

**BOB MOORE CONSTRUCTION, INC.**

**Arlington, Texas**



**SAFETY and HEALTH  
Manual**

**(Revised 10/6/06)**

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**BOB MOORE CONSTRUCTION, INC.**

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## **STATEMENT OF POLICY**

Bob Moore Construction, Inc. has a strong commitment to provide a safe workplace and to establish policies promoting high standards of employee health and safety, while delivering to the customer the highest quality product. In keeping with this commitment, it is the company's intent to maintain a Positive Safety Program and a Substance Abuse Program. Our employees will conduct both themselves and their work in a safe manner consistent with good construction practices.

Responsibility for achieving our safety goals is that of site superintendents, supervisors, employees, and the safety manager with the support of company management.

With these basic objectives in mind, the following would be our program to achieve our goals.

Each jobsite is furnished with a safety package which enables the site supervisor to maintain a positive safety program regarding weekly site safety meetings, safety inspections, accident/incident prevention, proper training of personnel, practicing work habits consistent with our trade, maintaining housekeeping above an acceptable level, and monitors condition of tools and equipment.

To further support our efforts, we adhere to OSHA requirements with written policies in Hazardous Communication procedures. Our Substance Abuse Policy assures our customers that we are providing a drug free work force.

Achievement of our objectives will allow us to provide for our customers a quality product and a safe and healthful work area for our employees.

**BOB MOORE CONSTRUCTION, INC.**

*Phillip Bell*

Phillip Bell  
President

# **ADMINISTRATION**

## **DUTIES OF THE SUPERINTENDENT**

The responsibilities of the Bob Moore Construction (BMC) Superintendent include but are not limited to the Administration and implementation of the safety program for any BMC project requirements stated in the Owner's / BMC Safety Program and Individual Subcontractor Contract.

## **DUTIES OF PROJECT MANAGER**

Assist the Superintendent in the discharge of safety duties as required with the requirements stated in the Owners / BMC Safety Program and Individual Subcontractor Contract.

## **DUTIES OF BMC SAFETY DIRECTOR**

The responsibilities of BMC Safety Director include but are not limited to the Owner's / BMC Safety Program and Individual Subcontractor Contract.

## **DUTIES OF EMPLOYEE**

Comply with all safety regulations applicable to his/her own conduct.

Comply with all safety orders and instructions issued by his/her supervisor. Report all injuries, accidents, and recognized safety hazards to his/her supervisor.

Assist the Project manager to implement the Owner's / BMC Hazard Communication Program. Report to his/her supervisor any unlabeled items that may come on to the site.

## **SUBCONTRACTOR'S SAFETY RESPONSIBILITIES**

All Subcontractors shall be held responsible for initiating and maintaining an effective Safety Program and Hazard Communication Program at any BMC Project Site. All Subcontractors shall be responsible for meeting the requirements stated in the Owner's / BMC Safety Program and Individual Subcontractor Contract.

"Tool Box" safety meetings shall be held on a weekly basis. These meetings shall be confirmed by written safety meeting minutes with sign in sheets and "equipment daily inspection statement" and submitted with that day's daily report.

All Subcontractors shall, prior to their start of work, submit the names of their authorized, qualified and competent representatives to BMC. All Project

Representatives shall be held accountable by their Companies for the immediate correction of hazards and unsafe acts and compliance with their Company Safety and Health and HAZCOM Programs, the project Documents, OSHA Standards and all other federal, state and local codes, laws and regulations by their employees and their subcontractors and suppliers, regardless of tier.

All records shall be subject to inspections by BMC Safety Director.

All Subcontractors shall complete their work in a timely manner as outlined in their contract and effectively supervise their workers so that they follow the safe work practices outlined in the OSHA, EPA, and NFPA.

Should it be necessary for BMC to take remedial steps in safety to assure a safe project environment for the General Public as well as the workers at the site; All cost including interruption of construction activities, shall be "back charged" to the responsible Subcontractor.

In the event the project site or any portion of the site is stopped or shut down by any outside agency or BMC because of an unsafe condition, the responsible Subcontractor shall bear the total expense for the project or that part of the project that is shut down.

Any worker found in violation of the construction site safety rules as outlined in The Owner's Safety Program, BMC Safety Program and Individual Subcontractor Contract or OSHA Safety and Health Requirements at the option of Safety Director; may ask for the employee to be removed from the project site.

**IMMEDIATELY NOTIFY PROJECT MANAGEMENT OF ALL MISHAPS. FAILURE TO DO SO IS A VIOLATION OF CONTRACTUAL RESPONSIBILITY.**

### **SAFETY RULES AND REGULATIONS**

State safety codes, Local Municipal safety and building codes and Federal OSHA (Occupational Safety and Health Administration) safety and health codes, NFPA (National Fire Protection Association), ANSI (American National Safety Institute), FM (Factory Mutual), and BMC safety standards shall be followed by all Subcontractors and workers at the project site. Safety rules and regulations established by BMC to control safety hazards or unsafe conditions not regulated by other agencies are also applicable.

Safety regulations, procedures and programs described in BMC's Individual Subcontractor Contract and Safety Plan applicable to work at the project shall also apply.

Where rules and regulations of different agencies or authoritative texts such as NFPA appear to be in conflict or overlap; the most stringent ruling shall apply.

## **SAFETY PLANNING AND COORDINATION**

BMC Project Management staff shall include safety planning in coordination meetings with Subcontractors at the project site. Such planning shall include a review of the construction methods, tools, equipment, Material Safety Data Sheets (MSDS) of the products to be used, protective equipment and personnel assigned to the task. The purpose of the review shall be to determine any potential unsafe conditions or acts inherent in the work and which safety rules or regulations may be applicable to control the hazards.

Subcontractors shall conduct similar safety planning internally with their respective personnel. Supervisors and foremen shall communicate this safety planning relating to the work to all employees when making work assignments.

## **SUBCONTRACTOR'S "TOOL BOX" SAFETY MEETINGS**

Subcontractor's safety meetings shall be held on a weekly basis (every week). Written meeting minutes will be copied to BMC project staff as a part of the weekly contractor coordination & safety meeting.

Second Tier Subcontractors employed by BMC's Direct Subcontractor at the project site will also hold weekly 'Tool Box' safety meetings with their respective work crews as stated in their CONTRACTORS SAFETY RESPONSIBILITIES section.

