industry trade associations all play a part in and offer various rules on safe use, storage, handling and transportation of Compressed Gas Cylinders. The main regulator we will pay attention to is OSHA which incorporates the Compressed Gas Association rules in their standards.

1. Prior to ordering or shipping Compressed Gas Cylinders to a job site, Superintendents and Project Managers will ensure that a secure area is set up to store the cylinders once they arrive.
   - Cylinders must be stored away from high traffic areas; in an area secured from unauthorized use; stored upright and secure from falling over; with Oxidizers stored separate from Fuels by at least 20 feet or separated by a 30 minute, 5-foot-high fire wall. This can be accomplished in the field with a cylinder cart.
   - Cylinders must be protected from strong sunlight and protected from heat sources.
   - Once a Cylinder is removed from bulk storage, it retains these same requirements. It must be transported in an upright position, with its cap in place, and apart from mixing fuels with oxidizers.
   - Regulators, hoses, and torches will not be attached during transport.
   - An ABC Fire Extinguisher of sufficient size, will be positioned within 50 feet, but not within 10 feet of any Compressed Gas Cylinder – regardless of contents.
   - When working with Acetylene or other fuel torches, an ABC Fire Extinguisher will be within reach of the employee using the torch.
   - For any Hot Work on a construction site, or during maintenance for a customer of QCM, a Fire Watch trained in Incipient Fire measures will be in place for at least (30) minutes after hot work is complete. The Fire Watch cannot be the same person who is performing the hot work. See the Hot Work policy for further detail.
2. All gas cylinders must be clearly marked (stamped or stenciled) or labeled with the contents of the cylinder. No cylinders will be accepted from a supplier without the proper labeling.
3. When cylinder caps cannot be removed, they will be marked “Do Not Use” and returned to the proper storage area for return to the supplier. It will be returned A.S.A.P. to guard against employees forcing the cap.
4. Upon receipt and prior to use, all cylinders will be inspected to be sure they are in safe condition.
5. Prior to application and use, all regulators will be inspected to be sure they are the correct regulator, they are in good condition and they are, along with cylinder valves, free of grease, oil, dirt and solvents.

6. Some cylinders require special tools to open and close the valves. Only tools provided by the supplier will be used for this purpose.
7. All cylinders will be stored properly and secured at all times to prevent being knocked over or damaged. They are to be stored in upright (vertical) positions, not stored in public areas or walkways, segregated based on contents.
8. Cylinders must be capped when not in use.
9. Inside of buildings, cylinders will be stored in well protected, well ventilated, dry locations. Cylinders are never to be stored in unventilated locations such as gang boxes.
10. Designated and marked storage areas have been set aside for full and empty cylinders. These areas are specifically assigned so they are away from stairs, gangways, elevators, etc.
11. Special materials handling equipment is available for the transport of cylinders. Regulators should be removed, the cylinders capped, and a cylinder basket or cart is to be used for transport. No cylinders shall be dropped or permitted to strike any other object or the floor violently.
12. Protective caps are never to be used to lift or otherwise move a cylinder.
13. Hoses and connections are inspected regularly for damage and stored in a cool dry place.
14. Leaking cylinders will be moved to an isolated well ventilated area and away from ignition sources. Soapy water will be used to detect and verify leaks. If the leak is at the junction of the cylinder and valve, the supplier will be contacted immediately for response instructions
15. Cylinders no longer needed are to be marked EMPTY or MT. Empty cylinders are to be handled as carefully as full cylinders.
16. Gases are never to be mixed in a cylinder and only trained professionals are permitted to refill cylinders.
17. On-Highway Transport on QCM vehicles is limited to not more than three 120lb. 5-foot-high Compressed Gas Cylinders. This is regardless of full or empty, and the separation rules for oxidizers and fuels still apply as does the fire protection rules. QCM is restricted to less than 440lbs. of Hazardous Materials on any one vehicle at any time. Gas and Diesel Cans count towards that threshold limit. Fuel Tanks mounted in the bed of pickup trucks are limited to less than 119 gallons and must be placarded.
18. Employees must be trained on the proper use, handling, and storage of compressed gas cylinders. This training will be documented with the trainer's name, date and name of the trainee.

Concrete & Masonry Policy

Reference: 29 CFR 1926.700~.706 Appendix A (included)

PURPOSE

To ensure a safe work environment for our employees and clients while engaged in Concrete and Masonry Work.

DEFINITIONS APPLICABLE TO THIS POLICY

In addition to the definitions set forth in 1926.32, the following definitions apply to this policy:

1) "Bull float" means a tool used to spread out and smooth concrete
2) "Formwork" means the total system of support for freshly placed or partially cured concrete, including the mold or sheeting (form) that is in contact with the concrete as well as all supporting members including shores, re-shores, hardware, braces, and related hardware.
3) "Lift slab" means a method of concrete construction in which floor, and roof slabs are cast on or at ground level and, using jacks, lifted into position.
4) "Limited access zone" means an area alongside a masonry wall, which is under construction, and which is clearly demarcated to limit access by employees.
5) "Precast concrete" means concrete members (such as walls, panels, slabs, columns, and beams) which have been formed, cast, and cured prior to final placement in a structure.
6) "Re-shoring" means the construction operation in which shoring equipment (also called re-shores or re-shoring equipment) is placed, as the original forms and shores are removed, in order to support partially cured concrete and construction loads.
7) "Shore" means a supporting member that resists a compressive force imposed by a load.
8) "Vertical slip forms" means forms which are jacked vertically during the placement of concrete.
9) "Jacking operation" means the task of lifting a slab (or group of slabs vertically from one location to another (e.g., from the casting location to a temporary (parked) location, or to its final location in the structure), during the construction of a building/structure where the lift-slab process is being used.

GENERAL REQUIREMENTS: CONSTRUCTION LOADS: No construction loads shall be placed on a concrete structure or portion of a concrete structure unless the employer determines, based on information received from a person who is qualified in structural design, that the structure or portion of the structure is capable of supporting the loads.

REINFORCING STEEL: 1) All protruding reinforcing steel, onto and into which employees could fall, shall be guarded to eliminate the hazard of impalement.

POST-TENSIONING OPERATIONS: 2) No employee (except those essential to the post-tensioning operations) shall be permitted to be behind the jack during tensioning operations. 3) Signs and barriers shall be erected to limit employee access to the posttensioning area during tensioning operations.)

RIDING CONCRETE BUCKETS

No employee shall be permitted to ride concrete buckets.

WORKING UNDER LOADS

No employee shall be permitted to work under concrete buckets while buckets are being elevated or lowered into position. To the extent practical, elevated concrete buckets shall be routed so that no employee, are exposed to the hazards associated with falling concrete buckets.

WET CONCRETE

When working with wet concrete, either directly from a concrete truck or through a boom concrete pump truck or mixed in a bucket or wheel barrow, concrete has risks associated with its use. Concrete is acidic, it is harmful to human skin, especially mucous membranes, eyes and non-intact skin. For this reason, personal protective equipment required for working with this includes: Hard Hat, Sturdy Work Boots, preferably tall rubber boots, jersey gloves, and safety glasses are required as is a means of emergency eye wash. The hard hat is required on any job, as is sturdy work boots; tall rubber boots will protect your work boots and lower pant legs from the concrete; rough contact gloves such as leather or jersey work gloves will keep your hands away from the caustic concrete and shield them from wear and tear while using concrete forming tools such as trowels, floats and the like; finally safety glasses are required due to concrete's likelihood of splashing. A means of Emergency Eye Wash is also required on the job site in case someone is splashed in the eye with wet concrete. Ergonomic issues are also very prominent on Wet Concrete jobs. Wet Concrete is heavy and dense. Be mindful of your body position to avoid over-exertion particularly with your low back and shoulders.

DRY CONCRETE

Dry Concrete creates the problem of dust when saw cut. Unless, cut using water for dust suppression, dry cutting concrete can release high levels of silica dust which is Not Acceptable. Silica exposure causes a serious long term health issue, silicosis, which impairs the functioning of the lungs, and can cause premature death. For this reason, we will only saw cut concrete when wet cutting methods can be used or point of operation HEPA dust collection is used to capture concrete dust.

Saw cutting or jackhammering operations must include some form of dust control, preferably a wet method. In addition, any cleanup efforts such as sweeping, must be performed with a dust control method such as throwing floor sweep products before sweeping or brooming.

CONFINED SPACE ENTRY PROGRAM

Purpose

This policy establishes Queen City Mechanical's guidelines for working in confined spaces that may contain hazardous atmospheres or other hazards, e.g. falls, converging walls, hazardous energy, etc. QCM shall provide training for all employees whose work is regulated by this section.

It is important to note that this policy applies to both employees and contractors who may perform confined space entries at QCM work sites. It is the responsibility of the QCM jobsite representative to ensure that both groups follow this policy. If the host facility has a comparable, or more stringent CSE program, QCM will defer to the host facility program and guidelines.

1) DEFINITIONS

A confined space is defined to be one that is:

A. Large enough and configured such that a coworker can enter and perform the assigned work,
B. Has limited means of entry or exit, and
c. Is not designed for continuous occupancy by coworkers or contract personnel.

Examples include pipelines, stabilization tanks, storage tanks, P-tanks, vessels, silos, pits, storage bins, hoppers and vaults.

2) A hazardous atmosphere is any atmosphere that may expose coworkers to the risk of injury, death, incapacitation or acute illness from one or more of the following causes:

I. Flammable gas, vapor or mist in concentrations in excess of 10 percent of its lower flammable limit (LFL);
II. Airborne combustible dust in concentrations that meet or exceed its LFL (obscures vision at 5 feet – 1.52m or less);
III. Atmospheric oxygen concentration below 19.5 percent or above 23.5 percent;
IV. Atmospheric concentration of any substance in excess of the permissible exposure limit published in OSHA's 29 CFR 1910.1000, Subpart Z, e.g. H2S @ 10 ppm time-weighted average for 8 hours (TWA) or 20 ppm ceiling limit. For locations outside the U.S., exposure limits defined by law in the respective governing jurisdiction shall be used if those limits are more stringent than OSHA.
V. Atmospheric concentration of naturally occurring radioactive material of 50 micro-roentgens or more;
VI. Any other atmospheric condition that is immediately dangerous to life or health.

3) DETERMINING PERMIT-REQUIRED CONFINED SPACE

A permit-required confined space means a confined space that has one or more of the following characteristics:

A. Contains or has a potential to contain a hazardous atmosphere;
B. Contains a material that has the potential for engulfing an entrant;
C. 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

D. Contains any other recognized serious safety or health hazard, e.g. possible exposure to hazardous energy, falls, heat stress, etc.

E. Each affected coworker must be trained prior to initial assignment, prior to a change in assigned duties, if a new hazard has been created or special deviations have occurred.

All confined spaces that are permit-required for entry permit must have portable or fixed danger signs posted at all points of entry (portals, manways) to the confined space. Signs shall state:

DANGER – PERMIT-REQUIRED CONFINED SPACE – DO NOT ENTER

Work in such confined space will not be allowed until a Confined Space Entry Permit Form is completed and a safety meeting has been held to understand and review all items of the permit. Permits must have an expiration time and will only be valid for the shift which the work started. The permit shall be placed in a transparent envelope or large zip-lock bag at the entrance (portal, manway) to the confined space during performance of work. A copy of the form shall be retained on file at the office of the worksite for at least one year upon completion of the work.

4) DETERMINING NON-PERMIT REQUIRED CONFINED SPACE

A non-permit required confined space is a space that does not contain or have the potential to contain any hazards capable of causing death or serious physical harm.

Following this section is a form titled, "Certification for Non-Permit Entry". Non-permit certification is only valid for a specific job task in a specific confined space. The non-permit certification must be reviewed and signed by the entrant before entry.

The jobsite safety representative and/or competent person is responsible for developing or obtaining inspection and monitoring data to support the claim of "no potential hazardous atmospheres" in a non-permit required certification. If entry is necessary to obtain sampling data of the space atmosphere, entry shall be performed in compliance with the permit-required procedures of this policy. The testing of potentially hazardous atmospheres is accomplished as follows:

- Safely removing entrance or manway cover.
- Guarding the entrance with a barrier.

C. Testing internal atmosphere with a calibrated, direct-reading instrument, in the following order:

- Oxygen content (lack of oxygen will cause erroneous readings of flammables and toxins).
- Flammable gases and vapors.
- Potential toxic air contaminants.
- Documenting test results on the attached Pre-Entry/Entry Checklist.

***NOTE*:** Gases have different densities and may stratify in layers. Gases heavier than air (specific gravity greater than 1.0) will accumulate in the lower parts of the confined space, and gases lighter than air (specific gravity less than 1.0) will accumulate in the higher parts of the confined space. Test space before entering at 4-foot intervals, throughout the entire direction of travel and from side to side.

If changes occur in the hazard assessment or use of the confined space, the Safety manager will reevaluate the space following the same procedure. No one is permitted to enter a confined space without reviewing the procedures, obtaining a permit (if required) and complying with the provisions of this policy.

CONFINED SPACE PROGRAM

CERTIFICATION FOR NON-PERMIT ENTRY

Confined Space Name & No._____

Job Task(s) for Non-Permit Entry:_____

Date of Non-Permit Classification: _____ Expiration Date: _____

Signature of Competent Person: _____ Date: _____

This certification must be completed by the Competent Person to allow entry into a confined space that is classified as a Non-Permit confined space for a specific job task. This certification is only issued under the conditions set forth in the written entry procedures below. Work that may produce hazards of unacceptable limits may not be performed under this non-permit entry process. Entry under this Certification is authorized only when all hazards have been eliminated. Control of atmospheric hazards through ventilation does not constitute elimination of the atmospheric hazards.

This Certification shall be signed by each coworker before entering this confined space.

The following safety controls are needed for eliminating all hazards for the above job task(s) to be performed in this confined space.

There shall be no actual or potential atmospheric hazards during a Non-Permit Confined Space Entry.

i. Oxygen levels must be between 19.5% and 22%.
ii. There must be no potential for a flammability level at 10% of LEL.
iii. There must be no potential for a toxic exposure to a contaminant.
iv. Hot Work is generally not permitted in a Non-Permit Entry.

The following are Process Lines which must be isolated for this confined space entry:

_____
_____
_____

Note: Process Line isolation is achieved either by a double block and bleed system or installation of a blinded flange rated at the process maximum working pressure.

_____
_____
_____
_____

Mechanical, Electrical, Hydraulic, and Pneumatic Equipment which must be locked and tagged:

_____
_____
_____
_____
_____

Personal Protective Equipment which must be worn by the entrant:

Example: Safety hat, type of eye protection, type of hand and foot protection, hearing protection, etc.

_____
_____
_____
_____

Personal Fall Protection Equipment which must be worn by the entrant:

_____
_____
_____
_____

Note: A personal fall arrest system including lanyard, full body harness, and a means of mechanical retrieval is required when the depth of the pit/hole exceeds five feet.

An attendant will / will not be required for this entry.

Note: The Supervisor must determine if an attendant is required for this entry.

I certify that the above safety controls will be utilized during my entry into this confined space. I also certify that I am only approved to perform the job tasks which are listed above by the Entry Supervisor and Competent Person.

Signature of Entrant: _____ Date: _____

Signature of Entry Supervisor: _____ Date: _____

Signature of Competent Person: _____ Date: _____

5) PERMIT REQUIRED CONFINED SPACE ENTRY REQUIREMENTS

A. Site Plan

All locations containing confined spaces shall create a written site-specific plan documenting procedures for entering each confined space, including whether or not a permit is required. The plan shall include, at a minimum: Entry permit means the written or printed document that controls entry into a confined space.

- Assessment of the confined space hazards.
- Safety controls necessary while in the confined space.
- Personal protective equipment to be used.
- Rescue plans and designated rescue team.
- Rescue equipment, which might be needed, including a retrieval line(s) and hoist.
- Methods for ongoing communication between entrants, attendants, entry supervisors, and rescue team.
- Tools or other special equipment needed.
- Specific procedures for authorized entrants, attendants, entry supervisors, and rescue/emergency services.

B. Preparation of the Confined Space

The jobsite representative shall evaluate the worksite to determine if there are any confined spaces according to the definition of this policy.

Once a space is identified as a confined space it must be determined if it is either a permit or non-permit required confined space.

Before entering the interior of a confined space (regardless of whether or not a permit is required), it shall be drained and flushed of any remaining residues. Disconnect or double block and bleed all lines to the space, which may carry harmful agents to ensure that no vapors or fluids can leak into the confined space. Lock out and tag out all necessary pumps, motors or any other energy sources to ensure complete isolation of the confined space. All established lockout / tagout procedures for equipment isolation shall be followed. (See Lockout / Tagout policy).

The space shall be purged and mechanical ventilation should be considered prior to entering confined space unless conditions prevent use. Ventilation equipment must be classified for the hazardous location in which it will be used i.e., ventilators designed for use in a Class I, Division I atmosphere (flammable gases and vapors).

The site confined space program will include provisions & procedures for pedestrian, vehicle & other barriers as necessary to protect entrants from external hazards & a method for verifying that conditions in the permit space are acceptable for entry during its duration.

Special consideration shall be given to tanks that are being purged with inert gas due to oxygen depletion. Flammable (LEL) gas monitors will not accurately measure flammable gases in a tank being purged with an inert gas. Special instruments, such as an MSA tank scope, must be used to accurately monitor for flammable gases in an inert atmosphere.

C. Pre-entry/Entry Checklist and Permit

In the absence of a host facility equivalent, the forms contained at the end of this policy are necessary for completion prior to entering the permit-required confined space and are described below. The Checklist and permit shall be completed by the entry supervisor and shall be reviewed by the entrants and attendants during the pre-entry meeting. Both the Checklist and the Entry Permit are designed to be self-explanatory.

. Confined Space Pre-Entry / Entry Checklist

This form must be completed prior to the completion of the entry permit. Only when the box indicating "OK to enter? Yes" is approved can the Entry Permit be completed.

. Confined Space Entry Permit

The Entry Permit can only be completed after the Pre-Entry / Entry Checklist has been approved. The following boxes on the permit form must be completed before entry is permitted: "Basic Entry Data" "Project Log" and "Begin" in the Monitoring Log section. Only when the atmospheric monitoring indicates that the air is acceptable per the parameters on the "OK Entry Level" column can entry begin. Continuous atmospheric monitoring with an audible alarm is required during the entire entry period. Monitoring results shall be recorded on 2-hour intervals as indicated on the permit form.

Cancellation procedures for the permit include writing "cancelled" across the face of the form. No personnel may be in the confined space if the form is cancelled.

The program will include procedures for reviewing the entry operations that may not provide enough protection for coworkers & for revising the program prior to subsequent entries. Examples of program review are: Any unauthorized entry of a confined space, a hazard no covered by the permit, the occurrence of an injury or near miss, coworker complaints.

D. Pre-entry Meeting

In addition to the pre-planning required for a successful confined space entry, the entry team shall meet prior to entry and review the following:

- Pre-Entry / Entry Checklist
- Entry Permit. Once reviewed and approved, each member of the team shall sign their initials on the permit next to their name indicated in the Basic Entry Data section of the permit.
- Personal Protective Equipment
- Rescue equipment
- Rescue plan and procedures
- Monitoring equipment
- Current monitoring results
- Unusual situations which may be encountered and how to manage them. Entry operations that may not provide enough protection for coworkers shall cause the entry to be cancelled.

E. Testing and Monitoring Confined Space Atmospheres

Atmospheres of permit-required confined spaces shall be tested with a calibrated, direct-reading instrument in the following order: Monitoring of the space must inform the entrants of the potential

hazards and results; they must participate in the permit review and signing. Ventilation must be used & testing must be conducted before entry & during work.

- Oxygen content: The percentage of oxygen for unprotected entry into a confined space shall be no less than 19.5 percent or no greater than 23.5 percent.
- Flammable gases and vapors measured as LFL. LEL measurement must be less than 10% LEL.
- Potential toxic air contaminants, such as hydrogen sulfide (H2S) or carbon monoxide. (CO).

Testing shall occur as close as practical to the commencement time of the work and shall be recorded on the Entry Permit. Testing shall be performed continuously while personnel are inside the confined space. In the case where entry is necessary for atmospheric testing, the individual performing the test shall wear a SCBA (self-contained breathing apparatus) or airline positive pressure respirator with escape bottle. Proper respiratory protection procedures shall be followed. See Respiratory Protection Program in this manual.

Continuous atmospheric monitoring shall be conducted with the gas monitor. The monitor shall activate an alarm whenever atmospheric conditions exceed the parameters indicated in the Entry Permit. Whenever the alarm sounds all entrants shall stop work, don escape respirators, and immediately evacuate the space.

Depending upon the size of the confined space, additional gas monitors may be needed for thoroughly monitoring the atmosphere.

Coworkers or their representatives are entitled to request additional monitoring at any time.

F. Ventilation

Continuous ventilation must be provided in the confined space in a volume sufficient to maintain acceptable atmospheric conditions in accordance with the parameters in the Monitoring log section of the Entry Permit.

G. Multi-team Entry Coordination

Whenever more than one team is entering the confined space, such as in a multi-employer worksite, a pre-entry meeting is required to plan the following:

- Assignment of attendants to each confined space. At least one attendant will be available to monitor each confined space entered at every site. If more than one space is entered at one time, then a separate attendant shall be required for each space entered. The only responsibility each attendant shall have is monitoring the entry without distraction from any and all other responsibilities.
- Number of entrants of each team
- Work to be performed by each team and associated hazards of each job.
- Entry duration of each team
- Planning of rescue procedures. Retrieval method and equipment to be employed in an emergency. Plan for non-entry retrievals if possible.
- Methods of communication between team and coordinating entry operations for multi employers so that coworkers of one employer do not endanger the coworkers of any other employer.
- Other issues specific to the entry.

H. Personal Protective Equipment

Entry into permit-required confined spaces is strictly prohibited without proper personal protective equipment and gas monitoring. Company personnel authorized to enter toxic, oxygen deficient, or combustible atmospheres shall be provided with proper respiratory equipment. This equipment shall be checked prior to use to ensure operability; users shall adhere to the Respiratory Protection Program. Contract personnel entering a hazardous atmosphere shall provide their own respiratory equipment and adhere to a respiratory program that is as stringent as this program.

Persons entering confined spaces that may potentially have a hazardous atmosphere will wear full-body harnesses attached to lifelines. Lifelines shall extend to the attendants who may use the lines for non-entry retrieval of a victim.

PPE is provided to coworkers at no cost to the coworker.

I. Rescue and Emergency Services

. Training:

Rescue team members shall be trained in accordance with the rescue team training requirements Section 7, paragraph B. Rescue members shall maintain current certifications in First Aid and CPR.

. Outside rescue services:

An outside rescue service must be pre-screened and approved by written contract. If there is reliance on QCM for providing any rescue equipment or services, this must be stated and agreed to in the contract. Once an outside rescue service has been selected, the outside rescue service company must be notified whenever a confined space entry event will occur and confirm that their service is available for rescue. When rescue plans include use of an outside rescue service, QCM shall adhere to the following guidelines:

- Confined Space Assessments and Rescue Drills. The rescue service contractor shall assess the confined spaces at the worksite for the purpose of developing its rescue plans and procedures. Plans shall be tested through rescue drills.
- When summoned for rescue, the rescue service contractor shall be informed of the expected hazards which may be encountered.

Non-entry rescue procedures

Retrieval systems for non-entry rescues shall be available whenever an authorized entrant enters a permit space unless the retrieval equipment would increase the overall risk of entry or would not contribute to the rescue of the entrant. Retrieval systems shall meet the following requirements:

- Each authorized entrant shall use a chest or full body harness with a retrieval line attached at the center of the entrant's back near shoulder level. Wristlets may be used in lieu of the chest or full body harness in the event the chest or full body harness is infeasible or creates a greater hazard and that the use of the wristlets offers a better alternative.

- The other end of the retrieval line shall be attached to a fixed point outside the permit space in such a manner that rescue can begin as soon as the attendant becomes aware that rescue is necessary. A mechanical device shall be available to retrieve personnel from permit spaces having a vertical drop of more than 5 feet from the point of entry.
- Material Safety Data Sheets

If an injured entrant is exposed to a substance for which Safety Data Sheets (SDS) are available at the worksite, the SDS shall be made available to the medical facility treating the exposed entrant.

6. RESPONSIBILITIES OF AUTHORIZED ENTRANTS, STANDBY PERSON(S) (ATTENDANTS), ENTRY SUPERVISORS AND RESCUE PERSONNEL

Regardless of whether a permit is required to enter a confined space, an attendant shall be posted outside the entry/exit of the confined space while the entrant(s) is inside; the attendant shall continuously monitor the entrant's status and summon for rescue service if an emergency should arise. Circumstances may require more than one attendant to be posted at different entry points. If the atmosphere requires SCBA, the attendant must have ready their respiratory protective equipment (SCBA or supplied-air) for emergency use. If the entrant(s) inside the confined space is in distress, the attendant shall first summon for rescue service and then attempt retrieval of the entrant via the entrant's lifeline.

The attendant shall be in continual communication by the most practical means available with the entrant.

A. Duties of authorized entrants:

- Know the hazards that may be faced during entry, including signs and symptoms of a hazardous exposure,
- Proper use of entry and rescue equipment,
- Communicate with the attendant as necessary to permit the attendant to monitor the entrant's status and to enable the attendant to alert entrants of the need to evacuate the space,
- Alert the attendant whenever the entrant recognizes any warning signs or symptoms of a dangerous situation, or the entrant detects a prohibited condition,
- Exit from the permit space as quickly as possible whenever any of the following occurs:
  - An order to evacuate is given by the attendant or the entry supervisor,
  - The entrant recognizes any warning signs or symptoms to a dangerous situation,
  - The entrant detects a prohibited condition or an alarm from the gas monitor,
  - An evacuation alarm is activated.

B. Duties of attendants:

- Knows the hazards that may be faced during entry, including signs and symptoms of a hazardous exposure,
- Authorized positions MUST BE listed and specific
- Aware of possible behavioral effects in authorized entrants due to a hazardous exposure.
- Continuously maintain an accurate count of authorized entrants in the permit space,

- Remain outside the permit space during entry operations until relieved by another attendant. If rescue entry is needed, the attendant must first be relieved by another attendant before making entry. Attendants can only make rescue entries if trained and equipped for rescue service.
- Communicate with authorized entrants as necessary to monitor entrants' status and to alert entrants of the need to evacuate.
- Continually monitor activities inside and outside the space to determine if it is safe for entrants to remain in the space and order entrants to evacuate under the following conditions:
    - If the attendant detects a prohibited condition;
    - If the attendant detects behavioral effects in the entrant(s) due to a possible hazardous exposure;
    - If the attendant detects a situation outside the space that could endanger the entrant(s), or
    - If the attendant cannot effectively and safely perform all the duties required of an attendant.
- Summon rescue and other emergency services as soon as the attendant determines that entrants may need assistance to escape from the permit space;
- Take the following actions when unauthorized persons approach or enter a permit space:
    - Warn the unauthorized persons that they must not enter the permit space;
    - Advise the unauthorized person that he/she must exit immediately if they have entered the permit space; and
    - Inform the authorized entrants and entry supervisor if an unauthorized person has entered the permit space.
- Perform non-entry rescues as specified by the employer's rescue procedure; and
- Perform no duties that might interfere with the attendant's primary duty to monitor and protect the authorized entrants.

C. <u>Duties of entry supervisors</u>:

- Know the hazards that may be faced during entry, including signs and symptoms of a hazardous exposure;
- Verify that the appropriate entries have been made on the permit, that all tests specified on the permit have been made and that all procedures and equipment specified by the permit are in place before signing the permit and allowing entry to begin;
- Terminate the entry and cancel the permit when:
    - The entry operations covered by the entry permit have been completed; or
    - A condition that is not allowed under the entry permit arises in or near the permit space;
- Verify that rescue services are available and that the means for summoning them are operable;
- Remove unauthorized individuals who enter or who attempt to enter the permit space during entry operations; and

- Monitor that entry operations remain consistent with terms of the entry permit and that acceptable entry conditions are maintained.

7. TRAINING

Employees or contract personnel who had not been trained in a confined space entry program equivalent to this policy are not permitted to enter confined spaces at QCM worksites.

The rescue team shall practice rescue procedures at least once every 12 months by means of a simulated drill that includes rescue and retrieval of manikins or actual persons from permit spaces or simulated permit spaces. Rescue team members shall maintain current certifications in First Aid and CPR.

All new employees shall be trained prior to entering confined spaces. Retraining shall be performed annually or when there is a change in assigned duties, when there is a change in permit space operations that present hazards which coworkers have received no previous training, when there is reason to believe that there are deviations from the permit space entry procedures, or when there are inadequacies in the coworkers' knowledge or use of these procedures. All training shall be documented; documentation shall include the site-specific training agenda, names and signatures of the instructor and trainees, and dates of training. Training documentation must be maintained in file for a period of five years.

A. Training the entrants, attendants, and entry supervisors shall include by not be limited to:

- Types of confined space to be entered.
- Chemical or physical hazards which may be involved.
- Preparing confined spaces for entry.
- Completing the permit and pre-entry checklist.
- Proper work practices and techniques.
- Atmospheric testing procedures.
- Personal protective equipment to be used.
- Rescue plan and procedures.

B. Rescue service personnel

Rescue team members employed or contracted by QCM shall receive the following minimal training by a qualified training consultant prior to performing confined space entries at the worksite: Outside emergency rescue services, monitoring company's and any other company will be given an opportunity to examine the entry site, practice rescue, and decline as appropriate. If there is reliance on the client Host rescue services for use, this MUST be stated and agreed to in contract language. Employees must have PPE at no cost, training, practice rescues at least every 12 months.

Personal protective equipment and rescue equipment,

Assigned rescue duties including practices in actual or realistically simulated confined space rescues involving use of manikins or actual persons for confined spaces. Rescue drills shall be performed at least every 12 months:

- All training required of authorized entrants,

- Certified First Aid and CPR training.

8) ANNUAL REVIEW OF POLICY & PERMITS

This written policy shall be reviewed annually and revised accordingly when better or safer procedures are discovered. This policy shall also be reviewed and revised whenever there are violations to this policy, safety or health hazards are discovered that are not covered by the permit, the occurrence of an injury or near miss during an entry, or a coworker makes a recommendation for improvement. Review the permit space program, using the canceled permits retained within 1 year after each entry and revise the program as necessary, to ensure that coworkers are protected. Note: Employers may perform a single annual review covering all entries performed during a 12-month period. If no entry is performed during a 12-month period, no review is necessary.

References:

National Institute of Occupational Safety and Health. Criteria for a Recommended Standard: Working in Confined Spaces, NIOSH, Pub. No. 80 – 106.

Occupational Safety and Health Administration. Permit Required Confined Spaces. 29 CFR 1910.146. U.S. Government Printing Office. July 1, 1997 edition.

Confined Space Entry Permit

Date and Time Issued: _____ Date and Time Expires _____

Jobsite/Space I.D.: _____ Job Supervisor: _____

Equipment to be Worked on: _____ Work to Be Performed: _____

Entrants: _____

Stand-by Personnel: _____

1. Atmospheric Checks:

Time _____

Oxygen _____ %

Explosive _____ % LFL

Toxic _____ PPM

2. Tester's signature: _____

3. Source Isolation (No Entry):

	Yes	No	N/A
Pumps or Lines Blinded	☐	☐	☐
Disconnected or Blocked	☐	☐	☐

4. Ventilation Modification:

	Yes	No	N/A
Mechanical	☐	☐	☐
Natural Ventilation Only	☐	☐	☐

5. Atmospheric check after isolation and ventilation:

Oxygen	_____	%	>	19.5	<23.5%
Explosive	_____	% LFL	<	10	%
Toxic	_____	PPM	<	10	H_2S PPM
Time	_____				

Tester's signature:

_____

6. Communication procedures: _____

7. Rescue procedures: _____

8. Entry, standby and backup personnel: _____

	Yes	No	N/A
Successfully completed required training?	☐	☐	☐
Is it current?	☐	☐	☐

9. Equipment

Direct reading gas monitor-tested	Yes	No	N/A
Safety harnesses and lifelines for entry and standby personnel	☐	☐	☐
Hoisting equipment	☐	☐	☐
Powered communications	☐	☐	☐
SAR or SCBA for entry and standby personnel	☐	☐	☐
Protective clothing	☐	☐	☐
All electric equipment listed Class I, Division I, Group D and nonsparking tools	☐	☐	☐

10. Periodic atmospheric tests:

Oxygen	_____	% Time	_____	Oxygen	_____	% Time	_____
Oxygen	_____	% Time	_____	Oxygen	_____	% Time	_____
Explosive	_____	% Time	_____	Explosive	_____	% Time	_____
Explosive	_____	% Time	_____	Explosive	_____	% Time	_____
Toxic	_____	% Time	_____	Toxic	_____	% Time	_____
Toxic	_____	% Time	_____	Toxic	_____	% Time	_____

We have reviewed the work authorized by this permit and the information contained herein. Written instructions and safety procedures have been received and are understood. Entry cannot be approved if any squares are marked in the “No” column. This permit is not valid unless all appropriate items are completed.

Permit Prepared by:	_____	_____
Approved by:	_____	_____
Reviewed by:	_____	_____
	(printed name)	(signature)

DISCIPLINE POLICY

It is Queen City Mechanicals, Inc.'s policy to treat everyone equally when it comes to discipline. We have developed this Discipline Policy to address instances where employees violate published, federal, state, local or company rules. The policy is designed as progressive, meaning the first offense is generally given a verbal warning with subsequent violations escalating into more serious consequences. However, more serious offenses may result in more serious consequences without going through the verbal, written, and other earlier steps.

The Drug Free Workplace policy is another stand-alone policy outside of these disciplinary guidelines. These pre-determined consequences will always be in addition to and not in substitution for this written Discipline Policy.

First Offenses will generally be issued a Verbal Warning. This Verbal Warning will be documented by your supervisor. In order for it to be used for Progressive Discipline, the supervisor must call it into the office for recording on the employee's Deportment Record.

The Second Offense will generally be issued a Written Reprimand. This Reprimand MUST be submitted to the office for recording on the employee's Deportment Record.

The Third Offense will generally result in the employee being suspended without pay or benefit for three working days. The employee will need to meet with an Office Level Management person prior to returning to work.

The Fourth Offense will generally result in a Seven Day Suspension without pay or benefit. The employee will meet with a Company Officer prior to returning to work.

The Fifth Offense will generally result in immediate termination of the employee from the company's payroll. Again, steps 1 through 4 may be omitted for serious or egregious violations so severe that the company must take steps to protect the employees, the public, and/ or the corporation.

All Verbal Warnings will expire and not be used for progression 120 days after issuance, providing they have not progressed into a Written Warning. All Written Warnings will expire and not be used for progression 120 days after issuance, providing they have not progressed into a Suspension. It will be up to Company Officers to decide the timeline on suspension's expiration during the meeting with the employee prior to their return to work. Company Officers may require the employee enter into a Last Chance Employment Agreement once they enter into the Suspension levels of this policy. All Discipline occurring after a Last Chance Agreement will be subject to that agreement.

Queen City Mechanicals, Inc. will maintain safe job sites by enforcement of company rules and governmental regulations such as OSHA, DOT, and EPA. The Safety Department will monitor compliance with such rules with unannounced site visits and shop inspections. Employees found in violation of these checks will be subject to discipline as outlined above. When documented violations occur, employee will receive appropriate department counseling documented in their personnel file.

DOT POLICY

REF: 49-CFR-40; 325, 350-399

POLICY: Any vehicle with a Gross Vehicle Weight Rating of 10,000lbs. or more is considered to be a Commercial Motor Vehicle. Once a vehicle reaches 26,001lbs. or more as a single vehicle or in tandem with a trailer, it becomes a Commercial Motor Vehicle Requiring a Commercial Drivers License to operate. QCM operates both vehicles within the 10,000lbs. to 26,001lbs. class and vehicles over 26,001lbs. and will comply with USDOT FMCSA regulation regarding the operation, license requirement and maintenance of those vehicles.

Differing Classes:

CLASS A VEHICLE OR DRIVER: Class A is any vehicle with a GVCWR of 26,001 or more

CLASS B VEHICLE OR DRIVER: Class B is any SINGLE Vehicle having a GVWR of 26,001lbs. or more or any such vehicle towing a second vehicle of less than 10,000lbs. Also included are vehicles transporting 15 passengers or more and school busses both of which require endorsements. Also includes any less classed vehicle carrying placarded loads such as Radioactive Medical supplies.

CLASS C VEHICLE OR DRIVER

Passenger vehicles not carrying placarded cargo and not carrying 15 or more passengers. CDL Endorsements are required for Air Brakes, Tanks, Double-Triple Trailers, HazMat [440lbs. or more], Passenger, and School Bus. Medical Cards are required for all drivers of Commercial Motor Vehicles 10,000lbs. or more on GVWR. So yes, even large van and pickup trucks need Medical Cards if driving for work.

All Commercial Motor Vehicle Drivers are required to have a Driver Qualification File. This file will list various documents outlining the driver's qualification to drive the Commercial motor vehicle. Drivers of CDL Class Vehicles will also be subject to Drug & Alcohol Testing under USDOT Regulations. Non-CDL Drives are exempt from DOT Drug & Alcohol testing.

All Commercial Motor Vehicle Drivers are prohibited by federal laws to use hand-held electronic devices. Certain on-board navigation and company communication terminals are exempt. Phones and PDA's are not exempt.

The following forms are required in the DRIVER QUALIFICATION FILES:

Form	**CDL**	**Non-CDL**
Drivers Application of Employment	Yes	Yes
Drivers Statement of Duty Hours for 7 Days Prior to Hire	Yes	Yes
Fair Credit Act Disclosure Form	Yes	Yes
Request for Driving Record Check	Yes	Yes

Medical Examiners Certificate (Confidential)	Yes	Yes
Record of Road Test		Yes
Certificate of Compliance with One Driver's License	Yes	Yes
Form	**CDL**	**Non-CDL**
Drivers Training Certificate if Newly Trained	Yes	Yes
Inquiry Record of Previous Employers Drug and Alcohol Tests	Yes	Yes
Certificate of Receipt of Company Drug and Alcohol Program	Yes	Yes
Copy of Official State Driving Record **Must be completed Annually**	Yes	Yes

Also required are Annual Inspections of ALL Licensed Over-the-Road Class A & B Vehicles including trailers. A Vehicle Maintenance File is required to document maintenance of all these vehicles and must be presented to any DOT Authorized Inspector including state police and PUC Inspectors.

Related to Commercial Vehicles are Cranes which also require annual inspections. This inspection can take the better part of a day and the inspection should be schedule around the down-time for the crane keeping in mind the new inspection should be completed prior to the expiration date of the old inspection.

<u>DRUG & ALCOHOL TESTING FOR CDL DRIVERS</u>

CDL Drivers are required to be in a DOT Approved Drug & Alcohol Monitoring and Testing Program. This includes Pre-Employment Testing;

Post-Accident Testing, Reasonable Suspicion Testing, Return to Duty Testing and Follow-up Testing.

DOT restricts the type of testing that can be done. Only 5-panel tests may be given and Urine Blood Alcohol Tests. If the company has only a few CDL Drivers they should contract with a consortium service to pool their employees in with a much larger pool for random test selection. Otherwise, drivers will be tested too frequently and increase costs to the company.

It is permitted that CDL Drivers can also be tested under Ohio's DFSP Policies. The only stipulation is that the testing and sampling must be completely separate from one another. Two Breath Tests, Two separate samples of urine. Collectors are prohibited from pouring urine samples into DOT and Non-DOT test vials from the sample same sample cup.

There must be at least one supervisor at each company that is trained in recognizing impaired drivers. Drivers involved in a Fatal Crash; Crash in which they are cited and someone is injured and transported from the scene or any crash in which they are cited and a vehicle is towed from the scene are required to submit to a post-accident drug and alcohol test. This test must be done immediately, but not later than 8 hours for alcohol and 32 hours for drugs. It the time limits expire the test may not be given, but notations by the company must detail the reason for the no test. This time limit does not apply to DFSP Testing, so a driver that misses the DOT Time limits will still have to test under company DFSP Rules, if governed under both.

If the driver refuses the test or fails the test, he is automatically disqualified from driving a CDL Vehicle. He must contact a Substance Abuse Professional (SAP) and submit to an evaluation. He must then follow whatever recommendations the SAP stipulates for him to get his driving privileges back again. He may not switch SAP's to avoid what one says over any other. Before he returns to work he must pass a Return to Work Test and submit to unannounced testing for a minimum of six times during the next year without fail. All tests must be done by SAMSHA approved national labs.

All Driver contacts on the road are recorded by the USDOT on a national database. This database compares the scores of the various inspections and violations and give the driver and the company a ranking. For this reason, prior to hiring any CDL Driver, the company will check the national database for the driver's safety score. If this is not done, the hiring will be marked as conditional pending background and driving record investigations.

DOT Law requires drivers to notify their employer and/or prospective employer, of any violations where they receive a citation or inspection notice of violation. Companies are also required to have this recorded annually and compare the driver's written account against the driver's state motor vehicle driving record. These records become part of the DQF and must be kept for a minimum of 3 years running.

Companies may NOT rely upon their insurance company's approval as a company driver in checking the driver's driving record. They must have a hard copy of the record in the DQF.

Company must also develop and maintain an Annual Accident Log logging all traffic accidents annually.

Drug and Alcohol Use Policy and Procedure

Revised 04-10-2012

Subject: Policy on Drug and Alcohol Use

Drug use in the workplace is a danger to us all. It impairs the safety health, and welfare of all employees, promotes crime and lowers productivity and quality. This policy applies to ALL FULL and PART-TIME HOURLY, SALARIED and CONTRACT EMPLOYEES. In compliance with the COATS Program, Queen City Mechanicals, Inc.'s view on substance abuse is as follows:

SUBSTANCE ABUSE PREVENTION AND DRUG TESTING POLICY

OBJECTIVE

To provide a safe and healthful work environment for the safety of the general public, members of COATS are committed to maintaining drug and alcohol free work places. Consequently, all contractors and subcontractors working in COATS member facilities shall agree to adopt this COATS "Substance Abuse Prevention and Drug Testing Policy" as a minimum standard and require their employees/workers and agents to comply with its provisions. The provisions in this policy are considered minimum standards. Adoption of this policy shall not prevent any Owner or Contractor from implementing stricter substance abuse prevention or drug testing standards or provisions.

The Construction Owners Association of the Tri-States (COATS), with generous guidance and assistance from the Metro Indianapolis Coalition for Construction Safety (MICCS) has developed this program to provide the following benefits to the local construction industry:

Minimize the duplication of effort created by the multiple substance abuse programs currently in place in the area.

Set the minimum standard for substance abuse policy in the area.

Improve construction safety performance. Encourage the adoption of this substance abuse policy by owners, contractors and other industry participants as a condition of employment on the owner's site.

This program has been developed by construction industry owners representing the major construction consumers in the greater Cincinnati area. A number of existing and proposed programs both nationally and regionally have been consulted in the development of this policy. The result is a core program which can be supplemented if desired, but forms a common basis for establishing substance abuse programs in our area.

DEFINITIONS

To insure common understanding of terms, the following definitions should be consistently used.

Accredited Laboratory (SAMHSA): A facility certified by the Department of Health and Human Services (DHHS) for testing of prohibited items and substances.

Accident/Incident: Any event caused by an employee, either directly or indirectly, that results in treatment by a health care provider, or that resulted in damage to property. This would also include any serious near-miss incidents.

Adulterated Specimen: A specimen that contains a substance that is not expected to be present in human urine, or contains a substance expected to be present but is at a concentration so high that it is not consistent with human urine.

Annual: Each employee's obligation to be tested at least every 12 months.