Subcontractors are required to schedule and conduct regular safety meetings with their personnel. It is essential to the overall coordination of job safety that contractors conduct such meetings to disseminate to their personnel information and instructions as outlined in BMC Safety Program.

Subcontractors shall make written reports of their safety meetings showing date, attendance, and topics reviewed. Reports shall be retained by the Subcontractors / Second Tier Subcontractors and submitted to BMC project staff with that day's daily report.

Where foremen find employees engaged in unsafe acts or working in unsafe conditions, the foremen shall instruct the employees on an individual basis on the nature of the hazard, safety regulations violated, and required immediate corrective action.

## **HAZARD REPORTING**

Subcontractors / Second Tier Subcontractors and workers observing safety hazards or violations of safety rules and regulations that are beyond their ability or authorization to correct or control shall report them promptly to BMC Safety and Project Management for investigation and correction.

## **SAFETY COMPLAINTS**

So as to ensure maximum participation of all employees in the safety effort at the project and to minimize the possibility of OSHA complaint inspections, each subcontractor shall implement the safety complaint procedure described in the Authorized Safety Inspection Section of this Safety Manual.

## **CLAIM AND ACCIDENT REPORTING**

All Subcontractors at the project site shall fill out the proper forms if an incident occurs. All claims and accidents whether they be an employee injury or a general liability incident shall have an Investigation Report completed and turned in to BMC Safety and Project management.

Completed claim forms and investigation reports shall be submitted promptly to BMC. All Subcontractors shall keep a copy for employee injuries as well as general liability incidents. These files shall be kept readily available for review by BMC upon their request.

Each contractor shall comply with recording and reporting of accidents and illnesses as required in the OSHA "Record keeping Requirements Under the Occupational Safety and Health Act of 1970".

## **Drug-Free Workplace Policy**

Bob Moore Construction is a community in which responsibilities and freedoms are governed by policies and codes of behavior, including penalties for violations of these standards as stated in your Employee Manual. Bob Moore Construction has a standard of conduct which prohibits the unlawful possession, use, or distribution of illicit drugs and alcohol by employees on Bob Moore Construction's site and/or client sites or as a part of Bob Moore Construction's activities. Bob Moore Construction will impose disciplinary sanctions on employees ranging from educational and rehabilitation efforts up to and including expulsion or termination of employment and referral for prosecution for violations of the standards of conduct. Each situation will be looked at on a case-by-case basis.

It is the goal of Bob Moore Construction to maintain a drug-free workplace. To that end, and in the spirit of the Drug-Free Workplace Act of 1988, Bob Moore Construction has adopted the following policies:

- The unlawful manufacture, possession, distribution, or use of controlled substances is prohibited in the workplace.
- Employees who violate this prohibition are subject to corrective or disciplinary action as deemed appropriate, up to and including termination.

- As an on-going condition of employment, employees are required to abide by this prohibition and to notify, in writing and within five (5) days of the violation, her/his supervisor of any criminal drug statute conviction they receive.
- If an employee receives such a conviction Bob Moore Construction shall: take appropriate personnel action against the employee, up to and including termination.
- Bob Moore Construction provides information about drug counseling and treatment.
- Bob Moore Construction reserves the right to search and inspect for the maintenance of a safe workplace.



# SAFETY TRAINING AND EDUCATION

The Subcontractor Superintendent/Foreman have the primary responsibility for safety training and education on each project employee, and shall conduct regularly scheduled safety meetings with their employees for this purpose (see section on "Safety Meetings" for details).

Since most employees on the project work under the direct supervision of foremen, the Subcontractor's Superintendent shall carefully instruct foremen in their safety duties as described in this Manual, and require them to conduct the following safety training and education activities with employees under their supervision.

1. Subcontractor's Superintendent/Foreman shall make each employee aware of all safety rules along with verbal instruction to read and obey all safety regulations therein.
2. Subcontractor's Superintendent/Foreman shall indoctrinate each new employee in basic safety requirements, as follows:
  - a. Review employee safety duties as set forth in this Manual.
  - b. Review the required uses and care of personal protective equipment such as hard hats, eye protection, respirators, safety harnesses, etc.
  - c. See that each employee has certification of instruction in the use of such items as power actuated tools, lasers, motor vehicles, etc.
  - d. Review procedures for obtaining first aid treatment and medical care for job related injuries.
3. Foremen shall include, in all work assignments to each employee, instruction in the recognition and avoidance of unsafe conditions related to the work. He shall give particular care to the following conditions:
  - a. Handling or use of flammable liquids and gases, or toxic materials.
  - b. Work involving exposure to falls from heights over 6 feet.
  - c. Work in trenches or excavations.
  - d. In confined or enclosed workspaces with limited egress, which may be subject to the accumulation of toxic or flammable atmosphere.
  - e. Work involving eye hazards.

4. Where foremen find employees engaged in unsafe acts or working in unsafe conditions, the foreman shall instruct the employees, on an individual basis, on the nature of the hazard, safety regulations violated and required protective action.
5. Foremen shall conduct weekly tool-box safety meetings with employees under their supervision (see section on "Safety Meetings" for details).

**NOTE:** On projects where there are no foremen, and for employees not working under the supervision of a foreman, the Subcontractor Superintendent shall assume the above responsibilities or may delegate them to the site person or to an Assistant Superintendent.

## **SAFETY RULES**

The following are basic rules. Additional rules and instructions will be issued as the need arises, It is imperative that the regulations in OSHA Construction Standards 29CFR-1926 which is available from your supervisor, be referred to in all safety matters.

## **PERSONAL PROTECTIVE EQUIPMENT**

### Safety Equipment - General

Safety hard hats must be worn at all times while on the BMC Jobsite; unless deemed unnecessary by BMC Safety Director due to the progress of project.

Appropriate personal protective equipment must be worn for all operations where there is an exposure to hazardous conditions or where there is a need to reduce potential hazards, i.e. grinding or cutting.

In places where the possibility of falling exists, suitable device must be worn for protection (i.e. safety harness, lanyards, life lines, etc.) In no case shall work of this type proceed until the proper precaution is taken.

## **PPE EYE & FACE**

Eye protection is to be worn when cutting, welding, and grinding or where operations present potential eye or face injury.

Appropriate filter lenses are to be used during welding operations or laser beam exposure.

Hearing protection is to be used when exposed to potentially injurious noise levels such as jack hammering, grinding, etc.