Cancelled Test: A drug or alcohol test that has a problem identified that cannot be or has not been corrected. A cancelled test is neither a positive nor negative test.

Chain of Custody: The procedures used to document the handling of the urine specimen from the time the employee gives the specimen to the collector until the specimen is destroyed. The COATS program will use a non-regulated CCF that is a look alike to a Federal Drug Testing Custody and Control Form (CCF).

Controlled Substances: Includes all illegal drugs as listed in this policy and per the Department of Transportation (DOT) limits, (including controlled substances, look alike drugs and designer drugs), prescription drugs used by one for whom they were not prescribed, overuse of prescription drugs prescribed for the user, drug paraphernalia, and alcoholic beverages in the personal possession of or being used by an employee on the premises or while assigned to work off premises.

Confirmation Test: In drug testing, a second analytical procedure to identify and quantify the presence of a specific drug or metabolite that is independent of the screening test and that uses a different technique and chemical principle from that of the screening test in order to ensure reliability and accuracy.

Contractor: The corporation, company, or entity that performs construction or maintenance work either directly with its own employees or indirectly with employees of subcontractors.

Counterfeit Drug Card: A drug card is considered counterfeit if it is modified in any manner without authorization from COATS, or if it was not issued by a COATS representative to the person using it to verify that he has a current valid drug test, to gain entry on a COATS owner's premises, or for any other such reason.

DER (Designated Employer Representative): A person authorized by the employer (contractor, subcontractor) to receive drug and alcohol test results and manage aspects of the substance abuse testing program.

Diluted Test: A specimen with creatinine and specific gravity values that are lower than expected for human urine. A specimen is deemed dilute if the creatinine is less than 20 ml/dl but greater than or equal to 2 ml/dl and the specific gravity is less than 1.0030 but greater than 1.0010.

He/His: As used in this program, the terms "he or his" or similar masculine pronouns shall be construed to include the feminine alternatives of such pronouns.

Initial Screening Test: In drug testing, the test used to differentiate a negative specimen from one that requires further testing for drugs or drug metabolites.

MRO (Medical Review Officer): A licensed physician (medical doctor or doctor of osteopathy) responsible for receiving laboratory results generated by an employer's drug testing program who has knowledge of substance abuse disorders and has appropriate medical training to interpret and evaluate an individual's confirmed positive test result together with his or her medical history and any other relevant biomedical information.

Negative Test: A negative test is obtained if: (1) the screen test indicated the absence of legal or illegal substance in excess of the screen limit; or, (2) the screen test indicates the presence of legal or illegal substance in excess of the screen limit but the confirming test indicates the absence of legal or illegal substance in excess of the confirmation limits; or, (3) the screen test and confirmation test indicated the presence of a legal or illegal substance(s) in excess of the limits but the donor had a valid medical reason for the substance being detected in the specimen.

Owner: The corporation, company, agency, person, or other entity that hires contractors to perform construction work and/or maintenance work on the owner's premises.

Positive Alcohol Test: A positive alcohol test result is obtained if the breathalyzer test, or equivalent test, indicates the presence of alcohol that meets or exceeds the confirmation limits of the DOT regulations. A .04% is considered positive.

Positive Drug Test: A positive test result is obtained if the result indicates the presence of an illegal substance that meets or exceeds the confirmation limits listed in this policy, as verified by a Medical Review Officer (MRO), and the MRO has determined that the test results do not stem from use of prescription medicines, over the counter medicines, food, or any cause other than the use of illegal substances. This would also include the illegal use of prescription drugs.

Pre-employment/Pre-Job Site Entry: Screening of prospective employees to ascertain whether an applicant is capable of safely performing his/her duties and of meeting the prerequisites for employment contained herein.

Random Testing: An unannounced, unscheduled drug and/or alcohol test, pursuant to an objective method for random selection of employees to be tested. The selection must be truly random without discrimination or arbitrary selection. Upon notification the employee must immediately report to the testing facility.

Reasonable Suspicion: Reasonable suspicion shall be defined as those circumstances, based on objective evidence about the worker's conduct in the workplace, that would cause a reasonable person to believe that the worker is demonstrating signs of impairment due to alcohol or other drugs.

Substance Abuse Professional (SAP): A person who provides substance abuse evaluations on employees who have tested positive or refused to test in violation of company policy and makes recommendations concerning education, treatment, follow-up testing, and aftercare. A SAP must hold one of the following credentials:

(1) a licensed physician (Medical Doctor or Doctor of Osteopathy),

(2) a licensed or certified psychologist,

(3) a licensed or certified social worker,

(4) a licensed or certified employee assistance professional,

(5) a state-licensed or certified marriage and family therapist,

(6) an alcohol and drug abuse counselor certified by the National Association of Alcoholism and Drug Abuse Counselors Certification Commission [NAADAC] or by the International Certification Reciprocity Consortium/Alcohol & Other Drug Abuse (ICRC) or by the National Board for Certified Counselors, Inc. and Affiliates/Master Addictions Counselor (NBCC).

(7) a licensed or certified mental health counselor, or (8) any additional licensed or certified professional as approved by the federal government for compliance with the Department of Transportation's substance abuse program.

All must have knowledge of and clinical experience in the diagnosis and treatment of alcohol and controlled substances-related disorders.

Substituted Specimen: A specimen with creatinine and specific gravity values that are so diminished that they are not consistent with human urine.

POLICY

The use, possession, distribution, sale, and/or manufacture of substances of abuse, alcohol, or drug paraphernalia, or legal drugs being used for illegal purposes while on the job or on company and/or client property is prohibited and will be considered a violation for the COATS program.

The off the job use, possession, distribution, sale and/or manufacture of substances of abuse including alcohol which adversely affect an employee's job performance and has an adverse effect on safety will not be tolerated.

Testing of contractors' employees will be conducted under conditions of strict confidentiality and with the utmost regard for the dignity of individual employees.

Violation of this policy is grounds for disciplinary action up to and including termination.

Any contractor performing work for owners shall participate in the COATS "Substance Abuse Prevention and Drug Testing Program" or other comparable drug testing programs containing these standards as a minimum. All bid documents, as well as contract documents, shall include contractor substance abuse testing requirements based in accordance with this policy.

Owners shall require all contractor and/or subcontractor employees to have a valid COATS Substance Abuse Testing Card prior to entry on the job site, or to obtain one within a stipulated time frame, not to exceed a period of five (5) days.

Contractors, by signing the contract agreement, will thereby certify that their employees and subcontractors comply with the owner's written substance abuse testing policy and participate in the COATS Drug Testing Program.

DRUG AND ALCOHOL TESTING

Every Owner should implement, publish, maintain and enforce a contractor substance abuse policy that minimally includes the following provisions:

Types and Circumstances for Testing

A. Pre-employment Testing

An employee must have been tested within 12 months prior to hiring. Any individual that fails to pass his/her substance test will be denied employment. See Appendix A on identity of tested substances.

B. Current Employees/Workers Test

All current employees/workers will be required to successfully pass a substance test as a condition to being scheduled for work on any COATS Owner sites.

C. Annual Testing

Upon successfully passing the drug test, the employee/worker will be issued an ID card. As a condition of being scheduled to work the employee/worker must submit to the test and pass the annual testing as required to keep their card valid. An employer is prohibited from giving more than 14 days' notice to an employee to take their annual test.

D. Random Testing

All workers/employees covered by this policy shall be subject to unannounced, unscheduled random substance testing. Owners are responsible for random testing of contractors and subcontractor employees working on their premises. The minimum random testing rate shall be five percent annually (5% annually). The owner organization requesting the random tests should pay for the random tests or the contractor and owner may make their own individual arrangements for the payment. The selection process shall be truly random i.e. pursuant to an objective method for random selection. The selection must be without discrimination or arbitrary selection. Upon notification, the employee must immediately proceed to the testing facility. Alcohol testing will be required in situations where the random test can be done immediately while the worker is on duty.

E. Reasonable Suspicion Test

1. A drug and/or alcohol test will be required of an employee/worker if there is documented evidence or reasonable suspicion as defined below.

2. Reasonable suspicion shall be defined as those circumstances, based on objective evidence about the worker's conduct in the workplace that would cause a reasonable person to believe that the worker is demonstrating signs of impairment due to alcohol or other drugs. Examples of objective evidence include when a worker shows signs of impairment such as difficulty in maintaining balance, slurred speech, or erratic or atypical behavior. Such observations will be documented in writing by the supervisor(s) making the observation(s). This information will be made available to the individual upon request to the appropriate company official.

3. If possible, two (2) or more supervisors (the employee's immediate supervisor and an additional management representative) will make the determination as to when there is reasonable suspicion to test. The parties recognize that in certain circumstances, the observation may be made by only one individual. The determination to require a reasonable suspicion test should only be made by a supervisor who has received documented training. The contractor employer must make

arrangements for the employee to be escorted directly to the testing facility. The contractor (or subcontractor) is required to submit all reasonable suspicion test results to the database.

F. Post Accident/Incident Test

1. A drug and alcohol test of an onsite contractor/subcontractor employee is required when they are involved in any accident/incident or event, caused by them either directly or indirectly, that results in treatment by a health care provider, or that resulted in damage to property, including any serious near-miss incident. Testing should also be performed after any other incident, unless it is determined that the incident was not the result of reasonable suspicion on the part of an employee/worker involved in the incident.

2. The contractor/subcontractor is responsible to make sure the employee is transported directly for testing, or as soon as possible, and before the employee returns to the job site. It is the contractor/subcontractor's responsibility to see that testing is done within the required time frames.

3. The alcohol test should be administered within two (2) hours of the incident/accident if possible. If it can't be administered within eight (8) hours of the incident/accident, it should not be done and written documentation should explain why the test wasn't able to be administered.

4. The contractor/or subcontractor is required to submit all post accident/incident test results to the database.

G. Return-to-Duty Test

A drug and/or alcohol test required after a SAP has determined the employee/worker is fit for duty and eligible to return to work after a positive test or a refusal to test.

H. Follow-up Test

A drug and/or alcohol test required after an employee has been successfully returned to work. The SAP must require a minimum of three (3) follow-up tests be completed within one year (12 months) after returning to duty. Follow-up test will be unannounced and at the will of the program administrator or the employer. The purpose of follow-up tests is to monitor progress on the employee/worker's success with rehabilitation.

Payment arrangements for return to duty and follow-up tests shall be the responsibility of the employee/worker.

SANCTIONS (CONSEQUENCES) IMPOSED FOR FAILING A DRUG OR ALCOHOL TEST

A. Failure to pass a required drug or alcohol test is grounds for disciplinary action up to and including termination. In addition, the employee/worker will be required to complete all steps outlined in B. below to become complaint with the COATS program again.

B. Any employee/worker testing positive or refusing to test will be suspended from the owners site until the he/she has completed a program of rehabilitation to include the following steps:

1. The employee/worker must arrange for an evaluation with a SAP (Substance Abuse Professional).

2. The SAP must prescribe a program of either education or treatment depending on the findings of the evaluation. The employee will not be allowed to take a return-to-duty test for at least 14 days from the date of the first positive test. Additionally, the employee must have started their rehabilitation (education or treatment) before the SAP can release them to take the return-to-duty test.

3. The employee/worker must complete all on-going treatment and/or education recommended by the SAP to stay compliant with this program.

4. The employee/worker must present a letter from the SAP to the program administrator (Midwest Toxicology Services) that states the individual is fit for duty, can be returned to work and is eligible for the return-to-duty test prior to taking a return-to-duty test.

5. The employee/worker must receive a negative result on the return-to-duty test and have it entered into the database.

6. The employee/worker must complete all follow-up tests required by the SAP. Not less than three (3) follow-up tests will be required to be completed within 12 months after returning to work. The SAP may recommend more than three (3) follow-up tests and may extend the time for longer than 12 months.

    a. The length of time designated by the SAP for follow-up tests may be extended by the program administrator for any of the following situations:

    1. The employee becomes non-compliant for failure to report timely for a follow-up test.

    2. The employee does not provide accurate and current contact information to the program administrator (address, phone, etc.).

    3. The employee does not report for their follow-up test within a reasonable length of time as determined by the program administrator.

7. All the costs associated with completing the SAP evaluation, rehabilitation, return-to-duty and follow-up tests will be the responsibility of the employee/worker.

C. The sale, distribution or manufacture of illegal drugs or alcohol at the job site by the employee/worker will result in permanent termination and the employee must surrender their ID Card.

D. An employee/worker testing positive three (3) times within a twelve (12) month period will not be eligible to retest or obtain a COATS Substance Abuse Testing Card for a period of one year. A positive alcohol test shall also be considered a test positive.

The imposition of any of the above sanctions shall result in the employee/worker surrendering his/her COATS Substance Abuse Testing Card. The employee's card shall be rendered "invalid" in the database.

DRUG TESTING PROCEDURES

Specimens will be tested for the presence of the compounds, as listed in Appendix A using the standardized cutoff limits listed. This program will follow, in general, the regulatory requirements of DOT (Department of Transportation) as outlined in 49 CFR Part 40.

Specimen Collection

All urine collections for drug testing purposes shall be conducted in accordance with standard procedures that are patterned but are not exactly the same as those found in "49 CFR Part 40 Procedures for Transportation Workplace Drug and Alcohol Testing Programs" and applicable state and federal laws. A separate urine collection procedure document has been developed for this program. The collection procedures will be designed to ensure the security and integrity of the specimen provided by each employee/worker, and those procedures will follow accepted federal DOT chain-of-custody guidelines. Moreover, every reasonable effort will be made to maintain the dignity of each employee/worker submitting a specimen for analysis in accordance with these procedures.

Collection Procedures

1. A urine specimen will be required for the drug test. The only exception to urine would be if a worker presents written documentation from a medical doctor for his inability to provide an approved specimen. In situations where the worker/employee is not physically able to produce a proper urine sample for testing, a test may be done using a different testing method (hair, saliva, etc.), if approved by the program administrator. The worker/employee or company must contact the program administrator for authorization to test by an alternate method.
2. A photo ID must be presented at the time of collection to ensure proper identity.
3. At the completion of the collection, the donor will receive a copy of the CCF.
4. The donor will have up to 2 hours to provide a specimen. If no specimen is provided within 2 hours, it will be considered a "refusal to test" unless a medical evaluation validates a legitimate medical explanation for the inability to provide a specimen.
5. The donor will be afforded privacy for the urine collection unless any of the situations listed below occurs, then the donor will be required to submit to an immediate second collection under direct observation.
    a. The collector observes evidence of an employee's attempt to tamper with a specimen, (e.g., collector observes materials brought to the collection site or the employee's conduct clearly indicates an attempt to tamper with a specimen).
    b. The temperature on the original specimen was out of range.
    c. The original specimen appeared to have been tampered with.
    d. The specimen was determined invalid by the laboratory and there is no adequate medical explanation as determined by the MRO.
6. Observed collections will be permitted but not required on return-to-duty and/or follow-up tests.

Laboratory Testing Procedures All substance analysis will be done in SAMHSA laboratories certified by DHHS (Department of Health and Human Services). A list of SAMHSA laboratories is published in the Federal Register and is updated monthly. Laboratory Procedures will include:

1. Perform an initial screening on each specimen. In the event that the initial test is positive, a confirmation test will automatically be performed by GC/MS. A test is considered positive if the detected level of the drug is at or above the cutoff level listed in Appendix A.

2. Validity testing on each specimen will automatically be performed. Each specimen is measured for creatinine level, specific gravity, and pH. The purpose of validity testing is to determine whether any of the following occurred:

    a. Adulterants or foreign substances were added to the urine,

    b. Determine if the specimen was substituted, or

    c. The urine was diluted.

3. The laboratory will report all results to the MRO (Medical Review Officer). The MRO will make a final determination as to the verified result and report the result to the DER (Designated Employer Representative) of the contractor or subcontractor.

<u>MRO Procedures</u>

The MRO is a licensed physician and is responsible for receiving and reviewing laboratory results. The MRO provides a medical review on all test results issued by the laboratory as follows:

1. If the laboratory result is negative, the MRO service will issue a negative result.

2. If the laboratory result is positive, adulterated, substituted, or invalid, the MRO service will:

    a. Try to contact the donor by telephone for the purpose of informing the donor of the result and complete an interview to determine whether a legitimate medical explanation exists for the result reported by the lab.

    b. If the MRO service is unable to reach the donor after one attempt, the MRO service will call the Designated Employer Representative (DER) of the contractor or subcontractor to assist with locating the donor to resolve the issue. If a verified result can be determined without the donor interview, the result will be reported to the DER at this time. The MRO service will complete the verification process as quickly as possible and issue a result to the DER in cases where prescription or medical treatment must be evaluated.

No adverse action shall be taken against any worker or employee on the basis of any “unconfirmed positive” result of a substance abuse test.

Where use of a legal, mood altering substance or drug is detected, applicants, and/or employees/workers may be required to offer proof to the MRO service that the drug has been prescribed by a physician. If the applicant and/or employee/worker is unable to provide such proof, employment may be denied, suspended or terminated. Access may also be denied, suspended, or terminated where future or continued use of the prescribed drug poses a potential safety risk or would impair job performance.

Every reasonable effort will be made to keep test results confidential.

DRUG TEST RESULTS

Negative Result - A result is considered negative if the laboratory finds no drug metabolite levels over the confirmed cutoff values.

Negative but Diluted Result – A diluted specimen will require a retest. The COATS database administrator will report the dilute to the DER. Before retesting takes place, the program administrator or the contractor (subcontractor) will provide specific instructions to the employee/worker on fluid intake prior to retesting to prevent another diluted specimen. These instructions are included in Appendix B. The collection for another test must be done the following morning of the workday after the employee/contactor has been notified unless there are extenuating circumstances communicated and approved by the program administrator. The program administrator may at its discretion reject the explanation. If the two parties cannot agree, the COATS Substance Abuse Committee is to be contacted for resolution. A second diluted test carries the same consequences as testing positive unless a medical evaluation validates a legitimate medical explanation for the diluted test.

Positive Test Result – a result is considered positive if the presence of the drug meets or exceeds both the screening and confirmation levels listed in Appendix A, as verified by a MRO, and the MRO has determined that the test results do not stem from use of prescription medications, over the counter medication, food, or any cause other than the use of illegal substances or controlled substances used illegally.

<u>Refusals to Test</u>

Refusal to submit to a test is considered the same as a positive test and is grounds for disciplinary action up to and including termination. The following situations are considered a refusal to test:

1. Failing to appear for any test within a reasonable time if directed to report for the test,
2. Refusing to provide a specimen for any test required (employee states he isn't taking the test),
3. Refusing to permit an observed collection if required,
4. Employee is found to possess or wear a prosthetic or other device that could be used to interfere with the collection process.
5. Failing to remain at the testing site until the testing process is complete,
6. Failing to provide a sufficient amount of urine within the required time, (2 hours) unless a legitimate medical explanation exists. This determination of whether a valid medical explanation exists rests with the Medical Review Officer,
7. Failing to undergo a medical examination or evaluation to meet medical explanation requirements of #6 above,
8. Failing to cooperate with any part of the testing process (e.g., refuse to empty pockets when so directed by the collector, behaves in a confrontational way that disrupts the collection process),
9. Receiving notification by the MRO of a verified adulterated or substituted test result
10. Admitting to the collector or MRO that he/she adulterated or substituted the specimen.

Specimen Retest Protocol

When the MRO has informed the employee/worker of a verified “positive drug test” or “refusal to test” because of adulteration or substitution, the employee/worker has 72 hours from the time of notification to request a retest of his/her specimen at a different SAMHSA laboratory. The cost of the test will be the responsibility of the employee/worker. The employee/worker may make the request verbally or in writing and make proper arrangements for payment with the MRO service. If the result of the retest is different from the original result, the test will be cancelled.

ALCOHOL TESTING PROCEDURES

Employees/workers involved in an accident/incident, or who are demonstrating reasonable suspicion, as defined in an earlier section of this policy, shall be required to take an alcohol test. Random alcohol testing shall also be required if the owner/contractor performs immediate onsite random testing.

Tests for alcohol shall be performed using a Breathalyzer instrument to determine a BAC (blood alcohol content). If possible, a Breathalyzer type instrument conforming to DOT standards should be used. If that is not available, then an equivalent test may be used.

Failure to provide a sufficient breath sample to complete a breath test or refusing to provide a sample for an equivalent test will be considered a “refusal to test” and have the same consequences as a positive test.

COATS ID CARD AND DATABASE PROTOCOL

Test results from all COATS required testing will be entered into the COATS database. The employee’s annual test date will automatically be updated with the entry of a negative result. A COATS Substance Abuse Testing Card will be issued to each person with the first qualifying test. The card shall be valid as long as the person meets the testing requirements of the COATS program.

Any individual who has been inactive in the COATS database (not tested) in the last 5 consecutive years will be purged from the COATS database. To re-activate their card status in the program the individual would need to complete a new drug test with a negative result.

Contractors are required to send testing results to the database for tests taken for post accident, annual, probable cause/reasonable suspicion, random, follow-up, and return to duty testing.

The card will display the tested person’s photo, name and a computer assigned identification number. Cards that were previously issued without a photo will be replaced with a photo on the card the next time the person takes a test for the program. The card will state that the test meets the minimum requirements of the COATS Substance Abuse Prevention and Drug Testing Program. The card certifies that the employee/worker’s name is now in the COATS database. All cards issued will be entered into the COATS database.

Cards will be issued to each above-mentioned employee at a cost per card to be determined by the program administrator. If an employee’s ID card is lost, stolen or damaged, a new card can be issued for a cost per card to be determined by the program administrator. Necessary verification will be required.

The COATS Substance Abuse Card is the property of COATS and contractors are asked to make every effort to retrieve the card of any person whose card has become invalid.

If an employee or a pre-hire employee presents a current COATS Substance Abuse Testing Card, the validity of that card and the employee/worker's current status must be verified with the COATS database by the owner/contractor.

The use of a counterfeit drug card will render the employee's status as non-compliant and their ID card must be surrendered. Any contractor and/or subcontractor employee possessing a counterfeit drug card will be treated as one who has tested positive.

EMPLOYEE RESPONSIBILITIES

The contractor and/or subcontractor employee shall report to work fit for duty, including being in the appropriate mental and physical condition necessary to perform work in a safe, competent manner, free of the influence of drugs and alcohol.

An employee has the obligation of reporting to his employer any medications that may impair his job performance and his or others safety.

Provide documentation of a drug test within the past 12 months at the time of hire and on a continuous basis while employed.

Consent to and participate in owner/employer required testing and consent to the release of drug screen results to the employer, and to the COATS database, or for specific purposes as permitted by law.

EDUCATION AND TRAINING

Policy Education/Communication: The DER (Employer Designated Representative) shall communicate the substance abuse prevention policy of the employer to the employee/worker. It is strongly encouraged that the employer require the employee/worker to acknowledge such orientation through careful documentation of the policy orientation.

Employee Education/Supervisor Training: □ Contractors who participate in Ohio's BWC (Bureau of Workers Compensation) DFSP (Drug Free Safety Program) or who are working on state administered construction projects will provide employee education and supervisor training as mandated by the State of Ohio's program. Details of these training requirements can be found in Appendix C of this policy. □ Contractors who do not fall under the mandates of Ohio BWC programs or state administered construction projects shall provide employee education on this program to employees and supervisor training to the designated supervisors who are responsible for making the determination for reasonable suspicion testing.

The COATS Safety Committee reserves the right to change this policy to reflect changing standards, trends, regulations and laws.

REHABILITATION

The DER (Employer Designated Representative) will be prepared to advise any employee/worker of any and all agencies, services, counselors, or medical facilities that are currently available for anyone seeking rehabilitation help or advice.

SPECIFIC INCLUSIONS OF THE OWNER'S POLICY

This is intended to be a policy of minimum required standards. Other elements of an owner's specific safety program may be required.

AUDITING

The owner or the owner designee may, at their discretion, require an unannounced audit of the contractor's and subcontractor's drug and alcohol program records. Owners may also audit by furnishing the COATS database a listing of contractor's and/or subcontractor's on site employee names and social security numbers to verify testing.

APPENDIX A

9 Panel Test - Drugs and Cut-off Levels

The 9 panel test drug screen components and cut-off levels are listed below. In addition to these levels and substances, the creatinine level and specific gravity of the specimen will be measured. If the creatinine is less than 20 ml/dl but greater than or equal to 2 ml/dl and the specific gravity is less than 1.0030 but greater than 1.0010, the sample will be considered dilute and another collection will be required. The second sample will be requested to be collected the following morning from the time of notification of a diluted sample. Those samples containing adulterants or considered substituted as determined by the lab will be considered test positives.

Substances	Screening Cut Off Levels (ng/ml)	GC/MS Confirmation Cut Off Levels (ng/ml)
Amphetamine/Methamphetamines	500	250
MDMA (Ecstacy)	500	250
Barbituates	300	150
Benzodiazepines	300	150
Cocaine as Benzoylecgonine	150	100
Marijuana	50	15
Methadone	300	300
Opiates (Codeine / Morphine)	2000	2000
6-Mono-Acetylmorphine (Heroin)	10	10
Phencyclidine (PCP)	25	25
Propoxyphene	300	150

ALCOHOL TESTING LEVELS

All alcohol test results with a confirmation test BAC level of .04 or higher will be considered positive and will require the employee/worker to be removed from owner property immediately. This result will also invalidate the employee/workers current COATS card and the individual will have to complete the required program of rehabilitation outlined by this policy to become eligible for a COATS card again.

All alcohol test results with a confirmation test BAC level of .020 through .039 will require the worker/employee to be removed from the owner site for twenty-four (24) hours or until his/her next scheduled on-duty time, whichever is longer. Additional sanctions regarding this level will be left to owner and/or contractor.

Queen City Mechanicals has Zero Tolerance for the use of drugs or alcohol. Therefore, any alcohol testing with a BAC level of .01 or higher may be grounds for immediate termination.

APPENDIX B

INSTRUCTIONS FOR DILUTED SPECIMEN RETEST

A diluted specimen result will require a retest, and a second diluted result, without a medical reason, will result in the same consequences as a positive test result. The MRO service will report the dilute result to the employer's representative. The employee is to be provided with the below specific instructions on fluid intake prior to retesting, to prevent another diluted specimen.

The collection for another test must be done the following morning of the workday after the employee /contractor has been notified, unless there are reasonable circumstances communicated and approved by the database manager. The database administrator may at its discretion reject the explanation. If the employee or contractor disputes the decision of the database manager the employee/contractor can contact the COATS office and the Substance Abuse Committee may consider the matter further.

INSTRUCTIONS TO BE GIVEN TO EMPLOYER PRIOR TO RETESTING

1. Consume no fluids after 9:00 PM the night before collection. 2. Limit fluid intake to a minimum the day of collection. 3. Supervisor will advise the time and location of testing. 4. It is the employee's responsibility to monitor their intake of fluids to prevent another dilute specimen.

If the employee has a medical condition that will cause a dilute specimen he will need to have his physician provide medical information to the MRO for evaluation. His physician must provide this information in writing to the MRO for evaluation at Midwest Toxicology Services Inc. The MRO will, after reviewing the information from the physician, issue a final report to his employer.

Medical Review Officer FAX 317-262-2222

Midwest Toxicology Services Inc.

603 E. Washington St., Suite 200

Indianapolis, IN 46204

Consent and Release and Policy Acknowledgement

FOR USE ONLY UPON AN EMPLOYEE/APPLICANT TO BE TESTED

CONSENT & RELEASE FORM FOR EMPLOYEES / APPLICANTS

I, _____(Applicant or Employee), as an employee/ applicant of the Company, hereby acknowledge that the Company's policy requires me to submit to urine drug testing and/or breath alcohol testing.

I further understand that the purpose of this analysis is to determine or rule out the presence of non-prescribed or prohibited dangerous controlled substances in my system.

I hereby freely and voluntarily consent to this request for a urine sample and/or breath alcohol test, and agree to participate in the testing program.

I hereby and herewith release the Company, its employees, agents and contractors from any and all liability whatsoever arising from this request for testing, from the actual testing procedures, and from decisions made concerning my application for employment, or continuation of employment based upon results from said testing.

I agree to cooperate in all aspects of the testing program as well as those of other programs where I am required to participate.

I hereby authorize the release of my drug and/or alcohol test results to the contractor's Medical Review Officer (MRO), and/or to the Company's examining physician, as provided by the Company's policy and to applicable unions and clients as required to gain access to worksites.

I acknowledge that a positive test result can negatively affect my ability to obtain workers' compensation benefits if this test is the result of an injury; A Failure may also affect my ability to collect Unemployment Insurance Benefits.

I further acknowledge that the Company has provided an opportunity to ask questions related to its drug and alcohol program and that all my questions have been answered.

Employee/Applicant (PRINT NAME) _____
Employee/Applicant Signature_____

Witness Signature_____

Date of Signatures_____

EMPLOYEE AFFIRMATION

Queen City Mechanicals, Inc., certifies that it will provide a Drug Free Workplace to its employees in compliance with standards set forth by the COATS Program.

By signing below, the undersigned certifies that they have:

1) Read and/or have had read to them this Policy and agree to abide by its full terms.

2) Read and/or have had read to them and understand the Consequences of:

    a. Being suspected to be under the influence of alcohol and/or drugs;

    b. Being asked to submit to a drug and/or alcohol test(s);

    c. Refusing or Failing to get the required test(s) following an injury requiring off-site medical attention or being asked to subject to the test(s) by a supervisor under reasonable suspicion circumstances; or being selected for a random test and failing to submit the required sample(s).

    d. Failing to abide by rehabilitation program requirements and or failing a follow-up test.

3) Agreed to make a good faith effort to continue to maintain a drug and alcohol free workplace.

4) Been provided with a written copy of this policy.

5) Acknowledge a positive test result can negatively affect my workers' compensation benefits by canceling them if this test is the result of an injury.

6) A Failure or refusal will also negative impact my ability to collect Unemployment Insurance Benefits.

7) Have had a full opportunity to ask questions and have received any needed answers.

Printed Name: _____

Signature: _____

Date: _____

Witness: _____

Electrical Safety

Purpose

To provide general electrical safety requirements regarding electrical hazards in the workplace. QCM does not provide electrical installation or repair services to customers. Under our scope of work for all projects, QCM employees are not permitted to install, repair or modify any electrical systems or components of a system.

Employee Responsibilities

Employees are responsible for the immediate reporting of electrical safety hazards, for not working on electrical equipment without proper training and authorization, and for inspecting equipment prior to using it.

Administrative Controls

- Only trained, authorized employees may repair or service electrical equipment;
- Contractors must be licensed to perform electrical work;
- Physical barriers must be used to prevent unauthorized persons from entering areas where new installation or repair of electrical components or equipment is being performed;
- Only authorized employees may enter electrical distribution rooms;
- All electrical control devices must be labeled properly;
- Senior facility management must authorize any work on energized electrical circuits

ELECTRICAL EQUIPMENT INSPECTIONS

Inspect all electrical equipment for hazards that could cause employee injury or death. Consider the following factors when determining the safety of the equipment:

- Suitability for the intended use;
- Proper insulation;
- Heating effects under conditions of use;
- Arcing effects;
- Classification by type, size, voltage, current capacity and intended use.

General Rules

The following electrical safety rules also apply to QCM employees:

- Do not conduct any electrical repairs;
- Report all electrical hazards to your supervisor;
- Do not operate equipment if you believe there is an electrical hazard;
- Do not allow electrical equipment or components to contact water;
- Remember that even low-voltage electricity can be physically harmful;
- Do not use cords or plugs that are missing the ‘ground’ prong
- External GFCI must be used whenever your energy source is from temporary power supply in building under construction

- Do not overload electrical receptacles.
- Extension cords should be suspended, or protected
- Any extension cords, tools or equipment with visible damage to wiring must be taken out of service, red tagged and sent back to the shop.
- Light bulbs for general illumination will be protected from breakage
- Metal shell sockets must be grounded.
- Temporary lights will not be suspended by their cords, unless they are so designed.
- Portable lighting used in wet or conducive locations, such as tanks or boilers, will be operated at no more than 12 volts or must be protected by GFCIs.
- Extension cords will be of the three-wire type.
- Extension cords and flexible cords used with temporary and portable lights will be designed for hard or extra hard usage (for example, types S, ST and SO).
- Worn or frayed electric cords or cables will not be used.
- Extension cords will not be fastened with staples, hung from nails, or suspended by wire.
- Work spaces, walkways and similar locations will be kept clear of cords.
- Listed, labeled or certified equipment will be installed and used in accordance with instructions included in the listing, labeling or certification.
- In work areas where the exact location of underground electrical power lines is unknown, employees using jackhammers, bars or other hand tools that may contact the lines will use insulating gloves, aprons or other protective clothing that will provide equivalent electrical protection.
- Barriers or other means of guarding will be used by employees to ensure that work space for electrical equipment is not used as a passageway during periods when energized parts of equipment are exposed.
- Flexible cords will have strain relief provided to prevent pull from being directly transmitted to joints or terminal screws.
- Equipment or circuits that are de-energized will be rendered inoperative and will have tags attached at all points where the equipment or circuits could be energized.

Emergency Action Plan

The purpose of this plan is to provide all contractors quick and effective responses to any emergency, which may occur during the various stages of construction. Fire, severe weather, medical emergency, violence, terrorist threat, or other unidentified conditions that might precipitate such emergencies are all emergencies we should be prepared for.

It should be noted that most emergency situations can be controlled at the scene without initiating an Emergency Evacuation Plan. Should an emergency occur that cannot be handled by the trade's people in the immediate area then the Emergency Evacuation Plan must be activated.

Site Address:

XYZ

EMERGENCY PHONE NUMBERS:

In case of an emergency, dial 911

FIRE/EMS DEPARTMENT (Non-emergency): (513) 555-5555

POLICE DEPARTMENT (Non-emergency): 513) 555-5555

Emergency Coordinator(s):

1. Jaime Burch - (513) 313-7787

2. Rob Wagner - Mobile (513) 939-4828

Steps To Follow In The Event of An Emergency:

1. Call 911.

a. If from a cellular phone, state specific location on project.

b. Give clear, concise information – location of injured person in an excavation, outside, drain, ditch, etc.

2. Subcontractor calling needs to assign another employee not involved with rescue efforts to the QCM office trailer to immediately notify management of the emergency.

3. Subcontractor secures area until assistance arrives at the accident scene.

4. Important – If you can't respond to an emergency safely without endangering your own life, wait until the Fire/Emergency Rescue Team arrives. Do not risk becoming a victim or jeopardizing a co-worker.

Employees - All employees on the project are responsible to:

1. Turn off the equipment they are using, if this can be safely done.

2. Secure all materials in a fashion that will not fall over and cause potential damage or injury.

3. Immediately proceed (walk, do not run) to the designated Clear Zone quickly and safely.

4. Check in with your supervisor and do not leave Clear Zone - personnel must be accounted for.

5. Follow the instructions of the Project Emergency Response Team Leader.

6. Do not prohibit entry to any emergency or official (state or local) vehicle.

7. Do not leave the property unless you are instructed to do so by QCM.

8. Do not re-enter the site until instructed to do so.

9. Do not take photographs and refrain from having any conversation about the accident with any individuals other than an immediate supervisor or a Company representative.

CLEAR ZONE (Head Count) Location:

1. Primary – XYZ.

2. Secondary – XYZ 2 (in the event the first is not accessible due to the emergency)

Emergency Notification Alarm (Type):

1. Radios and cell phones will be utilized to notify supervisors and crane operators of the emergency.

2. Air horns will be sounded to indicate an emergency;

a. Continuous sound – evacuate to the designated CLEAR ZONE location.

b. Intermittent sound – take cover in nearest building structure (not a storage or break trailer)

Severe Weather Procedures:

Refer to Severe Weather Section.

EMERGENCY EVACUATION PLAN

The purpose of this plan is to plan for and execute an organized response and/or evacuation regarding a hazard such as a fire or other emergency that may occur at the worksite.

In the case of an emergency, the Company's primary concern is the safety & health of the employees, the community, and the property. This plan reflects the procedures in order to carry out this task.

This plan will be available for review at the worksite for employees, responder, and federal officials' use.

In the event of a hazard, the Emergency Coordinator must be contacted immediately. The coordinator, if available, will be responsible to notify authorities, direct the response, and determine if total evacuation is necessary. If not on site, the "alternate" will perform these functions.

The Emergency Coordinator will arrange for back-up personnel, first aid/medical treatment, and any other issues as required by the incident or evacuation. Personnel designated to serve as the Emergency Coordinator are listed in the Emergency Action Plan.

On the project there are numerous areas which, in case of an emergency, could be hazardous. These include, but may not be limited to:

Fire from electrical, solvents, gas, etc.

Natural causes such as lightning, tornado, severe thunderstorm, etc.

Propane

Any worker discovering a gas leak, fire, or other hazard, must immediately notify the Emergency Coordinator and, as instructed, contain the spill or extinguish the fire if possible.

EXCAVATION & TRENCHING

Purpose:

This program pertains to all QCM projects and all QCM employees working in and or around any excavations or trenches. Compliance is mandatory to ensure the protection of all QCM employees and subcontractors.

Definitions:

Cohesive Soil – a clay or soil with high clay content so that their particles stick together. Cohesive soil does not crumble or break easily when dry.

Fissured Soil – soil that has open cracks on the surface or the tendency to break or crack.

Plastic – a property of soil that allows it to be deformed or molded without falling apart.

Stable Rock – refers to natural solid mineral matter which can be excavated with vertical sides and remain intact while exposed. Layered or cracked rock is NOT stable rock.

Type A Soil – is cohesive with an unconfined compressive strength of 1.5 tons per square foot (tsf). Type A soils include clay, silty clay, sandy clay, clay loam, caliche, hardpan, and sometimes silty clay loam and sandy clay loam. No soil should be classified as Type A if it is fissured; subject to vibration; or previously disturbed.

Type B Soil – is cohesive soil with an unconfined compressive strength greater than .5 tsf but less than 1.5 tsf. Type B soils include granular cohesionless soils like angular gravel, silt, silt loam, sandy loam and sometimes silty clay loam and sandy clay loam; previously disturbed soils that are not Type C, fissured soils and soils subject to vibration that would otherwise be classified as Type A, and dry rock that is not stable.

Type C Soil – is cohesive soil with an unconfined compressive strength of .5 tsf or less. Type C soils include granular soils such as gravel, sand, and loamy sand; submerged soil, soil from which water is freely seeping, and submerged rock that is not stable.

Benching – a method of protecting coworkers 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 – is 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 an excavation, either by failing or sliding, in sufficient quantity so that it could entrap, bury, or otherwise injure and immobilize a person.

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

Duration of Exposure – the longer an excavation is open, the longer the factors have to work on causing it to collapse.

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

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

Shield – a structure that is capable of withstanding the forces imposed on it by a cave-in and thereby protects coworkers within the structure. Shields can be permanent structures or can be designed to be portable and moved along as work progresses. All shields must be in accordance with 29 CFR 1926.652.

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

Surcharge Loads – generated by the weight of anything in proximity to the excavation.

Trench – a narrow excavation below the surface of the ground, less than 15 feet wide, with a depth greater than the width.

Vibration – a force that is present on construction sites and must be considered. The vibrations caused by backhoes, dump trucks, compactors and traffic on job sites can be substantial.

General Requirements:

Protective systems must be used when there is a potential for cave-in and in all trenches five feet or deeper.

Ladders must be provided in trenches four feet or deeper.

1. Ladders must extend three feet above the surface and be secured.
2. Coworkers should not have to travel more than 25 feet to reach the ladder.
3. Ramps or runways may be used in place of a ladder.

Employees are not permitted underneath loads by lifting or digging equipment.

All excavated soil must be kept at least two feet from the edge of the excavation.

Excavations where water is present, must be dewatered before work begins and continuously, if necessary, to prevent water accumulation.

Where a hazardous atmosphere exists or could reasonably be expected to exist, such as excavations in landfills or where hazardous substances are stored nearby, the air shall be tested before entering the excavation.

A competent person will inspect all excavations and trenches daily, prior to coworker exposure or entry, and after any rainfall, soil change, or any other time needed during the shift. The competent person must take prompt measures to eliminate any and all hazards.

Utilities:

All overhead power lines must be marked with signs where excavating equipment and trucks will be operating.

Underground utilities in open excavations must be protected, supported or removed, as necessary, to protect coworkers.

Contact the local Call Before You Dig Utility Service 48 hours prior to the start of work.

Soil Classification:

All soils must be classified in order to select the proper protective system. At least one visual and manual test must be performed.

Visual Testing

Observe samples of soil that are excavated and soil in the sides of the excavation. Estimate the range of particle sizes and the relative amounts of the particle sizes. Soil that is primarily composed of fine-grained material is cohesive material. Soil composed primarily of coarse-grained sand or gravel is granular material.

Observe soil as it is excavated. Soil that remains in clumps when excavated is cohesive. Soil that breaks up easily and does not stay in clumps is granular.

Observe the side of the opened excavation and the surface area adjacent to the excavation. Crack-like openings such as tension cracks could indicate fissured material. If chunks of soil spall off a vertical side, the soil could be fissured. Small spalls are evidence of moving ground and are indications of potentially hazardous situations.

Observe the area adjacent to the excavation and the excavation itself for evidence of existing utility and other underground structures and to identify previous disturbed soil.

Observe the opened side of the excavation in order to identify any layered systems.

Observe the area adjacent to the excavation and the sides of the opened excavation for evidence of surface water, water seeping from the sides of the excavation, or the location of the level of the water table.

Observe the area adjacent to the excavation and the area within the excavation for sources of vibration that may affect the stability of the excavation face.

Manual Testing

Plasticity Test

Mold a moist wet sample of soil into a ball and attempt to roll it into threads as thin as 1/8” in diameter. Cohesive soil can be successfully rolled into threads without crumbling. If at least a 2-inch length of 1/8” thread can be held on end without tearing, the soil is cohesive.

Dry Strength

Fissured clay, when dry, falls into clumps that break up into smaller clumps on its own or with some force. These smaller clumps, though, are hard to break apart.

Unfissured soil, when dry, can be broken up into clumps that do not break into smaller clumps with pressure. The soil can only be broken with great difficulty. There are also no signs of fissuring on the trench wall or around the area adjacent to the trench.

Granular soil, when dry, crumbles on its own or with some force into individual grains or fine soil.

Thumb Penetration

The thumb test can be used to estimate the unconfined compressive strength of cohesive soils. This test should be conducted on an undisturbed soil sample as soon as practical after excavating to reduce the chance of air-drying the sample. If the sample can be dented, but penetrate only with great effort, it is Type A. If it can be penetrated several inches and molded by light pressure, it is Type C. Type B can be penetrated with effort and molded.

Pocket Penetrometer

This instrument is most accurate when soil is nearly saturated. This instrument will give unconfined compressive strength in tons per square foot. The spring-operated device uses a piston that is pushed into a coil up to a calibration groove. An indicator sleeve marks and retains the reading until it read.

Excavation Protective Systems

The three basic protective systems for excavations and trenches are sloping and benching systems, shoring, and shields.

The protective system shall have the capacity to resist without failure all loads that are intended or could reasonably be expected to be applied to or transmitted to the system. Every coworker in an excavation shall be protected from cave-ins by an adequate protective system.

Sloping and Benching Systems

This section contains specifications for sloping and benching when used as methods of protecting employees working in excavations from cave-ins. The requirements of this section apply when the design of sloping and benching protective systems is to be performed in accordance with the requirements set forth in 1926.652(b)(2).

Maximum allowable slope

The maximum allowable slope for a soil or rock deposit shall be determined from the Table of this section.

Actual slope

- The actual slope shall not be steeper than the maximum allowable slope.
- The actual slope shall be less steep than the maximum allowable slope, when there are signs of distress. If that situation occurs, the slope shall be cut back to an actual slope which is at least 1/2 horizontal to one vertical (1/2H:1V) less steep than the maximum allowable slope.