## **RESPIRATORY PROTECTION**

Appropriate respiratory protection is to be used whenever the work atmosphere makes such protection necessary.

Respiratory protection equipment is to be cleaned daily and maintained in good working order.

## **FOOT PROTECTION**

All workers will wear WORK SHOE/BOOTS at all times while on any BMC working construction jobsite. (NO TENNIS SHOES ALLOWED)

## **TEMPORARY STRUCTURES:**

Temporary buildings located within buildings under construction at the project site shall comply with OSHA regulation 1926.151, (b), and (2) which states as follows:

*“Temporary buildings, when located within another building or structure shall be of either noncombustible construction or of combustible construction have a fire resistance rating of not less than 1 hour”*

All employers erecting offices, storage rooms, change rooms or other similar structures inside buildings shall comply with this regulation. When combustible materials are used for construction, such material shall be clearly stamped as to its approved rating. This stamping shall appear on every panel, not obliterated, covered over or painted over.

## **SUBCONTRACTORS SAFETY AND HEALTH ENFORCEMENT POLICY**

Upon knowledge of a safety hazard or unsafe act, notification will be given to the Subcontractor’s responsible party. If the required correction does not occur immediately or within the time period specified by BMC Safety, 2nd notification will be given to the Subcontractor’s Project Representative. If the contractor’s Project Representative does not ensure correction and continuing safety compliance, BMC reserves the right to take whatever action is required to correct the hazard or unsafe act as identified in BMC Safety Program.

**This action may include any of the following:**

- A stop work order for the specific operation or area of construction until the hazard or unsafe act is corrected.
- Correction made by BMC or others and back charged to the Subcontractor.
- Written notification to the Subcontractor’s Project Manager/Project Executive and Company President.

## **POSTING REQUIREMENTS**

OSHA and Texas Workers Compensation Commission (TWCC) regulations require the posting of several types of notices at each project site. The notices must be posted conspicuously at a place where all employees can see them or at the place where they report to work. On BMC projects, notices shall be posted in the field office and/or a bulletin board outside. All postings will be bilingual (English and Spanish). The Project Superintendent shall be responsible for posting, but may delegate this responsibility to other BMC representative.

Notices to be posted are as follows:

1. **OSHA Poster:** - This poster notifies employees of their rights under the law and must be posted for the entire duration of the project. In states with approved OSHA programs, the state must also be posted with the federal poster.
2. **OSHA Annual Summary:** - A summary of the data recorded on the OSHA Log of Occupational Injuries and Illness (OSHA Form No. 300/300A) for the past year must be posted not later than February 1 and remain posted until March 1. This is accomplished by totaling the figures on the OSHA 200 Log. Then, fold the Log form on the vertical dotted line and post the form so that only the totals are visible. The Project manager shall certify that the totals are true and complete by signing at the bottom of the OSHA 300/300A Log. See section on Accident Reporting and Record keeping for requirements for maintaining the OSHA Log of Occupational Injuries and Illnesses. (OSHA Form No. 300/300A).
3. **OSHA Citations:** - A copy of each OSHA Citation shall be posted immediately upon receipt, and shall remain posted until the violations have been corrected, or for three (3) working days (excluding weekends and federal holidays) whichever is longer.
4. **OSHA Contest Notices:** - Certain notices relating to the contest of an OSHA Citation require posting. Such notices will be issued to the Superintendent from the Main Office with instructions for posting.

Items described in 2, 3, and 4 above posted should not be posted beyond the time outlined. At the end of the posting period, the Subcontractor's Representative shall remove the notices and place them in the BMC Field Office.

Copies of the OSHA Poster and Annual Summary are available from the Safety Department at the Field Office.

## **SAFETY INSPECTIONS**

Subcontractor's site representative shall make scheduled and periodic safety inspections at the project. All individuals at the project site shall comply with all

instructions for corrective actions, whether written or verbal, issued by the Subcontractor's Representative as a result of such inspections.

Each subcontractor at the project site shall provide for regularly scheduled and periodic safety inspections of its own work and initiate corrective actions for all safety hazards, violation of safety rules and regulations found in the inspection. Written records of such inspections shall be kept readily available for review by BMC upon their request.

## **GUARDING**

BMC through its Subcontractors shall provide for the prompt installation of approved opening protection as required by OSHA regulations and or local codes and ordinances at the following locations:

- Perimeters of open floors
- Stairwells and stairways
- Floor holes and openings
- Excavation and trench openings

All subcontractors and workers shall cooperate in the maintenance of these installations as described in the section of this program entitled "Maintenance of Safety".

# EMERGENCY SERVICES

Prior to the start of the project **BOB MOORE CONSTRUCTION** shall provide and maintain throughout the life of the project the following emergency services:

**First Aid Kit** - A first aid kit suitable for treating minor injuries, which do not require the services of professional medical personnel shall be available for use in the field office. The kit shall consist of a weatherproof container with individually sealed packages for each type of item contained. All employees shall conspicuously place it where it is readily accessible for use. The contents of the kit shall be checked periodically and expended items replaced.

**Physician or Medical Clinic** - Posted at the field office shall be the address and telephone number of the nearest physician or medical clinic for treatment of employees with injuries requiring more than simple first aid but which are not serious. Where possible, select a facility within walking distance of the job site. Otherwise, provide ambulance service or proper means of transportation of injured employees to the facility. Business hours at the facility should coincide with those worked at the job site. Make certain the physician or clinic has the capability for handling the types of injuries, which may occur in construction work. Where available, a full service clinic is preferred over a physician.

**Hospitals** - Posted at the field office shall be the name, address and phone number of the nearest hospital for treatment of employees with serious injuries. Provide ambulance service for prompt transportation of injured employees to the hospital. To simplify handling of billings and insurance claims, notify the site safety will notify the hospital of the intent to send injured employee for treatment. Safety will then get all billing and medical report information needed.

**Ambulance Service** - Posted at the field office shall be the name, address and phone number of the nearest ambulance service. Since most local fire departments provide excellent ambulance service with paramedic or rescue squad capabilities, their services are preferred over private ambulance services. Where ambulance service is not readily available to the job site in terms of time (20 minutes) and distance (5 miles), alternate means of transportation must be provided.

**First Aid Training Requirements** - Where a physician, clinic, or hospital is not readily available in terms of time (20 minutes) and distance (5 miles) for treatment of injured employees, a person who has a valid certificate in first aid training from the American Red Cross or equivalent training that can be verified by documentary evidence shall be available to render first aid.