- When surcharge loads from stored material or equipment, operating equipment, or traffic are present, a competent person shall determine the degree to which the actual slope must be reduced below the maximum allowable slope, and shall assure that such reduction is achieved. Surcharge loads from adjacent structures shall be evaluated in accordance with 1926.651(i).

Sloping and benching systems shall be in accordance with this section.

Maximum Allowable Slopes for Excavations Less Than 20 Feet Soil or Rock Type	Max Slope (H:V)	Max Slope (degrees)
Stable Rock	Vertical	90
Type A	3/4 : 1	53
Type B	1 : 1	45
Type C	3/2 : 1	34

All slopes stated below are in the horizontal to vertical ratio.

Excavations made in Type A soil

- All simple slope excavation 20 feet or less in depth shall have a maximum allowable slope of 3/4:1. Exception: Simple slope excavations which are open 24 hours or less (short term) and which are 12 feet or less in depth shall have a maximum allowable slope of 1/2:1.
- All benched excavations 20 feet or less in depth shall have a maximum allowable slope of 3/4 to 1.
- All excavations 8 feet or less in depth which have unsupported vertically sided lower portions shall have a maximum vertical side of 3 1/2 feet.
- All excavations more than 8 feet but not more than 12 feet in depth with unsupported vertically sided lower portions shall have a maximum allowable slope of 1:1 and a maximum vertical side of 3 1/2 feet.
- All excavations 20 feet or less in depth which have vertically sided lower portions that are supported or shielded shall have a maximum allowable slope of 3/4:1. The support or shield system must extend at least 18 inches above the top of the vertical side.
- All other simple slope, compound slope, and vertically sided lower portion excavations shall be in accordance with the other options permitted under 1926.652(b).
- Excavations Made in Type B Soil
- All simple slope excavations 20 feet or less in depth shall have a maximum allowable slope of 1:1.
- All benched excavations 20 feet or less in depth shall have a maximum allowable slope of 1:1.
- All excavations 20 feet or less in depth which have vertically sided lower portions shall be shielded or supported to a height at least 18 inches above the top of the vertical side. All such excavations shall have a maximum allowable slope of 1:1.
- All other sloped excavations shall be in accordance with the other options permitted in 1926.652(b).

Excavations Made in Type C Soil

- All simple slope excavations 20 feet or less in depth shall have a maximum allowable slope of 1 1/2:1.
- All excavations 20 feet or less in depth which have vertically sided lower portions shall be shielded or supported to a height at least 18 inches above the top of the vertical side. All such excavations shall have a maximum allowable slope of 1 1/2:1.
- All other sloped excavations shall be in accordance with the other options permitted in 1926.652(b).

Shoring, Shielding and Other Protective Systems

The design of shoring systems, shield systems, and other protective systems shall be constructed according to one of the following options:

Systems may be designed using appendices A, C, and D of the OSHA regulations. Design of timber shoring in trenches shall be made according to appendix A and C. Appendix A is used to analyze the soil type and appendix C to select the proper timber shoring configuration.

Protective systems may be designed using tabulated data from the manufacturer. This option allows the use of manufactured protective systems such as metal hydraulic shoring or shields. Protective systems designed by this option shall be constructed and used according to the specifications and requirements of the manufacturer. Deviation from these requirements is allowed if written approval is obtained from the manufacturer. This approval must be kept at the jobsite during construction of the protective system.

Systems may be designed using other tabulated data if the data has been approved by a registered professional engineer. The tabulated data shall be in written form and include the following:

- Identification of the factors that affect the selection of a protective system drawn from such data.
- Identification of the limits of use of the data.
- Information needed by the user to make a correct selection of a protective system from the data.

At least one copy of the tabulated data, identifying the registered professional engineer who approved the data, shall be maintained at the jobsite during construction of the protective system.

Protective systems can be designed by a registered professional engineer. Designs shall be in written form and include a plan indicating the sizes, types, and configurations of the materials used and the identity of the registered professional engineer. At least one copy of the design shall be maintained at the jobsite during construction of the protective system.

Materials and equipment used for protective systems shall be free from damage or defects that might affect their function.

Manufactured materials and equipment used for protective systems shall be used and maintained according to recommendations of the manufacturer, and in a manner that will prevent worker exposure to hazards.

When material or equipment used for protective systems are damaged, these systems must be examined by a competent person to evaluate its suitability for continued use. If the competent person cannot assure the safe use of the system, then the material or equipment shall be removed from service and evaluated by a registered professional engineer.

Members of support systems shall be securely connected to prevent sliding, falling, kick out, or other failure.

Support systems shall be installed and removed in a way that protects coworkers from cave-ins, structural collapses, or from being struck by members of the support system.

Individual members of support systems shall not be subjected to excessive loads.

Before temporary removal of individual support members begins, additional precautions shall be taken to ensure the safety of coworkers. These precautions could include the installation of other structural members to carry the loads imposed on the support system.

Removal of support systems shall begin at the bottom of the excavation. Members shall be released slowly. If there is any indication of possible failure of the remaining structure or possible cave-in the work shall be halted until it can be examined.

Backfilling shall progress with the removal of support systems from excavations.

The following additional requirements for support systems are specific for trench excavations:

- Excavation of material to a level not more than two feet below the bottom of a support system is allowed, but only if the system is designed to resist the forces calculated for the full depth of the trench. There shall be no indications while the trench is open of a possible loss of soil from behind or below the bottom of the support system.
- Installation of a support system shall be closely coordinated with the excavation of trenches.

Shield systems shall not be subjected to loads greater than their design capacity.

Shields shall be installed to restrict lateral or other hazardous movement of the shield that could occur during cave-in or unexpected soil movement.

Employees shall be protected from cave-ins when entering or exiting the shield.

Employees shall not be allowed in shields when shields are being installed, removed, or moved vertically.

Additional requirements for shields used in trenches:

- Excavation of material to a level no greater than 2 feet below the bottom of the shield system is allowed, but only if the system is designed to resist the forces calculated for the full depth of the trench. There shall be no indications while the trench is open of a possible loss of soil from behind or below the bottom of the shield system.

Inspections:

A competent person shall conduct daily inspections of excavations, adjacent areas, and protective systems for evidence of a situation that could result in possible cave-ins, failure of protective systems, hazardous atmospheres, or other hazardous conditions. The inspection shall be conducted before the start of work and as needed through the shift. Inspections shall also be made after every rainstorm or other occurrence that may increase hazards.

Where the competent person finds evidence that could result in a possible cave-in, failure of protective systems, hazardous atmosphere, or other hazardous conditions, exposed coworkers will be removed from the hazardous area until precautions have been taken to assure their safety.

A written log of all inspections will be maintained by the competent person. The log shall include the date, work site location, results of the inspection, and corrective actions.

Fall Protection Program

Policy Reference: 29 CFR 1910 & 1926

Policy: It is the policy of Queen City Mechanicals, Inc. to protect its employees from fall and from Falling Objects from our elevated work. This policy will address these topics including both operations and maintenance and construction rules.

WORKING SURFACES AND PLATFORMS – Should work be on a work surface or platform which is 6 feet or more above the surrounding surface, guardrails, mid-rails, and toe boards are required.

SIX FOOT (6) CRITERIA – Should work being performed be over 6 feet from the lower surface, fall protection engineered systems are required. This will be guardrails, barrier cables, or other engineered protection. If these barriers are not feasible, then Personal Fall Arrest systems will be used.

SIX FOOT (6) CRITERIA FOR EXCAVATIONS: If the excavation or trench is not readily visible due to vegetation or other natural growths, fall protection must be in place to prevent accidental falls into the open excavation. When the work is left open overnight and the site is not secure the excavations will be barricaded off to prevent falls open excavations. If the public has access to the open excavation, Extraordinary Precautions will be put into place to guard against their accessing the open excavation.

FOUR FOOT (4) CRITERIA – Employees not on a construction site and are completing warranty or maintenance work or work inside QCM's shop are required to engage fall protection at the 4-foot level.

WHY THREE STANDARDS? OSHA has a General Industry Standard and a Construction Standard. All operations and maintenance activity falls under the General Industry Standards and all construction activity falls under the Construction Standard. All actions and equipment discussed in this policy will comply with the applicable OSHA Standard. General Industry has a four-foot protection level and Construction has a six-foot level. The Construction Standard also recognizes Excavation as unique and we must comply with all three requirements.

FALL ARREST SYSTEMS – A fall arrest system is comprised of a full harness, lanyard, and appropriate tie off apparatus.

FALL ARREST DISTANCE – A person may not fall more than 2 feet without their Fall Arrest Equipment engaging to arrest the fall. Once fully engaged the fall arrest distance will be limited to not more than 1,800 lb. force and 6 feet. If the distance to the next lower level is less than 6 feet, the Lanyard must be sized accordingly.

WORK FROM MAN LIFTS AND OTHER LIFT EQUIPMENT – When working from articulating man lifts or other such equipment, all personnel will wear a Fall Arrest Harness and be tied off to the anchor point provided in the lift basket. It is suggested that the lanyard used be a positioning lanyard to limit the employee from being ejected out of the basket.

AUTHORIZATION FOR WORK REQUIRING FALL PROTECTION - Before any work being performed, supervisory personnel will review the work and work area and, should fall hazards exist which require more than basic fall protection and/or fall arrest, an OSHA Compliant Site Specific Fall Control Plan will be developed by a Competent Supervisor. This plan will be reviewed with all personnel who are affected by the plan and include, but not be limited to, client or other people affected by the Plan. In

addition, a Controlled Access Zone may be required. This will be determined by the Supervisor authorizing the work.

ROOFING WORK ON LOW-SLOPE ROOFS - Each employee engaged in roofing activities on low-slope roofs, with unprotected sides and edges 6 feet or more above lower levels shall be protected from falling by guardrail systems, personal fall arrest systems, or a combination of warning line system and guardrail system, or warning line system and personal fall arrest system, or warning line system and safety monitoring system. Or, on roofs 50-feet or less in width, the use of a safety monitoring system alone [i.e. without the warning line system] is permitted.

LOW-SLOPE ROOF – a roof having a slope less than or equal to 4" in 12" (vertical to horizontal). STEEP

ROOF – Roof having slope greater than 4":12" Steep roofs may not employ safety monitoring or warning line systems. Protection on Steep Roofs mainly involves anchor points at the peak or scaffolds at the eaves to eliminate a fall. If anchors are used at the peak, Retractable Lanyards or 5/8" rope grabs are used to permit employees vertical and lateral movement. Swing factor must be taken into consideration when anchor points allow employees near a side edge.

SAFETY MONITORING SYSTEM - a safety system in which a competent (Monitor) person is responsible for recognizing and warning employees of fall hazards on roofs too small to accommodate conventional fall arrest or fall prevention equipment.

SAFETY MONITOR – The Competent Person in charge of alerting employees under his supervision of fall risks. The Safety Monitor will have no other assignments and must be on the same level as the people being monitored and must be capable of voice communications.

TRAINING AND INFORMATION – General information regarding falls and the OSHA Standards applicable to this work will be presented in the training program. In addition, specific fitting and use of the Fall Arrest System will be covered in the program. Employees found deficient in their level of knowledge will be retrained prior to being put back into a fall protection situation. A signed training log will be maintained in the Corporate Office for all Fall Protection Training.

WARNING LINES - Warning lines are erected as a warning to prevent employees from getting near a fall hazard. Warning Lines must be flagged at 6 foot intervals with high visibility flags, on stanchions capable of withstanding a 16 lb. tip over force and the Warning Line must not dip lower than 34 nor rise above 39 inches from the surface. If wheeled equipment is used on the roof, a Warning Line must be at least 10 feet back from any open edge. Breaking strength of the line must be at least 500 lb. and the line must be secured to each stanchion so that if it is cut between any two stanchions it will not fall from the remaining.

LEADING EDGE – Leading edge is defined as a walking surface that has an open edge that continually changes due to construction or demolition. Example: Laying new decking.

PARAPET WALL – A vertical continuation of the exterior wall above the roof deck. May be as little as a couple of inches or as great as 12 feet or more. May only count as fall protection if at least 39 inches high.

MANSARD ROOF – Common on plaza walkway roofs. Slopes increase toward bottom of roof with top almost vertical. On larger buildings they are used for additional living space.

HORIZONTAL LIFT LINE - Horizontal Lift Lines are set up and designed to allow lateral movement of employees on a single level. Anchor points and life lines must be chosen with the 5,000 lb. anchorage level per person protected as a prime directive. Also needing to be considered is spacing between anchor points. Each anchor point must independently anchor the life line and not simply act as a pass through point. The more anchor points used the safe the life line since, if one person falls, everyone within same section of line is also likely to fall. Shock Absorbing lanyards are required when tied to a Horizontal Life Line.

GUARDRAILS, MIDRAILS – Guardrails and Midrails must be as follows: Guardrails must withstand a 200lb. force pushing outward or downward upon them; they must be mounted at 42 inches plus/minus 3 inches; so between 39 and 45 inches above the deck. Midrail must be erected anytime the guardrail does not have a barrier beneath it at least 19 inch high. Midrails will be mounted at 19 inches or roughly ½ way between any lower level and the guardrail. Midrail must withstand a 150lb load outward or downward placed upon them. Guardrails and Midrails made of wire rope must be flagged every six feet with high visibility flagging and must be at least one quarter inch nominal diameter wire rope. Steel & Plastic Banding is prohibited as a Guardrail or Midrail. Wire rope needs to meet the sag rules, so it must be stretched tight to comply.

PRE-WORK CHECK & THE FALL PROTECTION PLAN

Prior to beginning work in any area or on any structure or equipment where fall hazards exist, a pre-work check must be completed that includes the following items: ROOFS – 100% protected by parapet walls at least 39 inches high; guardrail systems; or higher building walls of penthouses or other connected buildings.

WALL OPENINGS TO LEVELS BELOW – Must be closed by intact building structure capable of withstanding 200 lb. force. Windows with sills below 39 inches must have protection installed such as a guardrail or expanded metal screen.

FLOOR OPENINGS OF TWO INCHES OR LARGER – Must meet roof requirement or hole must be covered with plate capable of withstanding twice the anticipate load that may cross over the hole cover. The Cover must be conspicuously labeled as a “Hole” or “Cover” and secured to prevent displacement. If fall hazards exist and cannot be eliminated by guardrails or building design, and pre-cast concrete or Leading Edge work is taking place a written plan will be developed to address areas open to fall hazards. This will include hazards generated by work affecting the general public such as items falling from buildings onto public sidewalks.

Work Procedures - If any one of the conditions described in Pre-Work Check is not met for the area or piece of equipment posing a potential fall hazard, then employees may not perform that work until the condition is met. If the condition cannot be remedied immediately, a supervisor or Safety Director must be notified of the problem.

If the situation calls for use of fall protection devices, such as harnesses, or positioning or restraining devices, then the employee must don such protective equipment before beginning the work and use it as intended throughout the duration of the work. Only employees specifically trained in Fall Protection including Arresting & Restraint Systems may wear Fall Protection Equipment.

All equipment used for fall protection must be specifically designed for that purpose and may not be used for any other purpose. Harness, Lanyard and any other connecting components must be compatible and connecting devices sized to prevent rollout. All snap hooks must be double-locking.

All anchorages used to secure fall arrest equipment will be independent of any anchorage used for support or to suspend platforms, except in single elevator shafts where dummy cars are positioned below.

To protect the public and employees below, anytime a guardrail is placed at the edge of the working level a toe board will also be installed to prevent objects from being kicked off the edge of the level. Toe boards are to be no further off the walking level than ¼ inch and must be 3 ½ inch high capable of withstanding a 50 lb. force applied laterally. A piece of 2X4 lumber is generally acceptable as a toe board when laid on edge. Toe boards are not required when guardrails are used on the interior of a level away from any edges.

Only employees trained in such work are permitted to perform it. To prevent slipping, tripping, and falling, all places of employment, passageways, storerooms, and service rooms must be kept clean and orderly and in a sanitary condition. The floor of every workroom will be maintained in a clean and, so far as possible, dry condition. Where wet processes are used, drainage will be maintained and false floors, platforms, mats, or other dry standing places are provided where practicable.

If working in an area where pedestrian traffic is a concern, walkway protection will be erected to protect the public, if the walkway cannot be closed and barricaded off. This is generally done using scaffolding with layered plywood tops set up and layered based upon the risk involved with the objects that might drop and the distance they may fall. This includes entrances and exits of buildings, public sidewalks, etc.

SCAFFOLDING - The only acceptable forms of fall protection on scaffolding is guardrails, midrails and toeboards, unless employees tie off to an anchor point above them and independent of the scaffold. When screw jacks, casters, or feet & mudsills increase the height of the first level to greater than 5 feet all other occupied levels will require guardrails, midrails and toe boards.

ACCESS TO WORKING LEVELS AND ROOFS - When working on a level accessed by ladder, the ladder must be secured and extend at least 3 feet above that landing level. In addition, the fall protection system in place must be configured so as to require a person to negotiate at least one turn in the protection barrier to gain access to the ladder from the elevated open area. We will not permit the ladder to be the only barrier to a fall.

DEBRIS CHUTES & ROPE HOISTS - Debris Chutes will be guarded when not in use. Employees loading the chute will be protected by a guardrail system or be tied off to an approved anchor point. Employees will not enter the chute to clear blockages. Rope Hoists and associated landing areas will be protected by guardrail when not in use.

SKYLIGHTS AND VENTILATION SHAFTS - Sky Lights and Ventilation Shafts will be treated as a Fall Hazard and protected with guardrails or Warning Lines set back at least 6 feet; 10 feet if wheeled equipment is on same level.

AERIAL LIFTS – Employees using aerial lifts may be required to use a fall arrest harness and lanyard. Employees using articulating boom lifts must tie off to the manufacturer's anchor point inside the lift basket. Employees in scissors lifts are not required to tie off unless an anchor point specifically designed

for this purpose is already installed by the manufacturer, and tie off is recommended by the manufacturer.

Aerial lifts will not be used as elevators unless the lift floor is on the same plane as the level you exit onto and you exit and enter via the lift's gate and not over the rails.

It is highly recommended that employees in aerial lifts use a positioning lanyard instead of a 6 ft. shock absorbing lanyard when inside the lift basket. The point of tying off is not for fall protection, but rather ejection protection. Therefore, the shorter the lanyard, the better when in an aerial lift.

The Safety Department will conduct regular unannounced audits of all job sites and operations to include equipment and personnel. Project Managers will also be held accountable for checking on their job site with each visit.

There may be situations where it is necessary to exit a lift in the raised position to reach your work. This will only be done when protected by 100% Fall Arrest Protection prior to leaving the floor of the lift. You must also have permission from Senior Management prior to contemplating this move. No other feasible means of completing the job will be a deciding factor.

All Falls and Near Miss Incidents must be reported and investigated by the Safety Department so that procedures may be reviewed and changed if necessary.

Hand and Power Tools

Reference: 29 CFR 1910.132, 145, 242, 243; 1926.20, 300

A. PURPOSE

All hand and power tools, whether provided by our company or owned by the employee, will be inspected and maintained in a safe condition. Tools provided by a subcontractor for their use are the responsibility of the subcontractor, but must meet both QCM standards as well as OSHA regulations.

Guards on all tools are to be maintained in good condition, remain in place, and be operable at all times. Guards will not be moved or manipulated so as to compromise the integrity of the guard or lessen the protection for which the guard is intended.

All work is subject to our company's Personal Protection Policy (PPE) and Hazard Communication Policy and programs. Those jobs where employees may be exposed to falling or flying objects, abrasive or splashing materials, or harmful dusts, mists, vapors, or gases will be provided with the appropriate PPE to protect them from the hazard.

Any tool which is not in compliance with this policy will be prohibited from being used, identified as being unsafe, and removed from service. This will include, but not be limited to, tagging, lock out of controls, etc. When possible, unsafe tools will be physically removed from the site as soon as possible.

B. TYPE OF TOOLS

1. AIR TOOLS – Pneumatic power tools hose connections will be secured in a positive manner to prevent accidental disconnection. Safety clips or retainers will be securely installed and maintained on pneumatic impact tools to prevent attachments from being accidentally expelled a. The manufacturer's safe operating pressure for all fittings will not be exceeded. All hoses exceeding ½ inch inside diameter will have a safety device at the source of supply or branch line to reduce pressure in case of a hose failure.
2. HAND TOOLS – Only tools with safe tight handles, free of splinters and cracks, wrenches without sprung jaws, and impact tools without mushroomed heads will be used. Screw Drivers will not be used as pry bars or chisels.
3. SAWS (PORTABLE CIRCULAR) – Portable, power driven circular saws will be equipped with guards above and below the base plate or shoe. The lower guard will cover the saw to the depth of the teeth, except for minimum arc required to allow proper retraction and contact with the work. The guard will automatically return to the covering position when the blade is removed from the work.
4. POWDER ACTUATED TOOLS – Only trained and authorized employees will be allowed to operate powder actuated tools and must be in accordance with manufacturer's instructions. All tools will be tested before use and all defects discovered before or during use will be corrected. Tools will not be loaded until immediately before use and loaded tools and shot loads will NEVER be left unattended.
5. POWER CORDS – Cords on Power Tools and Extension Cords will meet tool manufacturer specifications. Extension cords will be minimum 3-conductor 15amp cords with no cuts, splices or

repairs to cord jacket. Plugs will be 3 prong unless double insulated and strain relief will be inspected for wear prior to use.

C. DAMAGED TOOLS

1. All damaged tools will be taken out of service until repaired or returned to the shop for maintenance or repair as needed.
2. Damaged cords will be cut. The only repair permitted to a damaged cord is to make it shorter at the cut or defect and place an appropriate replacement plug end onto the cord. If the tool case must be opened to repair strain relief the tool will be returned to the shop for repair.
3. Ladders will not be repaired in the field.
4. Any internal combustion engine will be disconnected from its spark plug or battery and engine cool before servicing. Fire Prevention equipment will be readily at hand when working on internal combustion engines or fuel systems.
5. All tool repairs will be logged into the Daily Construction log unless sent off site for repair. If sent to a 3rd party repair center the transaction must be logged.

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Fire Protection & Prevention

References: 29-CFR-1926.; 29-CFR-1910.

Queen City Mechanicals, Inc. recognizes the risks and dangers associated with fire, flammable, combustible and explosive materials and our responsibility to properly handle, transport, store and dispose of same.

All employees of QCM will be trained in the proper use of Class ABC Fire Extinguishers. This training will cover the use, limitations, storage, inspection, and the need for annual and periodic checks by a licensed service agent.

Queen City Mechanicals, Inc. will employ the PASS Method for use of portable extinguishers.

PASS stands for

Pull

Aim

Squeeze

Sweep

Employees using the extinguishers will Pull the Pin; Aim the nozzle at the base of the flame; Squeeze the trigger handle; and Sweep back and forth across the base of the flames. The employee may work up higher only after the base of the flames have been extinguished.

Employees are limited to using only ONE fire extinguisher on Incipient Stage Fires (fires that have just start). If the fire is larger, employees are mandated to evacuate the area and sound the alarm. They may use extinguishers to aid their escape; but they shall not stay and fight the fire unless it is blocking their path of escape.

<u>Storage of Materials</u>

Material storage will be neat and organized. Combustible materials will be limited to minimize fire load. Flammable liquids and compressed gasses will be stored with fuels separated from oxidizers with bottle capped and protected in an upright position to keep them from falling. The separation distance shall be twenty feet or more unless the fuel is shielded from the oxidizer with a five foot high fire wall good for one hour. A suitable ABC Fire Extinguisher will be positioned within 50 feet of all flammable liquid and compressed gasses. The extinguisher is NOT TO BE PLACED within 10 feet of the product, but must be within 50 feet.

All Hot Work (Welding, Gouging; Grinding, etc.) will have at a minimum a 5lb. ABC Fire Extinguisher at the following locations; at the point of operation, and if welding, within 15 feet of the compressed gasses - if not electric arc.

Anytime a fire watch is required, employees assigned fire watch will be trained in their responsibilities.

1) Must wear a distinctive high visibility vest or shirt which sets them apart from other employees.
2) Must have an appropriately sized ABC Fire Extinguisher Ready at Hand.
3) Must survey his/her area for flammable and combustible materials and take steps to shield them from the hot work.
4) Must remain in the area of his/her responsibility until such time as relieved or the need for Fire Watch has expired.
5) May use Fire Extinguisher to extinguish incipient stage fires discovered during his duties on fire watch or must sound the alarm to evacuate.

All partially discharged fire extinguishers will be removed from the job and sent back to the shop for servicing. We will check extinguishers on a monthly basis and prior to sending to the field for proper pressure, annual inspection documentation, physical damage, secured handle pin and clear discharge hose/bell.

Owners should provide guidance on their facility's Emergency Action Plans.

Hazard Communication Policy

Ref: 29-CFR-1910.1200

(This Policy Complies with 2012 GHS Standards)

Company Policy

To ensure that information about the dangers of all hazardous chemicals used by Queen City Mechanicals, Inc. is known by all affected employees, the following hazardous information program has been established. Under this program, you will be informed of the contents of the OSHA Hazard Communications standard, the hazardous properties of chemicals with which you work, safe handling procedures and measures to take to protect yourself from these chemicals.

This program applies to all work operations in our company where you may be exposed to hazardous chemicals under normal working conditions or during an emergency situation. All work units of this company will participate in the Hazard Communication Program. Copies of the Hazard Communication Program are available in the job trailers and Safety Office for review by any interested employee.

The Safety Manager is the program coordinator, with overall responsibility for the program, including reviewing and updating this plan as necessary.

Container Labeling

Project Superintendents will verify that all containers received for use will be clearly labeled as to the contents, note the appropriate hazard warning, and list the manufacturer's name and address. The foreman in each section will ensure that all secondary containers are labeled with either an extra copy of the original manufacturer's label or with labels marked with the identity and the appropriate hazard warning. For help with labeling, contact the Safety Manager. On individual stationary process containers, we have the option of developing a “Common Use Name” and linking it to the Product label name rather than a label to convey the required information.

Anytime this Common Use Name is used the fact that it linked to a specific product must be prominently posted so that the proper SDS can be found when needed.

Safety Data Sheets (SDSs)

The Safety Manager is responsible for establishing and monitoring the company SDS program. He/she will ensure that procedures are developed to obtain the necessary SDSs and will review incoming SDSs for new or significant health and safety information. He/she will see that any new information is communicated to affected employees. The product will not be used when an SDS is not received at the time of initial shipment.

The Safety Manager or person purchasing the product will contact the vendor and request the current SDS be faxed to the Safety Manager. If the SDS is not received the product will be returned to the vendor for credit.

Copies of SDSs for all hazardous chemicals to which employees are exposed or are potentially exposed will be kept in the Safety Office and all Superintendent Job Trailers.

SDSs will be readily available to all employees during each work shift. If an SDS is not available, contact the Superintendent or Safety Manager. SDSs will be readily available to employees in each work area using the following format:

Hard Copy and/or Digital Copy on Computer. Note: If an alternative to paper copies of SDSs is used, describe the format and how employees can access them.

When revised SDSs are received, the following procedures will be followed to replace old SDSs: Old SDS will be placed into an obsolete file and not discarded. Obsolete SDS will be used in later years to prove known hazards and PPE of the day when it was original used. All Obsolete SDS will have the date they are retired written on the Top Margin of the first page.

The Obsolete file will be kept in the Safety Manager's office.

Employee Training and Information

The Safety Manager is responsible for the Hazard Communication Program and will ensure that all program elements are carried out. Everyone who works with or is potentially exposed to hazardous chemicals will receive initial training on the hazard communication standard and this plan before starting work. Each new employee will attend a health and safety orientation that includes the following information and training:

- An overview of the OSHA hazard communication standard
- The hazardous chemicals present at his/her work area
- The physical and health risks of the hazardous chemicals
- Symptoms of overexposure
- How to determine the presence or release of hazardous chemicals in the work area
- How to reduce or prevent exposure to hazardous chemicals through use of control procedures, work practices and personal protective equipment
- Steps the company has taken to reduce or prevent exposure to hazardous chemicals
- Procedures to follow if employees are overexposed to hazardous chemicals
- How to read labels and SDSs to obtain hazard information
- Location of the SDS file and written Hazard Communication program

Prior to introducing a new chemical hazard into any section of this company, each employee in that section will be given information and training as outlined above for the new chemical hazard. The training format will be as follows:

The supervisor will review the SDS with each employee. Employees will be given the opportunity rear the SDS for themselves in addition to the supervisor reading it to them. If new or unique PPE is required, training on that particular PPE will also be given prior to the product being placed in service. All employees will receive annual refresher training regarding this policy.

List of Hazardous Chemicals

When new chemicals are received, this list is updated (including date the chemicals were introduced) within 30 days. To ensure any new chemical is added in a timely manner, the following procedures shall be followed:

All Purchase Orders will stipulate that a current SDS be supplied with all chemicals ordered.

If metals are ordered which require thermal heating for welding, cutting, brazing or soldering, an SDS will be secured for the metal and whichever type of welding rod, flux, solder or gasses are used in the process.

Chemicals in Unlabeled Pipes

Work activities are sometimes performed by employees in areas where chemicals are transferred through unlabeled pipes. Prior to starting work in these areas, the employee shall contact Job Site Superintendent who will contact building owner for information regarding:

- The chemical in the pipes
- Potential hazards
- Required safety precautions

Program Availability

A copy of this program will be made available, upon request, to employees and their representatives This Policy Requires a Hazardous Chemical Inventory be completed and kept up to date.

HEARING CONSERVATION PROGRAM

References: 29 CFR 1910.95; 1926.52 & 101

PURPOSE

It is the intent of our company to comply with 29 CFR 1910 and 1926, Occupational Noise Exposure. Construction activities have a wide range of noise levels. Jack Hammers, Grinders, Various Power Tools, Heavy Equipment all either exceed the exposure level or have the potential to exceed the exposure level.

Workplace Evaluation and Monitoring

Power tools used commonly in construction such as grinders, reciprocating saws, hammer drills, etc. create a level of noise that must be considered. NIOSH, a federally funded research organization, has performed extensive research to determine the level of noise produced by various types of tools, and by several manufacturers. This information can be found at: http://wwwn.cdc.gov/niosh-sound-vibration

OSHA permits a "walk around" noise exposure study. During pre-planning, we can make some determinations on the potential for excessive noise exposure on the job site. By combining observations from a walk around, and understanding the types of tools and equipment we will be using on the job, the Superintendent or foreman can identify job sites or conditions that may require hearing protection.

Some general criteria for determining if PPE will be required includes:

- Noisy conditions can make normal conversation difficult.
  - ←
  - ← When noise levels are above 80 decibels (dB), people have to speak very loudly.
  - ← When noise levels are between 85 and 90 dB, people have to shout.
  - ← When noise levels are greater than 95 dB, people have to move close together to hear each other at all.

** Referenced from OSHA's Noise and Hearing Conservation Technical Manual

Referencing the above guidelines, if you find that the majority of the workday, crew members need to speak loudly, they should be wearing hearing protection.

When using impact tools and equipment, the force of the impacts result in greater decibel limits. Employees and subcontractors are required to wear hearing protection during these activities.

If a Customer has a Hearing Conservation program in place, QCM employees and subcontractors are required to wear hearing protection.

If it is determined during pre-job safety planning that based upon the scope of work, the location, and any equipment or machinery in the work area, there may be levels of noise that exceed 95 db, please contact the Safety Manager so that we can have the work location properly evaluated.

CARE AND USE OF HEARING PROTECTION EQUIPMENT

Hearing protection equipment will be fitted, cleaned, and maintained in accordance with the manufacturer's recommendations. Hearing protection equipment will be inspected and maintained

before and after each use. The care and use of hearing protection equipment will be covered in the Hearing Conservation Training Program as outlined in this program/policy.

HOT WORK PROCEDURES

Ref: 29-CFR-1926.150-159 & .350-.354

POLICY

Queen City Mechanicals, Inc., will maintain safe and secure operations when working with activities which could result in fire. This will include electric arc welding, oxyacetylene welding and cutting, soldering, brazing, plasma cutting, and any other activity such as metal grinding and gouging which produces sparks or flames. Care will be taken to safeguard surrounding from catching fire and protection adjacent employees from the dangers of flash resulting from the intense light energy released during welding operations and debris generated from grinding operations.

PROCEDURES

Prior to beginning work outlined above, the employee will:

1. Fill Out a QCM Hot Work Permit (Attached to this policy)
2. Clear the area surrounding his/her work zone of all combustible materials.
    a. Place fire resistant coverings over anything that cannot be moved out of the way.
3. Erect Flash Screens, if surroundings do not offer protection to others from flash being generated.
4. Make sure a properly rated ABC Fire Extinguisher is ready at hand.
5. If appropriate, notify building owner of planned actions and/or post a Fire Watch which should be in place for a minimum of thirty minutes after work is completed.

When complete, the employee will:

1. Secure the welding equipment and fuels, making sure that if electric, it is disconnected from power supply and if it is oxyacetylene, the bottles are closed and hoses bleed.
2. If the Hot Work was grinding, the employee will police the area of all grinding fines.
3. The employee will then restore the area to its prior condition by returning any items removed for safe-keeping or removing any fire blankets placed for protection.
4. If building owner was notified they will be apprised of the end of work and offered inspection of the area for fire safe conditions.

Supervisors and Employees welding must be trained in the type of welding being done; the necessary prep of the work piece and area and the required safety setup to minimize flash hazards and fire hazards.

Welders are required to clear the area of flammable and combustible materials and if that is not possible, must erect shields or place fire blankets on the materials which cannot be moved.

If flammable or combustible material cannot be moved or shielded then the hot work will not be done.

Fire Watch will be posted when required by client or when there is significant flammable or combustible materials present. See Fire Protection for Fire Watch.

Prior to commencing Hot Work, employees will fill out and have available the attached Hot Work Permit. Additional Paperwork may be required from client.

If the Hot Work will generate hazardous fumes which cannot managed and which may affect other employees or the client then fume extraction ventilation must be employed with filtering.

Any defective equipment, company owned or rented, must be removed from service and returned for repair. If equipment is needed and unavailable, the job must be delayed until the equipment is replaced.

All Employees, especially supervisor, welders, and fire watch personnel involved in Hot Work will receive training in the use of dry chemical ABC Fire Extinguishers. Employees will be trained in the PASS Method of Pulling the Pin, Aiming the Discharge Hose at the base of the flames, squeezing the Extinguisher Trigger and Sweeping back and forth across the base of the flames.

Employees are trained to sound the alarm if the fire cannot be easily extinguished with a single fire extinguisher.

Incident Reporting and Emergency Procedures

In the event of an injury, no matter how slight, it must be reported to QCM Safety Department immediately. This includes, but is not limited to, cuts, abrasions, lacerations, muscle strains, joint sprains, etc., as well as, major injuries such as fractures, serious lacerations, and heart attacks. Failure to report an injury or property damaging event at the time that it happens is grounds for termination of employment and can result in loss of workers' compensation benefits.

Construction is often times a demanding profession. Minor cuts, sprains, strains, and splinters are common. Employees should report these to QCM Safety Department. Failure to report injuries at the time that they happen will release the company from any responsibility for workers' compensation coverage, even if the employee later determines medical treatment is needed. Reporting the injury at the time that it happens will not automatically cause you to seek treatment, but will preserve your rights to the workers' compensation system, if at a later time you determine it is needed. It also affords QCM the opportunity to make corrective actions to keep whatever injured you from injuring anyone else in the future.

To comply with QCM Drug Free Safety Program, an employee who is injured and decides to later seek treatment, must still submit to drug and alcohol testing at the time of their initial treatment, no matter how long after the injury the treatment occurs.

All Injuries and Property Damaging Incidents must be documented on a QCM Internal Incident Report. The First two pages of which are filled out by the employee involved. The third and fourth pages are for that employee's supervisor to fill out. Every Internal Incident Report includes a Reasonable Suspicion Checklist and it must be filled out for each injury and incident documented with an Internal Incident Report.

For minor injuries requiring cleanup, the injured employee, once first aid is applied, will be provided the appropriate disinfectant and cleanup supplies for disinfecting the workplace, equipment or product. This procedure will be supervised and documented by a supervisor. For more serious injuries, where outside medical attention is deemed necessary, the supervisor will provide the cleanup under the provisions of our Bloodborne Pathogens Policy. This activity will be documented by the supervisor. All clean up materials will be collected and put into the trash dumpster using a sealed bag or container.

If first aid is given, a call to QCM Safety is required. QCM Safety will maintain a First Aid Log and if the injury is serious enough, Safety will ensure the appropriate entry is made on the OSHA 300 log. For this reason, all first aid cases must include a QCM Internal Incident Report. See Forms Appendix for Internal Incident Report.

<u>Contact Numbers</u>

In case of any major medical injury, fire, bomb threats, or workplace violence, it is imperative that you take appropriate measures to protect yourself and if possible other crew members. As soon as you are safe, you must contact the QCM Safety representative.

Rob Wagner - Safety (513) 939-4828

If you do not receive an immediate response, contact:

Jaime Burch- Safety (513) 313-7787

Marty Schmitt – QCM (513) 383-8264

Emergency Medical

If injuries are life threatening, the following procedure should be followed:

- Call 911. If you are working at a facility, they may have a special exchange such as "9-911" from a landline. Be familiar with their policy.
- If you are trained in CPR / First Aid, and are comfortable with following any direction from the 911 operator, begin to administer care. If the victim is conscious, you must ask their permission to provide care.
- If the crew is large enough, direct an employee familiar with the site to be a "runner" to meet emergency crews and guide them to the location of the injured party.
- Do not move injured workers before medical assistance arrives unless they are in danger of further injury.
-
- Preserve the area around the accident scene so an investigation can be conducted.
- Call the Safety Manager immediately to alert them that a serious injury has occurred.
- Stop all job site work until an evaluation of the job site can be made by the Safety Manager

WORKERS' COMPENSATION

As a responsible employer and leader in the Construction Industry, Queen City Mechanicals, Inc. provides protection to its employees by subscribing to Ohio's Workers' Compensation System. Any employee injured or taken ill as a result of their work will be covered by Ohio Workers' Compensation or our private insurance if the worker is from a remote job site outside of Ohio.

Employees injured and seeking treatment for their injury must take a Post-Accident Drug and Alcohol Test. This test is required only on the initial medical treatment and is a condition of employment. There is no time limit on when the test requirement expires. If the initial treatment is a week after the injury the tests will be given a week after the injury unless reasonable suspicion exists at the time of injury to warrant testing at that time.

All bills for treatment and testing will be paid by the company through our workers' compensation insurance or directly billed to the company. The employee will not have to pay on any allowed claim. If they employee is seriously injured, Queen City Mechanicals, Inc. will make all attempts to find meaningful employment for the employee while they are recovering. The object of this is to keep the employee gainfully employed and a valued member of the Queen City Mechanicals, Inc. Family while at the same time keeping our Lost Time to a minimum.

LADDER SAFETY

REFERENCE: 29-CFR-1926.1053

Ladders come in several sizes and many different types. Each and every one of the different types of ladders have rules covering their use and construction. Queen City Mechanicals, Inc. will follow these published rules.

Extension & Straight Ladders

All of our ladders will be fiberglass ladders. They will be free of defects and bear manufacturers' labels denoting their capacity, configuration requirements, and ANSI compliance. Extension ladders will consist of two sections. A Top half and Bottom half. The top half will never be used as a separate ladder. The top half does not have the necessary safety features for it to be used as a standalone separate ladder.

Extension and Straight ladders will be set up at a 4 to 1 ratio with the feet 1 foot out from the structure for every 4 feet up the4 structure the ladder touches. The straight and extension ladders will be secured at the top landing and extend at least 3 rungs above that landing. The base feet will be arranged properly for the surface they are resting upon. Claw feet cantilevered into the earth for bare ground and rubber feet flat on solid surfaces.

Employees will never stand on the top three rungs of a straight or extension ladder. Step Ladders (A-Frame) Step ladders may only be used in their open and locked position. Never lean a step ladder against a structure and climb it.

Never climb onto the top step or top pivot platform of a step ladder.

Make sure all four feet of a step ladder are equally touching the floor or ground.

Step ladders must also extend 3 feet above a level if the employee intends to exit the ladder from any point other than the bottom rung.

General

No matter what type of ladder is used, employees must use three points of contact when climbing up or down. Working from a ladder may be done as long as the employee does not have to extend their torso outside of the vertical line confines of the ladder's side rails. In other words, no leaning to the sides.

Prior to each use, the ladders will be inspected for defects including splitting fiberglass rails, bent or missing rungs, missing or illegible manufacturers' warning or identification stickers. Defective ladders will be tagged out of service and removed from the job.

Ladders will be marked for capacity and employees will honor that capacity. Ladders transported on a ladder rack will be monitored for vibration damage. To avoid vibration damage to the fiberglass make sure the ladder is either secured tight against the ladder rack or the ladder rack is cushioned with an insulating material such as pipe wrap or carpeting to cushion the vibrations of the metal rack against the fiberglass.

No ladder may ever be used horizontally.

Any job-made straight ladders must meet standards set forth on 29CFR-1926.1053 inclusive.

LEAD AWARENESS

Reference: 29 CFR 1926.62

Policy

Lead was widely used on construction, particularly in paint and plumbing. Our work puts us in direct contact with Lead during demolition of structures and renovation of structures.

Lead is a Central Nervous System Depressant. It is most readily ingested, inhaled, and absorbed into the human body. Our primary contact with Lead will be in painted structures being dismantled. We will find Lead in any painted surface painted in 1978 or earlier. Lead was a major ingredient in paint prior to 1979. So, when we dismantle a structure or its systems that were painted prior to 1979, we must consider them to be containing Lead.

We may not disturb more than two square feet of a surface containing Lead without being licensed as a Lead Renovation Contractor and having at least one person Certified as a Lead Renovation Specialist supervising Lead job sites.

Lead will also be found in plumbing pipes. When working with older plumbing pipes containing lead, employees should wear gloves and not abrade the pipe to minimize creating dust and airborne debris. It is important for QCM and its employees to know the difference between Lead Renovation and Lead Abatement. The difference is simple, but SIGNIFICANT. If the purpose of the project is to remove Lead from the property, the project is Lead Abatement. If the purpose of the project is to remove windows, doors, piping, etc. and dismantle a building or part thereof for the purpose of remodeling or building new, and these structures contain Lead, then the project is Lead Renovation. Lead Abatement requires companies and each employee to hold abatement licenses much the same as Asbestos.

Due to the potential for lead exposure, all employees and subcontractors must receive lead awareness training. QCM employees will be provided with this training by the company. Subcontractors must be able to provide proof of training upon request.

General Rules for Construction Employees

- Always obey all warning signs and labels
- Paint must be removed prior to torch cutting or welding. QCM employees are NOT trained to perform these duties.
- When drilling into a painted surface to mount hangers, etc. Use HEPA Vacuum to collect dust as it is generated or a dollop of shaving cream to trap the dust before it becomes airborne. Always wash your hands and face after contacting Lead and Lead Coated Building Products. Never eat, smoke, or apply cosmetics in an area that contains lead or until you have left that area and washed up.
- If another contractor is exposing our employees to lead our employees will leave the area until such time as the other contractor contains the risk.

CONTROL OF HAZARDOUS ENERGY SOURCES (LOCKOUT/TAGOUT) PROGRAM CY

Reference: 29 CFR 1910.134; 1926 Subpart K

POLICY

It is the policy of QCM, Inc. to help ensure the safety and health of our employees by establishing effective policy and procedures in all areas of Safety, Health, and Environment. In addition, it is the policy of our company that all employees who may service or maintain energized equipment at a particular job-site, be trained in the effective neutralization of all energy sources and be provided the necessary devices to perform this task.