**Material Safety Data Sheets** - Material Safety Data Sheets (MSDS) are needed when a worker sustains a chemical injury. These sheets should be readily available for any First Aid needs.

**Fire and Police Services** - Posted at the field office shall be the locations, availability and jurisdiction of local fire and police department. Contact the local fire department and request them to visit the job site to review the following items:

- Fire reporting procedures
- Access to the job site
- Location of stairways and ladders

Implement recommendations of fire department and schedule follow-up surveys as warranted by the scope of the project and development of buildings and structures on the job site.

**Posting Emergency Telephone Numbers** - Posted in the field office shall be the telephone numbers of physician, clinic, hospitals, ambulance, fire and police departments which shall be conspicuously posted at all telephones.

**CPR Program (Cardio-Pulmonary Resuscitation)** - Medical records show that a high percentage of victims of otherwise fatal heart attacks may be saved if proper emergency first aid treatment is administered within the first few minutes following an attack. The recommended first aid procedure for heart attack is CPR (cardio-pulmonary resuscitation). An increasing number of persons are being trained in this procedure and it is essential to the safety of our employees that these persons be located and identified on our construction projects so that they will be available in an emergency.

Bob Moore Construction with the assistance of subcontractors shall take the following steps to implement the CPR Program on this project:

- During a safety meeting with subcontractors, instruct them to locate and identify employees on their crews who have training in CPR and provide a list of the names of such employees.

## **EMERGENCY ACTION PLANS**

### **TYPES OF EMERGENCIES:**

#### 1. Emergency Medical Procedures

In the event of a medical emergency when an ambulance is needed to transport an injured employee to the hospital, the following procedures must be followed:

- a. Contact your supervisor and the BMC Project Superintendent or go to the nearest staff member or Management Team to report the emergency. Someone from either BMC staff or your supervisor will call 911.

- b. Know the location of the accident - in a major emergency time is critical. Do not move the injured person unless the person is in immediate danger.
- c. BMC Supervisor will assign someone to remain at the entrance of the project to direct the ambulance to the scene of the accident.

2. Fire

- a. Contact BMC site management or go to the BMC site office to report the fire.
- b. Assign personnel to the entrance to direct fire fighters to the scene of the fire.
- c. Make a Head Count to insure all your workers are out of the area.
- d. BMC management on-site will, with the assistance of subcontractors, coordinate the evacuation of personnel to an area of safety.
- e. After the fire, the BMC site management and/or Safety will direct and assign key personnel to secure the area and assist the local fire department in the investigation of the cause(s) of the fire.

3. Evacuation of Premises In the event that evacuation of the project becomes necessary, the following procedures will be followed:

- a. All personnel will evacuate the project. Each contractor will instruct his or her employees to meet at the pre-determined area of the project for a head count.
- b. BMC and ALL Subcontractors will be responsible for Ensuring that all personnel have vacated the area. Subcontractor's Supervision will then report to BMC Supervision for further instructions.
- c. BMC or Subcontractor's supervisors will assign personnel to direct traffic to leave the project in an orderly, coordinated manner.
- d. Police and Fire Department will be notified of the emergency evacuation and obtain their assistance in providing the safest route for evacuation of the area.
- e. BMC supervision will advise Subcontractors when they can return to the project and resume work.

4. Bomb Threat

In the event of a bomb threat, the following actions will be taken:

- a. The person receiving the threat will attempt to obtain as much information as possible.



b. The person receiving the threat will immediately notify the Police Department.

5. Severe Weather

In the event of severe and inclement weather, BMC will notify Subcontractor's Supervision of severe weather conditions provided by NOAA Weather Radio. Subcontractors will be up-dated, as weather information becomes available.

6. Media Interest

The media, radio, television, and newspapers (reporters in general are not permitted on the site). In the event a major accident occurs on the site, all reporters and cameras will be kept off the site.

# ADDENDUM TO: EMERGENCY RESPONSE PLAN

(Posted on Wall)

**PURPOSE:** TO PROVIDE A PROCEDURE FOR RESPONDING TO EMERGENCIES AND/OR INCIDENTS FOR CONTRACTOR'S EMPLOYEES AND SUBCONTRACTORS

**OBJECTIVE:** TO IDENTIFY KEY RESPONSIBILITIES AND ASSIGNMENTS IN CASE OF A JOBSITE EMERGENCY.

**PRIMARY ACCESS TO THE CONSTRUCTION SITE AREA WILL CHANGE AS PROJECT ADVANCES. BMC WILL MAKE SURE THAT THERE WILL BE SOMEONE AT THE ENTRANCE OF THE ACCIDENT AREA TO DIRECT EMERGENCY CREWS INTO SITE.**

PERSONNEL INJURED ON THE PROJECT SITE WILL RECEIVE IMMEDIATE FIRST AID. INJURIES OF A MORE SEVERE NATURE WILL BE TRANSPORTED TO THE FOLLOWING OR **ANY OTHER CLOSER APPROPRIATE MEDICAL FACILITY:**

**CLINIC:** Insert Name of Facility \_\_\_\_\_  
(MAIN NUMBER) \_\_\_\_\_  
(EMERGENCY) \_\_\_\_\_

**HOSPITAL:** Insert Name of Facility \_\_\_\_\_  
(MAIN NUMBER) \_\_\_\_\_  
(EMERGENCY) \_\_\_\_\_

IN THE EVENT OF AN INJURY TO A SUBCONTRACTOR EMPLOYEE OR SECOND TIER SUBCONTRACTOR, **DIAL 911, THEN CALL BMC SAFETY & PROJECT MANAGEMENT**

**PER THE CONTRACT WITH BMC, ANY EMPLOYEE WILL BE SUBJECT TO A POST ACCIDENT DRUG SCREEN AT THE TIME OF TREATMENT.**

FOR AMBULANCE, FIRE DEPT. AND/OR POLICE. INSTRUCTIONS WILL BE GIVEN TO DIRECT EMERGENCY VEHICLES TO A SPECIFIC 'ACCESS' LOCATION.

IF A BMC STAFF MEMBER OR SUBCONTRACTOR IS REQUIRED TO REPORT AN EMERGENCY INCIDENT, THE PROCEDURE BELOW SHOULD BE FOLLOWED.