LOCKOUT TAGOUT PROCEDURE (GENERAL)

This policy will outline the steps necessary to ensure that when an employee needs to work on a tool or piece of equipment, including utility systems, that they will have the requisite knowledge to locate, identify, neutralize and verify neutrality of any and all energy sources feeding the areas being worked.

It is important to realize that although most people believe this applies only to electrical energy, this policy covers all energy sources including but not limited to hydraulic; pneumatic; thermal; gravitational, kinetic; electric; radiological; and potential energy stored in capacitors.

Step ONE is to notify all affected persons that you plan to shut down the identified system and the anticipated time you plan to have it out of service.

Step TWO in Lockout Tagout is to identify the scope of work and what power sources feed it.

Step THREE is to neutralize all energy sources by turning them off at their localized source and first tagging it out of service and then placing an appropriate locking system on the control to prevent its re-energization. This step is repeated for each identified source of energy. It may also be required to bleed and blank some energy sources in which case locks and tags would be applied on all blanked flanges. Also, it may be necessary to block, lock or bleed certain systems in a logical order to avoid potential energy.

Step FOUR involves activating all start up switches, knobs, and controls to verify all energy has been neutralized. If anything starts or moves, go back to Step TWO and find the sources of energy feeding that unexpected start up and neutralize them. Once Step FOUR is complete with no un-neutralized energy present on your work, return all switches, knobs and controls to the off position and proceed to

Step FIVE. (It is always better to use additional protection such as blocking to prevent point of operation motion and not rely solely on locks and tags alone) Step FIVE is completing your work and then removing your tools and equipment from all points of operation.

Step SIX involves notifying everyone contacted in Step TWO that you are about to release all energy sources and start up the processes affected by your lockout.

Step SEVEN is to remove all locks, tags, and blanks (in a logical order) and then operate the process to see that it is now working properly.

When you apply a lock or tag it must identify you by name, company name, and a contact number. If you leave the work locked out at the end of the work day, notify everyone that you are doing so and will be returning at a given time to complete work.

Each person working on a locked out system must place his/her own lock on the energy sources. If the source will not accommodate multiple locks and tags, a group lockbox and hasp will be used. A Lead Worker will be in charge of the Group Lockout.

If a lock or tag must be removed by someone other than the person that applied it, a Competent Person Supervisor must be involved in the decision and inspection of work being done. The lock and tag will only be removed under the order of this Competent Supervisor, if the original person is not available and the system is safe to start back up. If this Competent Supervisor cannot verify safety in cutting off a lock or tag, the system will remain locked out until such time as it is guaranteed safe or the original lock owner completes his/her work and unlocks their locks.

A written report must be completed into the daily log sheet whenever a Competent Supervisor overrides someone else's lock and tag system.

At least annually, an Audit of Lockout Tagout will be done by the Safety Director. Spot inspections of specific application will be made and count at the audit. Training on Lockout Tagout will be done prior to any employee using it and at least annually thereafter. The Safety Director will certify any employee eligible to conduct Lockout Tagout duties. All training will be documented and done at least annually.

Machine Guarding Policy and Program

References: 29 CFR 1910 Subpart O; 29 CFR 1926

Policy

In accordance with 29 CFR 1910 Subpart O regarding Machinery and Machine Guarding and 29 CFR 1926, as applicable, it is our policy that no equipment is to be operated without the proper guards in place. In addition, proper training and information will be provided to our personnel before operating any machinery. This training and information will include the recognition of hazards while operating the machinery and proper guarding of the equipment.

Removal of guards from equipment and tools, or removing any safety switches is prohibited. Intentional modification of any safety devices on tools or equipment can result in disciplinary action.

Any manufacturer recommended guards or other safety devices must be installed when any tools or equipment are in use. If a tool or piece of equipment is sent to the job site without safety devices intact, they are not to be used. These tools and pieces of equipment should be red tagged with a description of the defect, and send back to the shop.

Evaluation of Guards

1. Do the guards prevent employee's hands, arms and other body parts from making contact with moving parts?
2. Are the guards firmly in place?
3. Are there any unguarded gears, flywheels, or other rotating parts?
4. Are cover plates or insulation of electrical parts in good condition?

MOTOR VEHICLES & MOTORIZED EQUIPMENT

References: 29 CFR 1926.600; 601; 602;

Policy

During the course of employment, our employees may be required to operate motor vehicles or other motorized equipment. It is QCM's intent that employees operate only vehicles and equipment in which they are qualified and authorized to operate. They must wear approved seat belts, follow all safety rules and laws, and not operate hand held electronic devices while driving.

Policy Requirements

All vehicles in use shall be checked at the beginning of each shift to ensure that all parts, equipment, and accessories that affect safe operation are in proper operating condition and free from defects. All defects affecting operational safety shall be corrected before the vehicle is placed in service.

Our employees and/or contractors on job sites under our control will not use any motor vehicle, earthmoving, or compacting equipment having an obstructed view to the rear unless:

- The vehicle has a reverse signal alarm distinguishable from the surrounding noise level, and the vehicle is backed up only when a spotter signals that it is safe to do so.

Heavy machinery, equipment, or parts thereof that are suspended or held aloft shall be substantially blocked to prevent falling or shifting before employees are permitted to work under or between them.

All motorized equipment, other than will be required to have the operator's manual available at the work site for use by operators.

Equipment and Vehicles will be refueled only with the ignition and engine in the off position.

Commercial Motor Vehicles and any Material Handling/Earth Moving Equipment must have a documented daily inspection. This inspection shall be documented at the end of each workday for Commercial Vehicles and at the start of each work day for Material Handling/Earth Moving Equipment. Commercial Vehicle Operators will refer to the prior day's inspection sheet and verify all defects affecting safety have been repaired or corrected prior to beginning driving. Material Handling/Earth Moving Equipment will not be used until inspected and all safety related deficiencies have been corrected.

Employees are specifically prohibited from driving any vehicle or piece of equipment while talking, texting, or otherwise manually operating a handheld electronic device. Construction vehicles are prohibited from using devices regardless if Bluetooth or other wireless devices permit hands-free operation, unless the communication is part of signaling required by OSHA Standards for Rigging and Signaling Safety.

Drivers of licensed motor vehicles are prohibited from holding hand-held devices for communications, GPS Guidance, or gaming while driving. Drivers may accept and/or make voice activated calls providing they can be made using voice control or one button control of a device not held in the driver's hand. This policy is law in many communities and national law for CDL Drivers. All drivers are encouraged to pull off the highway (Highway Shoulders are Not Acceptable), placing the vehicle in park, or in the case

of a standard shift vehicle, shut off with the parking brake set or the vehicle left in low gear, before taking or making a call or inputting navigational commands, reading, sending or otherwise manually using a hand-held electronic device.

Whenever a Recordable Crash occurs, the cell phone history of that driver or operator will be requested to verify compliance with this policy. Employees found in violation will be subject to disciplinary measures, including suspension and termination of employment.

Employees will also be held accountable for any traffic infractions related to the crash, regardless of who is at fault in the crash.

Commercial Motor Vehicle Inspection Sheet is located in the Appendix of this program. All commercial vehicle operators are required to complete this form daily.

PERSONAL PROTECTIVE EQUIPMENT (PPE) PROGRAM

Reference: 29 CFR 1910 -Subpart I; 1926.52 & Subpart E

While OSHA's Personal Protective Equipment regulations, found at 29 CFR 1910 and 1926 do not explicitly require a written Personal Protective Equipment (PPE) Program, QCM has developed a written PPE program to document and specify all information relative to our PPE needs.

The Safety Manager is the program coordinator who has overall responsibility for the program. Site Supervisors will assist in training employees and monitoring their use of PPE. The program will be reviewed and updated as necessary. This written program/plan is kept in the corporate office and copies of the program may also be obtained there or at various job sites.

We believe it is our obligation to provide a hazard free environment to our employees as much as is practicable. Any employee encountering hazardous conditions must be protected against the potential hazards. The purpose of protective clothing and equipment is to shield or isolate individuals from chemical, physical, biological, or other hazards that are unable to be avoided by use of engineering or administrative controls in the workplace. (See separate documents for respiratory protection and hearing conservation programs)

PURPOSE

The purpose of this program is to conduct an in-depth evaluation of the equipment needed to protect against workplace hazards and document the hazard assessment, protective measures, and PPE in use at our worksites or customer facilities. PPE devices are not to be relied on as the only means to prove protection against hazards, but are used in conjunction with guards, engineering controls, and sound manufacturing practices. If possible, hazards will be abated first through engineering controls and then with PPE to provide protection against hazards which cannot reasonably be abated otherwise.

HAZARD ASSESSMENT

In order to assess the need for PPE, various steps may be taken. Identification of job classifications where exposures occur or could occur is taken into consideration. In addition, the examination of the following records may be reviewed to identify and rank jobs according to exposure hazards:

Injury/Illness Records First Aid logs

A walk-through survey of workplace areas where hazards exist or may exist to identify sources of hazards to employee is completed and documented.

The Safety Manager or Project Superintendent documents the hazard assessment via a written certification (JHA) that identifies the workplace evaluated, the person certifying that the evaluation has been performed, and the date(s) of the hazard assessment.

Job Hazard Analysis (JHA)

The purpose of the JHA is to identify the hazards associated with the crew's scope of work, and methods to mitigate or remove those hazards.

The crew foreman is required to complete the initial JHA. During pre-shift safety huddle, this information is reviewed with the entire crew. During that time, if any crew member feels that all of the

hazards have not been identified, they are responsible for bringing this to the attention of the foreman so that the hazard can be evaluated.

This process is critical for identifying any PPE outside of “standard” PPE that may be required.

Standard PPE

PPE on Construction Sites

Standard PPE on all construction sites includes:

Hard Hat

Safety Glasses

Work gloves for prevention of cuts or burns

Face shields

Hearing Protection

Pants

Work Boots

Sleeved shirts

High Visibility Clothing (where applicable)

The classes are defined by the minimum amount of background and retro-reflective material, the configuration of the retro-reflective material, as well as other technical garment design requirements. A wearer shall select which class they wear based upon their own risk assessment.

ANSI CLASS 1 - For use by employees who are well separated from traffic and working in areas where vehicle and/or equipment speeds do not exceed 25 mph. Employees who can benefit from this class of garments include those directing parking operations, retrieving shopping carts from parking areas, maintaining sidewalks, making deliveries from vehicles, and working in warehouses where motorized equipment is present.

ANSI CLASS 2 - For employees who are on or near roadways, are exposed to traffic traveling at speeds in excess of 25 mph, and are in situations where complex visual backgrounds may be present. Examples of employees benefiting from this class of garments are roadway construction workers, utility employees, survey crews, crossing guards, tollgate personnel, airport baggage handlers, first responders, and law enforcement personnel.

ANSI CLASS 3 - These are High Visibility garments for employees in the highest-risk situations, who need to be visible through a full range of body motions from a minimum distance of 1280 feet, and who are exposed to traffic traveling at significantly high speeds. Employees who can benefit from this class of garments include highway maintenance and construction crews, utility employees, tow truck operators, survey crews, flaggers, and emergency response personnel.

PPE While Working under General Industry Regulations

Work that we perform that is *not* on a construction site falls under different OSHA requirements. "General Industry" work would include work in the Shop, and service crew work which takes place in environments such as residential or office spaces. Employees must complete a Job Safety Analysis (JSA) prior to starting work on any job. While developing the JSA, employees are required to evaluate hazards and address hazards through a mitigation plan on the form. Mitigation may include various types of PPE dependent on the job.

Safety glasses are required 100% of the time while working in the Shop Area.

Training

PPE training will be renewed as needed and at least annually thereafter. Anytime your job task requires use of PPE that you are not familiar with, you should request training from the Safety Manager.

RESPIRATORY PROTECTION PROGRAM & POLICY

Reference: 29 CFR 1910.134; 1926.103

Policy

It is our policy that employees will be properly protected during the course of their employment from foreseeable safety, health, and environmental hazards. It is with this intent that we have developed and enforce our Respiratory Protection Program. We will always attempt to control exposures with Engineering and Administrative Controls prior to assigning respiratory protection. The Safety Manager will be the Program Administrator.

Job Assignment

Prior to work in a facility or at a job site, each job will be evaluated relative to potential exposure and respiratory system hazards. The task to be performed, the area in which we work, the chemicals/materials used by us or our clients, and the potential for accidental exposure will all be taken into account.

In the event employees are working at client facilities, all relative information will be retained.

Respirator Selection

Respiratory protection will be selected based on the potential contaminant. All respiratory protection must be NIOSH approved. This selection will be documented. QCM will bear the cost of all respiratory equipment and supplies.

Filter and Cartridge Change Schedule

Stock of spare filers and cartridges will be maintained to allow immediate change when required or desired by the employee.

Cartridges will be changed based on the most limiting factor below:

- Prior to expiration date.
- Manufacturer's recommendations for the specific use and environment.
- After each use.
- When requested by employee.
- When contaminant odor is detected.
- When restriction to air flow has occurred as evidenced by increase effort by user to breathe normally.

Cartridges must remain in their original sealed packages until needed for immediate use.

Filters must be changed on the most limiting factor below:

- Prior to expiration date.
- Manufacturer's recommendations for the specific use and environment.
- When requested by employee.

- When contaminant odor is detected.
- When restriction to air flow has occurred as evidenced by increase effort by user to breathe normally.
- When discoloring of the filter media is evident.

Filters must remain in their original sealed package until needed for immediate use.

Respirator Operation and Use

Respirators will only be used following the respiratory protection safety procedures established in this program. The operations and use manuals for each type of respirator will be maintained by the program administrator and be available to all qualified users.

Surveillance by the direct supervisor will be maintained of work area conditions and degree of employee exposure or stress. When there is a change in work area conditions or degree of employee exposure or stress that may affect respirator effectiveness, the company will reevaluate the continued effectiveness of the respirator.

For continued protection of respirator users, the following general use rules apply:

- Users must not remove respirators while in a hazardous environment.
- Respirators are to be stored in sealed containers out of harmful atmospheres.
- Respirators will be stored away from heat and moisture.
- Respirators will be stored such that the sealing area does not become distorted or warped.
- Respirators will be stored such that the face piece is protected.

Face piece Seal Protection

The company does not permit respirators with tight-fitting face pieces to be worn by employees who have:

- Facial hair that comes between the sealing surface of the face piece and the face or that interferes with valve function.
- Any condition that interferes with the face-to-face piece seal or valve function.

If an employee wears corrective glasses or goggles or other personal protective equipment, the company will ensure that such equipment is worn in a manner that does not interfere with the seal of the face piece to the face of the user.

Change out schedule & End of Life indicator

Due to changes in job activities, a hazard assessment (see PPE Assessment) is performed for each job and, when appropriate, a respirator and proper cartridge will be assigned at that time. A change out schedule for each cartridge will be assigned at that time taking into account the type of cartridge, the material posing a respiratory hazard, and the length of exposure.

Employees experiencing difficulty breathing, breath-through or respirator malfunction shall remove themselves from the affected area immediately. Anytime a filter change is required the respirator will be cleaned so that the inside is free of contamination.

Fit Testing & Training

All employees who may be required to wear respiratory protection will have a medical qualification done by a licensed health care practitioner, a fit test and instruction in the proper care, use, and

limitations of their respirators. A copy of the fit test record is attached to this policy for reference. A substitute fit test record may be used if provided by our Medical Provider or it the fit test is performed at a client facility.

Training will consist of but not be limited to:

- Qualitative fit test such as isogamy acetate or smoke to evaluate fit.
- Procedure for care, storage, and use of the respirators.
- Employees issued Respirators are required to care and store the respirator and must be inspected prior to each donning.
- Limitation of the respirator and signs of when filter change-out is required Selection of various filtrations for specific and general contaminants.
- Employees using half-face and full-face respirators which seal against their face must be clean shaven where the seal touches the skin.
- Employees wearing glasses may not wear normal glasses which break the full-face respirator seal.
- Employees required to wear full-face respirators and glasses must wear contacts or be provided with glasses designed for that brand and model of full-face respirator.
- Medical surveillance procedures for employees in the respiratory protection program an overview of the human body, its respiratory system, and how various contaminants affect its functioning.
- Specific procedures relating to various tasks which may be performed by employees

Respiratory training, fit testing and Medical Qualifications will be conducted prior to first use and at least annually thereafter for employees who are in the company's respiratory protection program.

<u>Medical Surveillance</u>

All employees required to wear respiratory protection in the performance of their duties shall be required to have a physical examination at least annually to ensure they are capable of wearing the assigned respiratory protection. That examination will include at least:

- Medical history including past personal and occupational data
- Smoking, drugs, and alcohol use history
- Pulmonary history such as coughs, repetitive colds, bronchitis, etc.
- Allergies and asthma history

The medical surveillance form will be provided by our Medical Provider and be in accordance with OSHA requirements. Physicals will be confidential, completed during work hours, with the employee able to discuss concerns and questions with the medical professional conducting the physical.

All medical records will be kept for 30 years beyond employment.

Client Facilities or Job Sites

In the event our employees are working at a client facility or on a job site where respiratory protection is required, site supervisors will compare the client program to our own. Based on the job at hand our company may choose to follow the client facilities respiratory protection program. Medical records, fit test records, and training records will be maintained by our company.

Queen City Mechanicals, Inc. will not accept work where our employees must work in atmospheres which are Immediately Dangerous to Life and Health.

Rigging and Material Handling Policy

REF:29-CFR-1926.250-.252

POLICY

Queen City Mechanicals, Inc. prides itself on employee abilities to properly rig material for transport and lifting. All required safety measures will be taken and enforced to ensure that safety remains a priority whenever rigging a load for lift or transport.

General

All materials stored in tiers shall be stacked, racked, blocked, interlocked, or otherwise secured to prevent sliding, falling or collapse.

Maximum safe load limits of floors within buildings and structures, in pounds per square foot, shall be conspicuously posted in all storage areas, except for floor or slab on grade.

Maximum safe loads shall not be exceeded. Aisles and passageways shall be kept clear to provide for the free and safe movement of material handling equipment or employees. Such areas shall be kept in good repair.

When a difference in road or working levels exist, means such as ramps, blocking, or grading shall be used to ensure the safe movement of vehicles between the two levels.

Material storage

Material stored inside buildings under construction shall not be placed within 6 feet of any hoist way or inside floor openings, nor within 10 feet of an exterior wall which does not extend above the top of the material stored.

Non-compatible materials shall be segregated in storage.

Bagged materials shall be stacked by stepping back the layers and crosskeying the bags at least every 10 bags high.

Materials shall not be stored on scaffolds or runways in excess of supplies needed for immediate operations.

Structural steel, poles, pipe, bar stock, and other cylindrical materials, unless racked, shall be stacked and blocked so as to prevent spreading or tilting.

"Housekeeping." Storage areas shall be kept free from accumulation of materials that constitute hazards from tripping, fire, explosion, or pest harborage. Vegetation control will be exercised when necessary.

RIGGING GENERAL

1. Rigging equipment for material handling shall be inspected prior to use on each shift and as necessary during its use to ensure that it is safe. Defective rigging equipment shall be removed from service.
2. Employers must ensure that rigging equipment:

a. Has permanently affixed and legible identification markings as prescribed by the manufacturer that indicate the recommended safe working load;

b. Not be loaded in excess of its recommended safe working load as prescribed on the identification markings by the manufacturer; and

c. Not be used without affixed, legible identification markings, required by paragraph (a)(2)(i) of this section.

d. Rigging equipment, when not in use, shall be removed from the immediate work area so as not to present a hazard to employees

3. Special custom design grabs, hooks, clamps, or other lifting accessories, for such units as modular panels, prefabricated structures and similar materials, shall be marked to indicate the safe working loads and shall be proof-tested prior to use to 125 percent of their rated load.

4. INSPECTIONS. Each day before being used, the sling and all fastenings and attachments shall be inspected for damage or defects by a competent person designated by the employer. Additional inspections shall be performed during sling use, where service conditions warrant. Damaged or defective slings shall be immediately removed from service.

5. ALLOY STEEL CHAINS.

a. Welded alloy steel chain slings shall have permanently affixed durable identification stating size, grade, rated capacity, and sling manufacturer.

b. Hooks, rings, oblong links, pear-shaped links, welded or mechanical coupling links, or other attachments, when used with alloy steel chains, shall have a rated capacity at least equal to that of the chain.

c. Job or shop hooks and links, or makeshift fasteners, formed from bolts, rods, etc., or other such attachments, shall not be used.

d. Employers must not use alloy steel-chain slings with loads in excess of the rated capacities (i.e., working load limits) indicated on the sling by permanently affixed and legible identification markings prescribed by the manufacturer.

e. Whenever wear at any point of any chain link exceeds that shown in Table H-2, the assembly shall be removed from service

INSPECTIONS

In addition to the inspection required by other paragraphs of this section, a thorough periodic inspection of alloy steel chain slings in use shall be made on a regular basis, to be determined on the basis of (A) frequency of sling use; (B) severity of service conditions; (C) nature of lifts being made; and (D) experience gained on the service life of slings used in similar circumstances.

Such inspections shall in no event be at intervals greater than once every 12 months. b. The employer shall make and maintain a record of the most recent month in which each alloy steel chain sling was thoroughly inspected, and shall make such record available for examination.

Scaffolds

(Ref. 29 CFR 1926.450–454)

A scaffold is defined as an elevated temporary work platform. There are three basic types of scaffolds:

- Supported scaffolds, which consist of one or more platforms supported by rigid, load- bearing members, such as poles, legs, frames, outriggers, etc.
- Suspended scaffolds, which are one or more platforms suspended by ropes or other non-rigid, overhead support.
- Other scaffolds, principally manlifts, personnel hoists, etc., which are sometimes thought of as vehicles or machinery, but can be regarded as another type of supported scaffold.

Common Hazards Associated With All Scaffolds

- Falls from elevation, due to lack of fall protection.
- Collapse of the scaffold, caused by instability or overloading.
- Being struck by falling tools, work materials, or debris.
- Electrocution, principally due to proximity of the scaffold to overhead power lines.