1. REMAIN CALM
2. DIAL 911 TO REPORT AMBULANCE/FIRE DEPT. AND/OR POLICE
3. EMPLOYEE MUST GIVE NAME TO 911 OPERATORS
4. STATE NATURE OF EMERGENCY (INJURY, ACCIDENT, ETC.)
5. GIVE LOCATION OF EMERGENCY
6. IF POSSIBLE, THE TYPE OF EMERGENCY (FALL, LOSS OF BREATH, ELECTROCUTION)
7. CONTACT APPROPRIATE SUBCONTRACTOR
8. **CONTACT BMC SAFETY DIRECTOR**

### **TRAFFIC CONTROL**

1. BMC WITH THE ASSISTANCE OF SUBCONTRACTORS WILL DEPLOY PERSONNEL TO ASSIGNED ACCESS AREAS TO DIRECT EMERGENCY VEHICLES.
2. DIVERT ALL NON-ESSENTIAL TRAFFIC AWAY FROM EMERGENCY SCENE.
3. MAINTAIN CLEAR ACCESS FOR EMERGENCY VEHICLES

### **CROWD CONTROL**

1. SUBCONTRACTOR WILL DEPLOY PERSONNEL TO ASSIGNED AREAS.
2. KEEP ALL NON-ESSENTIAL PERSONNEL FROM EMERGENCY SCENE
3. ASSIST IN MAINTAINING AND PRESERVING EMERGENCY SCENE

ALL RESPONSE TEAM MEMBERS WILL REMAIN AT THEIR ASSIGNED LOCATIONS UNTIL NOTIFIED THAT THE EMERGENCY HAS PASSED.

***NO INFORMATION IS TO BE RELEASED TO ANY OUTSIDE SOURCES WITHOUT BMC PROJECT MANAGERS APPROVAL.***

### **EMERGENCY RESPONSE TEAM MEMBERS**

TO BE SUBMITTED LATER

# EMERGENCY CONTACT LIST

## PHONE LISTINGS:

1. **Greg Holland-** Office: (817) 640-1200 or Cell: (817) 706-7044
2. **Dino Sideris [SAFETY]-** Office: (817) 640-1200 or Cell: (817) 229-8891
3. **Ed McGuire-** Office: (817) 640-1200 or Cell: (817) 994-3953

**BOB MOORE CONSTRUCTION, INC**  
**1110 N. WATSON ROAD**  
**ARLINGTON, TX 76011**

**OFFICE: 817-640-1200**  
**FAX: 817-640-1250**

# ACCIDENT REPORTING AND RECORDKEEPING:

BMC and/or The Subcontractor are responsible for accident reporting and recordkeeping for their employees. A copy of all accident and/or incident reports must be turned into BMC Safety Director within 24 hours of accident/incident.

The following reports and records are required:

## 1. SUBCONTRACTORS ACCIDENTAL INJURY AND ILLNESS REPORT

Any accidental, work related injury or illness occurring to an employee who requires the services of a physician, nurse, medical clinic, or hospital shall be reported by phone to BMC Safety. Subcontractor Rep. will then prepare all required and necessary written reports and provide copies for the BMC Field Office File.

## 2. OSHA FORM NO. 101 - SUPPLEMENTARY RECORD OF OCCUPATIONAL INJURY AND ILLNESS

OSHA requires each reportable injury or illness to be recorded on their Form No. 101, or on the regular form used by the employer to report injuries or illnesses to their workmen's compensation insurance carrier. Do not use OSHA Form No. 101. A copy of this report will be retained in BMC Field Office File in place of OSHA Form No. 101.

## 3. OSHA FORM NO. 300 - LOG OF OCCUPATIONAL INJURY AND ILLNESSES

Each reportable occupational injury or illness must be recorded on the Log within six (6) workdays after learning of its occurrence. The Log shall be prepared in the Corporate Office according to instructions on the reverse side of the form. Do not post the log but retain it in the Field Safety File. A separate Log must be kept for each calendar year. At the end of the year, this form is to be posted as an Annual Summary. **(See Training and Education section of this manual on Posting Requirements for instructions on how to post this form).**

## 4. OSHA REPORT FOR FATALITIES AND DISASTERS

Any accident resulting in a fatality or hospitalization of three (3) or more employees must be reported within 8 hours to the Area Director of the Occupational Safety and Health Administration. Make this report by phone. **Notify BMC Safety Department at once.** A list of addresses and phone numbers of OSHA Area Offices appear on OSHA's Website [www.osha.gov](http://www.osha.gov) for Record keeping Requirements.

## 5. PUBLIC LIABILITY REPORTS

All accidents resulting in injury to members of the public, or damage to public or private property, or vehicles, shall be reported by phone at once to BMC Safety

Department. Subcontractor's Supervisor will prepare all required and necessary written reports and provide copies to be retained in BMC Field Office.

# GENERAL REQUIREMENTS FOR ALL EMPLOYEES AND SUBCONTRACTORS

1. Failure to comply with Occupational Safety and Health Administration standards, State safety regulations, all other federal laws and standards, BMC Safety Manual, safety policy, and client safety rules may be cause for dismissal.
2. Possession or use of any alcohol, mind-altering drugs, or other controlled substance will be cause for immediate dismissal. Gambling, fighting, horseplay, or carrying firearms or other weapons on the job or in areas under company control will be cause for dismissal.
3. Hard hats will be worn at all times, while in the construction area; unless deemed unnecessary by BMC Safety Director, due to progress of project. We do not allow painted hard hats nor is alteration of the hat or suspension permitted. Metal hard hats are not permitted.
4. Proper eye protection (safety glasses) will be worn when cutting, welding and grinding or where operations present potential eye or face injury.
5. Proper respiratory equipment will be worn when required.
6. Employees must report all injuries and illnesses, damage to machinery or equipment, near-miss incidents, suspected or identified hazards and unsafe conditions in the work place to a BMC supervisor immediately.
7. If there is an on-the-job injury requiring medical attention, you will be sent to a physician. Failure to follow this procedure will be cause for dismissal.
8. You are to report for work rested and physically fit to do your job.
9. Wear approved safe footwear that is in good condition for your job. Rubber soles are preferred with a nonskid, puncture-resistant sole.
10. Always wear clothing that is suitable for both the weather and your work. Torn or loose clothing and shirt tails worn outside trousers may become entangled or pulled into moving parts of machinery, tools, and equipment and are not permissible. Employees must be fully dressed in the workplace always.
11. Use gloves, aprons, or other suitable skin protection when handling rough materials, chemicals, and hot or cold objects. Replace when worn or damaged.

12. Jewelry (bracelets, neck chains, etc.) should not be worn for the same reasons as mentioned in # 10 listed above.
13. Good housekeeping and fire prevention regulations will be maintained always. Keep your work area and the entire workplace as clean as possible. Never bypass a spill or debris without ensuring it is cleaned up. Employees are responsible for the housekeeping and cleanliness of their individual work areas.
14. Refuse piles must be removed from work areas each day.
15. All equipment with moving parts will only be operated with guards in place. Never remove a machine guard or attempt to defeat its purpose.
16. Do not ride equipment loads, hooks, or headache balls. You are to remain seated with arms and legs inside the body of the moving vehicle.
17. Defective power or hand tools will not be used.
18. Only qualified operators will operate equipment, switches, valves, or other machinery.
19. All safe practices will be followed in hoisted or suspended loads.
20. Listen carefully to instructions. If you do not understand them, ask before starting work.
21. Follow instructions on all signs, posters, or hazard bulletins posted or issued on the job.
22. Learn to lift properly. Bend the knees, keep the back erect, and lift with the legs. Get help with heavy loads.
23. Explosives, flammable materials, electrical equipment, heating devices, compressed air, and pressure vessels will be handled according to OSHA, Federal and State laws.
24. Pile and/or remove pile materials carefully.
25. Make sure ladders are in good condition, set firmly and secured in place.
26. Use tools only for their intended purposes.
27. Do not start or move machinery, operate valves, or change electric switches until you have determined that doing so is safe (Lockout/Tagout procedures).



28. Do not repair or adjust machinery while it is in operation. Never oil or clean moving parts. Never attempt to make unauthorized repairs or perform unauthorized service or maintenance on any machinery, equipment, or facilities. All equipment or machinery in need of repair must be tagged, removed from service, and reported to a supervisor immediately.
29. Do not disconnect air hoses at compressors until the line has been bled. Do not use more than 30 psi to blow down or for cleaning. Never turn compressed air on yourself or others.
30. Never work under vehicles or equipment supported by jacks or hoists without protective blocking.
31. Remove nails from lumber or bend them over.
32. Keep loose materials off stairs, walkways, ramps, platforms, etc. Never store anything on a stairwell. Never take more than one step at a time when using stairs and always have one hand free for the handrail.
33. Have safe access to work areas. The safe way is the right way.
34. Do not block walkways, traffic lanes, or fire exits.
35. Avoid short cuts. Use ramps, stairs, walkways, ladders, etc. Always use prescribed passageways.
36. When entering different work areas, familiarize yourself with hazards and required safety precautions.
37. Be sure of your footing. Watch out for stumbling hazards and fall hazards.
38. Be consistently aware of work going on around you and your surroundings. Keep clear of overhead work, suspended loads, traffic areas, etc.
39. Always have sufficient lighting on stairs, in walkways, basements and other work areas.
40. Place barricades and signs to warn of traffic, overhead hazards, pinch points, floor openings, etc. Use a flagman or watchman if necessary.
41. Place fencing or barricades around excavations and floor openings or cover them.
42. Fall Protection must be in place at all times when working 6 feet or more above ground level or a lower level with the exception of Ladders and Steel Erection where an alternative Fall Protection Plan must be devised prior to erection and

must be submitted within the Written Steel Erection Plan

43. Never remove material that is being used for accident prevention or a safety barrier, such as barricade tape, safety cones or pylons, lockout or tag-out labels unless the potential hazard no longer exists and your supervisor has advised you that it is permissible to do so.
44. Never attempt to catch falling objects.
45. Each employee is directly responsible for proper care of company property, equipment and vehicles in his or her charge either temporarily or permanently. Such equipment will be used in a safe and proper manner always.
46. Employees are required to attend scheduled safety meetings. Employees will be expected to demonstrate that they can perform their job assignments safely and without risk to themselves or others.
47. Employees are required and expected to follow all safety-related rules and regulations while on the premises of this company and when performing duties or acting for this company.
48. Employees must never put themselves or other workers at risk.
49. We will never expect that employees perform duties, tasks, or jobs that put them or others at risk. Employees assigned to perform such tasks must report their concerns to a supervisor immediately.

### **SCAFFOLDS AND LADDERS**

1. Face ladders when climbing and use both hands. Use hand line or material for tools and loads.
2. Use only safe ladders on a firm base. Angle ladder base from support one-fourth the working length of the ladder. Keep ladders free of debris.
3. Ladders must reach at least three feet above landing. Tie ladders off at top and secure the bottom. Brace long ladders.
4. Scaffolds and ladders will conform to standards set forth by OSHA.
5. Use scaffolds on solid footing.
1. All scaffold decking will be secured to the scaffold frame and of sufficient strength to bear the intended load.
7. Keep scaffolds clear of debris and loose materials.

8. All scaffolds more than 6 feet above ground or surrounding area will have top rails, intermediate rails, and toe boards according to OSHA standards or some other means of 100% of fall protection.
9. All scaffolds and ladders are to be inspected daily and removed from use if found to be defective.
10. Use of metal ladders around electrical current is prohibited.
11. Ladders will only be used for their approved and intended purpose.
12. Use a proper, well-constructed ladder to reach working platforms when there is no standard means of access. Never use makeshift ladders or other items or materials to climb on.
13. No more than one person should ever be on a ladder at a time.
14. Ladders should be supported by another person prior to anchoring top of ladder.
15. The two highest steps of a stepladder should never be used as steps.
16. When working from a ladder, place the ladder as near the work as possible. Do not overreach to perform work from a ladder.
17. Ladders will be maintained free of oil, grease and other slippery material.
18. Ladders will not be loaded beyond the maximum intended load.
19. The area around the top and bottom of a ladder will be kept clean.
20. Ladders will not be moved, shifted or extended while occupied. Do not walk ladders.
21. Do not work on scaffolds if your physical condition is such that you feel dizzy or unsteady in anyway.
22. The scaffold base must be set on an adequate sill or pad to prevent slipping.
23. Do not build scaffolds near electrical power lines unless proper precautions are taken.