Safe Work Practices

- Scaffolds will be erected on sound, rigid footing, capable of carrying the maximum intended load without settling or displacement.
- Damaged parts that affect the strength of the scaffold are taken out of service.
- Scaffolds are not to be altered.
- All scaffolds should be fully planked.
- Scaffolds are not moved horizontally while employees are on them unless they are designed to be mobile and employees have been trained in the proper procedures.
- Employees are not permitted to work on scaffolds that are covered with snow, ice or other slippery materials.
- Scaffolds are not erected or moved within 10 feet of power lines.
- Employees are not permitted to work on scaffolds in bad weather or high winds unless a competent person has determined that it is safe to do so.
- Ladders, boxes, barrels, buckets or other makeshift platforms are not used to raise work height.
- Extra material is not allowed to build up on scaffold platforms.

Requirements for Designing and Constructing Scaffolds

Scaffolds must be designed by a qualified person and be constructed and loaded in accordance with that design. OSHA defines a qualified person as one whom:

- Possesses a recognized degree, certificate, or professional standing.
- Has extensive knowledge, training and experience.
- Can solve or resolve problems related to the work or the project.

A qualified person must do adequate preplanning to ensure the safe erection and use of the scaffold.

Preplanning includes:

- Determining the type of scaffold necessary for the job.
- Determining the maximum load of the scaffold.
- Ensuring a good foundation.
- Avoiding electrical hazards.

Where employees on a construction site are exposed to vertical drops of 6 feet or more, OSHA requires that employers provide fall protection in one of three ways *before* work begins:

- Placing guardrails around the hazard area.
- Deploying safety nets.
- Providing personal fall arrest systems for each employee.

Many times the nature and location of the work will dictate the form that fall protection takes. If the company chooses to use a guardrail system, it must comply with the following provisions:

- Top edge height of toprails, or equivalent guardrail system members, must be between 39 and 45 inches above the walking/working level, except when conditions warrant otherwise and all other criteria are met (e.g., when employees are using stilts, the top edge height of the top rail must be increased by an amount equal the height of the stilts).
- Midrails, screens, mesh, intermediate vertical members, or equivalent intermediate structures, must be installed between the top edge and the walking/working surface when there is no wall or other structure at least 21 inches high.
    - Midrails must be midway between the top edge of the guardrail system and the walking/working level.
    - Screens and mesh must extend from the toprail to the walking/working level, and along the entire opening between rail supports.
    - Intermediate members (such as balusters) between posts must be no more than 19 inches apart.
    - Other structural members (such as additional midrails or architectural panels) must be installed so as to leave no openings wider than 19 inches.

- Guardrail systems must be capable of withstanding at least 200 pounds of force applied within 2 inches of the top edge, in any direction and at any point along the edge, and without causing the top edge of the guardrail to deflect downward to a height less than 39 inches above the walking/working level.
- Midrails, screens, mesh, and other intermediate members must be capable of withstanding at least 150 pounds of force applied in any direction at any point along the midrail or other member.
- Guardrail systems must not have rough or jagged surfaces that would cause punctures, lacerations or snagged clothing.
- Toprails and midrails must not cause a projection hazard by overhanging the terminal posts.
- Scaffolds and their components will be capable of supporting, without failure, at least four times the maximum intended load.

- Guardrails and toeboards will be installed on all open sides and ends of platforms more than 10 feet (3.1 m) above the ground or floor, except needle beam scaffolds and floats where other means of fall protection is provided.
- Scaffolds 4 feet (1.2 m) to 10 feet (3.1 m) in height, having a minimum dimension in either direction of less than 45 inches (1.2 m), will have standard guardrails installed on all open sides and ends of the platform.
- There will be a screen with maximum ½-inch (1.3 cm) openings between the toeboard and the guardrail, where people are required to work or pass under the scaffold.
- All planking will be Scaffold Grade or equivalent as recognized by approved grading rules for the species of wood used.
- The maximum permissible span for 1¼ × 9 inch (3.2 × 22.9 cm) or wider plank of full thickness is 4 feet (1.2 m), with medium loading of 50 pounds per square feet (244 kilograms per square meter).
- Scaffold planking will be overlapped a minimum of 12 inches (30.5 cm) or secured from movement.
- Scaffold planks will extend over their end supports not less than 6 inches (15 cm) nor more than 12 inches (30 cm).
- All scaffolding and accessories will have any defective parts immediately replaced or repaired.
- An access ladder or equivalent safe access must be provided.

Severe Weather Procedures

The Project Emergency Response Team will monitor conditions in the event of unfavorable weather. Such monitoring may include Weather Band Radio, AM/FM Radio, TV, Internet and local public police and fire agencies.

If the County weather-warning siren sounds, take cover immediately as explained below for various types of severe weather. Suggested safe places during severe weather are basements or interior rooms of ground level buildings. If neither of these are available, seek the nearest low-lying ground (ditch or depression). Do not seek shelter under trees or in trailers. All foremen are responsible to report missing persons to the Project Superintendent.

Lightning:

1. If lightning is witnessed in the surrounding area, exposed Contractor / Subcontractors will be required to stop all the work and escort the employees to nearest covered structure, such as a building, conex box or trailer.

2. Lightning can travel for miles. Do not take chances by waiting until the last minute to take shelter.

Severe Thunderstorm:

1. In the event of a severe thunderstorm, a Project Emergency Response Team member will notify the Contractor / Subcontractors, request that the work be stopped and that all personnel be moved to the nearest covered structure such as a building, conex box or trailer.

Tornado:

1. If there is an impending tornado, the County alert system shall be heard as a continuous tone. Most Warning systems are tested (at 12:00 noon on the first Wednesday of each month).

2. In the event of a tornado warning, the emergency air horns will sound an intermittent signal.

3. All construction personnel shall take shelter in a low area or to the deepest part of a building.

a. Employees will be informed of location during Project Orientation and as location changes during various phases of the project.

4. If outdoors, take cover in a ditch or the lowest area possible. DO NOT take cover in a trailer or Conex storage trailer.

5. Remain sheltered until the “All Clear” signal (three short blasts) has been given.

Weather Protection:

1. Take necessary precautions to ensure that roof openings and other critical openings in the building are monitored carefully to prevent damage from weather.

2. Take immediate actions required to seal off such openings when rain or other detrimental weather is imminent, and at the end of the workday.

3. Ensure that openings are completely sealed off to protect materials and equipment inside from damage.

Silica Dust Safety

It is the policy of QCM to take precautions to eliminate potential hazards in the workplace. The purpose of this Silica Dust Safety Program is to provide the hazards associated with silica dust and outline the steps to take to ensure employees who work with, or around silica are not exposed to hazardous levels of silica dust; and to provide procedures for common silica related work duties to minimize exposure in accordance with the OSHA Air Contaminants standard 29 CFR 1910.1000 and 1926.1153.

Crystalline silica is a basic component of soil, sand, granite and many other minerals. Quartz is the most common form of crystalline silica. All materials containing silica can result in the presence of respirable silica particles when chipping, cutting, drilling or grinding takes place.

Silica exposure occurs through inhalation of silica containing particles and occurs through many construction and general industry methods. The most severe exposures generally occur during abrasive blasting with sand to remove paint and rust from bridges, tanks, concrete structures and other surfaces. Other activities that may result in sever silica exposure include jack hammering, rock/well drilling, concrete mixing, concrete drilling, brick and concrete cutting/sawing, tuck pointing and tunneling operations. Exposure to excessive silica dust over long periods of time can result in silicosis.

This Silica Dust Safety Program applies to QCM employees who are expected to be exposed to silica dust through the methods outlined above; or through other means, which are determined by their supervisor.

Crystalline silica occurs naturally in the earth's crust and is a basic component of sand, concrete, brick, asphalt, granite, some blasting grit and wall spackling materials. Employees can be exposed to silica when conducting activities such as:

Abrasive blasting

Jack hammering

Concrete crushing

Hoe ramming

Rock drilling

Mixing of concrete or grout

Concrete drilling

Sawing concrete or bricks

Chipping or scarifying concrete

Rock crushing

Moving or dumping piles of concrete, rock or sand

Demolition of concrete or brick

Using coatings containing silica

Removing coatings containing silica

<u>Administrative/Engineering Controls may involve:</u>

Substituting non-silica containing materials for use while abrasive blasting;

Alternative methods such as pre ordering grout already mixed instead of on-site mixing in bulk;

Local exhaust ventilation;

General ventilation;

Vacuum methods with HEPA filters;

Distance;

Dust control products;

Containment;

Use of water to keep dust down; and/or

General work practices such as good housekeeping, worker rotation, development of specific SOPs to minimize exposure.

Personal Protective Equipment (PPE):

In addition to administrative/engineering controls, employees may be required to wear specific PPE during the disturbance of silica containing materials and/or when airborne silica is present. The level of protection will depend on the task being conducted and the tools being utilized to complete the task.

Recommended PPE will typically include:

Respiratory Protection;

Disposable or reusable work clothing to keep from spreading the dust or bringing the dust home;

Leather gloves;

Safety glasses or goggles;

Face shield; and/or

Boot covers or rubber boots.

In areas where silica containing dust may be present, all surfaces must be maintained free from accumulations of dust to minimize potential silica exposure. Dust and other silica containing debris must be removed from the work area as soon as possible.

Acceptable method of silica dust removal includes the use of HEPA vacuum or wet methods such as wet mopping.

Unacceptable methods of silica dust removal include dry sweeping, vacuum cleaners, shop vacuums, and compressed air.

Follow all recommended procedures and utilize recommended PPE during silica containing debris cleanup activities.

Where silica containing materials are used, impacted, or being removed; the following requirements must be met.

PPE should be removed upon work completion and disposed of after each use.

Employees must wash hands prior to leaving work.

Ensure contaminated PPE, including footwear is not worn outside the work areas.

It is important to note that QCM employees do NOT perform any tasks such as concrete cutting. This task is subcontracted, and any subcontractor to QCM performing any tasks that may cause a silica exposure are required to follow all applicable OSHA regulations, or specific job site safety plans to eliminate the potential for silica exposure for the subcontract employees, QCM employees, and any other contractors or the public who may be present at the job location.

Sub-Contractor Management

As a Full-Service Mechanical Contractor, Queen City Mechanicals, Inc. partners with a number of other companies in fulfilling our contracted responsibilities. Many of these companies have enjoyed a long standing relationship with QCM and many will be signing on for the very first time.

In order to assure the quality and safety associated with these subcontractors the following monitoring will be done:

- ✴ All sub-contractors will submit updated safety programs, safety training documents, and safety statistics prior to being awarded a contract.
- ✴ All sub-contractors will submit copies of their OSHA 300A for the current year and past three years.
- ✴ All sub-contractors will submit evidence of workers' compensation coverage including Experience Modification Ratings for the last three years.
- ✴ All sub-contractors will submit evidence of current participation in Ohio's Contractor Drug Free Safety Program.
- ✴ Along with the OSHA 300A, sub-contractors will recap the following for submitted years:
    - ★ OSHA Incidence Rate
    - ★ OSHA (DART) Days Away/Restricted Duty Incidence Rate
    - ★ OSHA Fatality Information including details of any such fatality.
        - In most cases, a sub-contractor with a fatality within the last three years will not be considered for work with Queen City Mechanical.

Sub-contractors will be required to submit a Job Hazard Analysis for the job in which they are quoting to work. This JHA will be an overview of all anticipated activities for the job being bid. Once awarded, JHA's will be required for each day and each major assignment during the day. Sub-contractors will participate in pre-job meeting, orientations, and Kickoff meetings, if the sub-contractor has already been assigned the work for that particular job. All Sub-contractors will either participate with QCM or hold their own tailgate meetings. Meetings will cover topics relevant to the tasks associated with that particular job site. Tailgate meetings will be in addition to and not substituted for Daily Job Hazard Analysis's.

In addition to pre-qualification of sub-contractor's regular review of their work and safety performance will be conducted by the project manager and safety department. All Sub-contractors will be included in post job wrap-up reviews which will include pricing, quality of work, quality of materials used, submittals and safety

Traffic Control

The primary function of traffic control procedures is to move vehicles and pedestrians safely and expeditiously through or around temporary traffic control zones while protecting QCM employees and contractor equipment. This Flagger/Traffic Control Program will typically be used when unloading or loading material from public roads, performing construction activities at and near public roadways.

Because flaggers are responsible for public and employee safety, they should have the following minimum qualifications:

Sense of responsibility for the safety of the public, contractors, client and QCM employees.

Training in safe traffic control practices.

Good physical condition, including sight and hearing.

Mental alertness and the ability to react in an emergency situation.

Courteous but must be firm.

Neat appearance.

For daytime work, the flagger's vest, shirt, or jacket shall be fluorescent green. For nighttime work, similar outside garments shall be retro-reflective. The retro-reflective material shall be orange, yellow, white, silver, strong yellow-green or a fluorescent version of one of these colors and shall be visible at a minimum distance of 1,000 feet. The retro-reflective clothing shall be designated to identify clearly the wearer as a person and be visible through the full range of body motions.

We may use uniformed law enforcement officers as flaggers in some locations, such as an urban intersection, where enforcement of traffic movements is important. Uniformed law enforcement officers may also be used on freeways where traffic is channeled around work sites and it is necessary to assure that advisory and regulatory speeds are being enforced. For nighttime work and in low-visibility situations, a retro-reflective garment as described above will be worn.

Hand-signaling devices, such as STOP/SLOW paddles, lights, and red flags are used to control traffic through temporary traffic control zones. The STOP/SLOW paddle, which gives drivers more positive guidance than red flags, will be the primary hand-signaling device. The standard STOP/SLOW sign paddle shall be 18 inches square with letters at least 6 inches high. A rigid handle will be provided. This combination sign should be fabricated from light semi-rigid material, and shall have an octagonal shape. The background of the STOP face shall be red with white letters and border. To improve conspicuity, the STOP/SLOW paddles may be supplemented by one or two symmetrically positioned alternating flashing white high-intensity lamps on each side. The background of the SLOW face shall be orange with black letters and border. When used at night, the STOP/SLOW paddle shall be retro-reflectorized in the same manner as signs.

Flag use will be limited to emergency situations and at low-speed and/or low-volume locations which can best be controlled by a single flagger. Flags used for signaling shall be a minimum of 24 inches square, made of a good red material, and securely fastened to a staff about 3 feet long. The free edge

should be weighted so the flag will hang vertically, even in heavy winds. When used at night, flags will be retro-reflective red.

The following methods of signaling with STOP/SLOW paddles should be used:

To Stop Traffic – The flagger shall face traffic and extend the STOP sign paddle in a stationary position with the arm extended horizontally away from the body. The free arm should be raised with the palm toward approaching traffic.

To Direct Stopped Traffic to Proceed – The flagger shall face traffic with the SLOW paddle held in a stationary position with the arm extended horizontally away from the body. The flagger should motion with the free hand for traffic to proceed.

To Alert or Slow Traffic – The flagger shall face traffic with the SLOW sign paddle held in a stationary position with the arm extended horizontally away from the body. The flagger may motion up and down with the free hand, palm down, indicating that the vehicle should slow down.

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

To Stop Traffic – The flagger shall face traffic and extend the flag staff horizontally across the traffic lane in a stationary position, so that the full area of the flag is visible hanging below the staff. The free arm should be raised with the palm toward approaching traffic.

To Direct Stopped Traffic to Proceed – The flagger shall face traffic with the flag and arm lowered from view of the driver. With the free hand, the flagger should motion traffic to proceed. Flags shall not be used to signal traffic to proceed.

To Alert or Slow Traffic – The flagger shall face traffic and slowly wave the flag in a sweeping motion of the extended arm from shoulder level to straight down, without raising the arm above horizontal position.

Other employees are not permitted to congregate around the flagger station. The flagger must be stationed far enough ahead of the work force to warn them (for example with horns, whistles, etc.) of approaching danger, such as vehicles out of control.

Flagger stations should be visible far enough ahead to permit all vehicles to stop. This distance is related to approach speeds, friction factors, and pavement and tire conditions; these distances may be increased for downgrades. Flagger stations will be preceded by proper advance warning signs, unless determined by the Superintendent otherwise. Under certain geometric and traffic situations, more than one flagger station may be required for each direction of traffic. At night, flagger stations will be illuminated.

At two-way, unusually low-volume and/or unusually low-speed short lane closings where adequate sight distance is available for the safe handling of traffic, the use of one flagger may be sufficient.

Where traffic in both directions must, for a limited distance, use a single lane, provision will be made for alternate one-way movement through the constricted section. Control points at each end will be chosen to permit easy passing of opposing lines of vehicles.

Alternate one-way traffic control may be accomplished as appropriate by flagger control. Below you will find the methods QCM will enforce on contractors.

Flagger Method

Where a one-lane two-way temporary traffic control zone is short enough to allow visibility from one end to the other, traffic can be controlled by either a single flagger or by a flagger at each end of the section.

When a single flagger is used, the flagger will be stationed on the shoulder opposite the obstruction or work space, or in a position where good visibility and traffic control can be maintained at all times.

When good visibility and traffic control cannot be maintained by one flagger station, traffic will be controlled by a flagger at each end of the section.

One of the flaggers will be designated as the coordinator. Flaggers must be able to communicate orally or with signals. These signals should not be mistaken for flagging signals. The use of radios will be used even though visual contact is possible.

Waste

29-CFR-1926.252

Queen City Mechanicals, Inc. prides itself on its waste management practices. Waste will be accounted for prior to beginning any task. Appropriate containment will be provided to keep waste that we generate under our control. As containment is filled it will be emptied or replaced with empty containers.

All waste containers will be emptied at the end of the work day. Care will be taken to avoid placing any materials into the waste containers that may injure someone reaching into the container unless the container is designed for articles that are obviously not intended to be handled without special PPE.

No materials may be dropped more than 20 feet without a chute. If dropped through a floor to a floor below the landing area must be labeled & barricaded back at least six feet from the landing area.

All solvent waste and oily rags will be contained in a self-closing fire safe container.

We will not burn construction waste. All first aid materials and clean up articles will be secured in a leak-proof container or bag and placed directly into a dumpster so as to minimize the need for human contact in emptying a trash container containing same. .

All scrap metals or building materials of value will be returned to the shop, if not sent directly to the vendor or a recycler for credit to the company.

Queen City Mechanicals, Inc.

Job Safety Analysis

Customer / Location: _____ Foreman: _____

Job Task: _____ Date: _____

Job Step	Hazards of the Job Step	Hazard Mitigation

PPE **Fall Protection** **Permits / Inspections/ Procedures**

☐ Hard Hat ☐ Safety Glasses ☐ Goggles ☐ Hearing Protection ☐ Gloves ☐ Cut Resistant Gloves ☐ Tyvex ☐ Welding Jacket ☐ Fire Resistant Clothing ☐ Rubber Boots ☐ Respiratory Type: _____ ☐ Other _____	☐ Full Body Harness ☐ Lanyard ☐ Connectors ☐ Engineered Anchor ☐ Scaffold ☐ Aerial Lift ☐ Scissors Lift	☐ Hot Work ☐ Confined Space Entry ☐ Fall Protection Plan ☐ Excavation Inspection ☐ Dig Permit ☐ Equipment Inspections ☐ LOTO ☐ Signs and Barricades

I have reviewed the Job Safety Analysis during the pre-job briefing prior to starting work. I understand that safety is my responsibility; safety for myself, everyone who is working around me, and the public.

I have completed my shift for the day, and have not been injured.

FORKLIFT DAILY SHIFT CHECKLIST

Forklift Manufacturer _____ Date _____

Forklift Identifying Number _____ Inspected by _____

Industrial trucks shall be examined at least daily before being placed in service for that day. If the truck is used daily on more than one shift, it shall be inspected after each shift.

OK	**NOT OK**	**ITEMS TO BE CHECKED**
____	____	Tires
____	____	Horn
____	____	Lights
____	____	Battery
____	____	Controller
____	____	Lift System to include load limit switches, load engagement means, chains, cables, forks,
____	____	Brakes (normal and emergency)
____	____	Steering Mechanism, Free play in steering
____	____	Leaks in hydraulic system. Check hydraulic fuel level
____	____	Leaks in fuel system, smell for leaks in propane system
____	____	Is truck clean, free of lint, excess oil and grease?
____	____	Overhead guards broken or damaged
____	____	Gauges working properly
____	____	Seat belts work properly
____	____	Is propane tank locked down in propane trucks?
____	____	Engine oil ok
____	____	Transmission fluid ok
____	____	Windshield wipers in good condition, if equipped
____	____	Label or identifying mark indicating approval by a testing laboratory present
____	____	All name plates and markings are in place and maintained in legible condition
____	____	Does truck emit hazardous sparks or flames from the exhaust system?

List any other problems found with the truck

Hydraulic Excavator (Carrier)
Preventive Maintenance Checklist

Comments:

_____

_____

_____

Note: The items below should be inspected during a typical preventive maintenance check. Additional checklist items may be required depending on equipment or circumstances.

UNDERHOOD

- ❑ Motor oil, power steering
- ❑ Coolant level, hoses
- ❑ Fuel line leaks
- ❑ Belt tension
- ❑ Fuel level
- ❑ Batteries
- ❑ Windshield washer

EXTERIOR

- ❑ Cab, body, glass
- ❑ Stop lights
- ❑ Head, tail, direction lights
- ❑ Clear, spot, warning lights
- ❑ Reflectors
- ❑ Hydraulic lines
- ❑ Tires, wheels, lug bolts
- ❑ Hydraulic reservoirs
- ❑ Springs, steering mechanism
- ❑ Drive line, universal joints
- ❑ Drain air reservoirs

IF SO EQUIPPED

- ❑ Hydraulic clutch
- ❑ Master clutch fluid

INTERIOR

- ❑ Brakes
- ❑ Clutch
- ❑ Horn & safety devices
- ❑ Wiper blades & control
- ❑ Mirrors
- ❑ Meters, gauges, control
- ❑ Steering
- ❑ Seats & seat belts
- ❑ Heater

GENERAL

- ❑ Exhaust system
- ❑ Engine
- ❑ Fire extinguisher
- ❑ Slow moving triangle
- ❑ First aid kit