## **TOOLS**

1. Keep all loose tools in a toolbox or secure them against falling or dropping from work surfaces.

2. Do not use worn or damaged tools. Do not use tools with cracked, broken or loose heads or handles.
3. Do not use impact tools if they have mushroomed heads.
4. Keep cutting tools sharp and carry them in a container (not in your pocket).
5. Know the correct use of power and hand tools before using them. Use the right tool for a particular job and use them only for the purpose for which they are intended.
6. Powder actuated or assisted tools are to be operated only by a certified/qualified operator. Never point a powder-actuated tool at anybody. Before using a powder-actuated tool, inspect it to make sure that all moving parts operate freely, and that the barrel is free from obstruction. Do not load a powder-actuated tool unless it will be used immediately. Never leave a loaded tool unattended.
7. Operate equipment and tools within rated capacity and at safe speeds
8. Consider all electric wires and cords as “live” until checked.
9. Keep a safe distance from “live” electricity.
10. Have electrical power tools and equipment properly grounded. Inspect tools and cords for damage before each use.
11. Do not use electrical power tools or equipment while standing in water.
12. All electric power tools and extension cords should have good insulation. Keep all cords away from heat, oil, and sharp objects.
13. Only qualified persons are to repair electric tools or equipment.
14. Secure all cords, leads, and hoses out of the work area to prevent damage to them and to prevent the hazard of tripping over them. Do not use wire to hang a cord, lead or hose.
15. Power saws will be equipped with guards.
16. Portable grinders will be equipped with guards.
17. Stationary grinders are to be equipped with guards, properly adjusted tool rests, and an attached face shield.
18. Grinding wheels, both portable and stationary, are hazardous and will be checked for cracks, chips, or other defects. Any defective wheel should be

replaced immediately.

19. Do not operate any grinding wheel at any speed other than the rated speed.
20. Air tools are to be kept in good repair and checked for safe rpm. Defective tools are to be taken out of service immediately for repair or replacement.
21. Never use a hand grinder as a stationary grinder.
22. Tools will be collected and put away after each use.
23. Do not use hoses or electric cords for hoisting or lowering tools or other materials. Never pull the cord to disconnect it from the receptacle.
24. Keep moving parts of power tools pointed away from your body. Do not hold a finger on the switch button while carrying a plugged in tool.
25. Take special precautions when using power tools on a scaffold or other locations, which restrict movement.
26. Be sure that a power tool is off and motion has stopped before setting the tool down.
27. Disconnect the tool from the power source before changing drills, blades or bits or attempting repair or adjustment. Never leave a running tool unattended.

### **EXCAVATION, TRENCHING AND SHORING**

1. All trenches or excavations over **4** feet deep will be benched, sloped or shored according to site specific trench safety plan.
2. All trenches and excavations will have a safe ladder installed no more than 25 feet from working employees and will be relocated as the work progresses (trenches 4 feet or more in depth).
3. You are not to enter any trench or excavation before a supervisor has inspected and determined it to be safe to enter and work. Do not enter a trench without authorization.
4. Should any condition become hazardous while you are in a trench or excavation, you are to get out immediately.
5. All excavated soil is to be placed away from the excavation edge according to OSHA standards (at least 2 feet) and to prevent it from falling back into the trench or excavation.

6. Do not permit vehicles or equipment to operate too close to the trench or excavation, where vibrations could cause a cave-in.
7. Do not work back-to-back while using picks.
8. When shoveling, be sure to keep others at a safe distance.
9. Never work alone while performing excavation, trenching, or shoring operations.
10. Do not work in excavations where there is standing or accumulating water without the necessary precautions being taken to alleviate the hazard.
11. Subcontractors working in **confined areas**, will comply to **all OSHA Regulations**.
12. Before beginning any excavation or trenching. Underground utilities must be found; utilities must be protected when digging.
13. Removal of all protective systems will begin at, and progress from, the bottom of the excavation or trench.
14. Backfilling of the excavation will be accomplished with the removal of the protective system.

### **WORK AROUND CRANES AND OTHER HEAVY EQUIPMENT**

1. Stay completely clear of overhead loads. Never walk under a suspended load for any reason.
2. Stay clear of swinging counterweights or superstructures. Swing radiuses should be barricaded, creating a restricted access zone.
3. Do not climb on or off moving equipment.
4. All equipment, cranes, and booms are to be kept at least 10 feet from energized power lines.
5. Only qualified employees are allowed to operate cranes.
6. A qualified flagman in full view of the operator will give or relay signals.
7. Tag lines are to be used on hoisted loads.
8. Be sure backup alarms are in working order.
9. Never leave a suspended load unattended. Always lower any load before leaving

the area for any reason. Never exceed the posted load rating on a crane or hoist.

10. Employees must stay clear of areas near or around crane and hoist operation unless it is absolutely necessary to be in the vicinity for a specific operation relating to the use of the crane or hoist.
11. Hooks, and rigging used with overhead cranes must be inspected daily for cracks, breaks, stretching and tearing. These inspections must be recorded.
12. Identified hazards, defects, or malfunctions must be reported to a supervisor immediately.
13. **Chains are not allowed for any hoisting operations, unless stamped by engineer drawing but may be used for securing a load.**

### **WELDING AND BURNING**

1. Wear eye protection. (safety glasses and/or welder's shield).
2. Gas bottles will not be stored lying down.
3. Caps will be kept on all bottles when regulators are not in place.
4. Regulators are to be kept free of oil and leaks.
5. Flashback safety valves will be used on all hoses and lines at the gauges or manifolds.
6. Properly securing bottles will be used for storage of acetylene and oxygen. Oxygen and acetylene bottles must be separated by a firewall in storage or separated by a minimum of 20 feet, according to the MSDS.
7. Acetylene and oxygen bottles will be secured in an upright position while in use.
8. Employees and all work are to be protected from hot welding materials. This may involve the use of a fire watch with fire extinguisher, having a restricted access zone barricaded with sign and protecting materials with fire blankets.
9. Welders are required to wear hard hats with a hood attached while welding.
10. Welder helpers and all others working around welders are required to wear eye protection.
11. Respirators are required when you are exposed to toxic fumes.
12. Be sure you have adequate ventilation when welding.

13. Never attempt to operate welding machine or cutting torches or perform welding or cutting operations unless proper training and authorization are given.
14. Protective gloves and proper clothing must be worn when performing welding and cutting operations.
15. Welding and cutting operations must not be performed near or around flammable or combustible materials or fire hazards without adequate protective measures in place.
16. Fire extinguishers must be present at the site of any welding or cutting operation.
17. Welding machines, cutting torches, and any attachments or apparatus must be visually inspected by the user or operator prior to each use. Defective or unsafe equipment is never to be used until repaired or replaced.
18. Always ensure that all workers and other persons that might be in the area are protected from harmful rays, sparks, hot material, and any other hazards associated with the welding or cutting process. Employees authorized to perform welding and cutting operations must utilize all protective shielding provided for the protection of other employees exposed to the light created by the arc. Eye protection is required and mandatory when performing any type of welding or cutting operation, despite the circumstances or duration. (See # 10).

### **FIRE PREVENTION AND PROTECTION**

1. Before using an open flame such as welding, etc., make certain proper fire extinguishers are in the immediate area.
2. Know the location of fire extinguishers in your area and how to use them.
3. Make sure that all matches and smoking materials that you discard are out.
4. All “**NO SMOKING**” signs and areas are to be obeyed.
5. Smoking is forbidden when fueling equipment.
6. Flammables are to be stored and dispensed from approved safety cans.
7. Keep work areas free of combustible materials.
8. Smoking is not allowed within 50 feet of fuel storage or fuel dump areas.
9. Store oily rags in covered metal containers for disposal.
10. Never use an air hose or pressure to empty gasoline or flammable liquids from



drums.

11. Keep salamanders or other heating equipment away from combustible materials.
12. Do not refuel a hot engine or an engine that is running. Clean up spills before starting.
13. Flammable liquid containers should be clearly labeled and stored in a separate isolated area and must be kept closed when not in use.
14. Make sure engines in building are away from combustibles and exhaust is properly ventilated.
15. Gasoline is to be used as a motor fuel only.
16. Never attempt to fight a fire unless trained and instructed to do so.

### **PERSONAL SAFETY AND PROTECTIVE CLOTHING/EQUIPMENT (PPE)**

1. To do a job properly and safely, you must be in good physical condition.
  2. Lift with your legs and not your back. Get help if the load is too heavy to lift. Do not attempt to lift more than can be safely handled.
  3. Working without a shirt is harmful and is prohibited.
  4. Hard hats will be worn on the entire job, or until the BMC Safety Director deems unnecessary due to the progress of the project.
  5. Different eye protection operations:
    - a. safety glasses are minimal protection
    - b. full eye protection is required in operations such as grinding (mono-goggles face shield over safety glasses) cutting goggles only when using cutting torch.
    - c. Hoods and proper shaded lenses for welding. Check hood for leaks.
    - d. Use goggles during reaming operations in the structures.
- NOTE:** (When working close to any of these operations, you are also required to wear the same eye protection or shielded from operation.)
6. Do not wear loose clothing that can catch and hang up on objects or equipment.

7. All employees should wear gloves and hard-toe shoes. All welders and riggers should wear the high-cuffed work gloves.
8. Employees are required to use all personal protective equipment as assigned and instructed.
9. Never purposely alter or change personal protective equipment from the original condition.
10. Employees are required to maintain all personal protective equipment in a clean and sanitary condition at all times.
11. Report any malfunctions or deficiencies in personal protective equipment to a supervisor immediately.
12. Know the uses and limitations of any personal protective equipment before using it.
13. Proper clothing is considered to be personal protective equipment. Employees must be fully and adequately dressed at all times. A full shoe covering the entire foot must be worn always.

#### **EQUIPMENT OPERATION/MOTOR VEHICLES**

1. Only authorized persons are allowed to operate equipment. Unauthorized use of equipment is cause for dismissal.
2. Operators will not allow anyone to ride on equipment unless seats are provided for that purpose.
3. Operators are required to use seat belts when provided
4. Operators will make certain that the equipment is not adjusted, repaired, or greased while in motion.
5. No one will climb on or about equipment while it is in motion.
6. All guards on equipment will be kept in place.
7. Crane operators will not allow persons to ride the hook or suspended load.
8. Crane or shovel booms will never be brought closer than 10 feet to power lines or telephone lines.
9. When a truck or pickup is used for transporting personnel, employees will be seated at all times with arms and legs inside the body of the truck.

10. All hoisting equipment will be operated on a firm, level foundation.
11. Standing or sitting on the running board, fender, hood, headache rack, or on a load is prohibited.
12. Keep well away from the cable in towing or winching operations.
13. The operator is responsible for keeping equipment in safe operating condition and shall report defects or malfunctions to their foreman or supervisor immediately.
14. The operator is responsible for the safe operation of his equipment at all times.
15. Windshields are to be clean and free of cracks and obstructions.
16. Rollover protection is required on equipment, which may be exposed to the hazard of roll over.
17. The use of portable "walkman" type radios will be prohibited
18. Approach all intersections with caution. Jobsite 10 mph limit on projects.
19. Under no circumstances will an employee be allowed to operate a company vehicle with a detectable presence of alcohol or drugs in their system. Failure to comply with this policy will result in immediate termination.
20. Company vehicles will be inspected daily by the driver to assure that the vehicle is in good mechanical condition. The driver of a company vehicle is responsible for the condition of the unit.

### **EQUIPMENT REPAIRS**

1. Only approved solvents are to be used in cleaning parts. The use of gasoline for cleaning is prohibited.
2. When it becomes necessary for you to work beneath a suspended machine or part of a suspended machine, it shall be safely blocked or cribbed.
3. Mechanics shall adhere to rules set forth for equipment operations.
4. Required personal protective equipment is to be worn when using solvents or any other hazardous material.
5. Be sure all equipment and vehicles are locked, the key out of the ignition, and controls tagged-indicating to others that you are working on the machine.

## **HOUSEKEEPING**

1. Good housekeeping is essential in accident prevention and should be a part of the daily routine with clean-up being a continuous procedure.
2. All excess materials shall be stacked with due regard to safety and allowance made for easy access.
3. The working area and all stairways, ladders, and passageways shall be kept free from loose materials and debris.
4. Spills of oil, grease, or bulk cement shall be removed immediately, in accordance with local, state and federal regulations.
5. Areas around saws or other wood working equipment shall be kept clean and free of excess scrap, chips, and sawdust.
6. Paper drinking cups, lunch debris and trash shall be placed in trash barrels or dumpsters for removal from the area.
7. Remember, a clean job is a safer job.
8. Employees must ensure that their work area is kept clean, neat, and orderly at all times. Employees identifying trash or other debris are responsible to ensure a pick up or clean up of whatever condition exists-no matter who caused or created it.
9. Liquid spills must be controlled and cleaned up immediately by the first person to identify the wet condition.

## **ABRASIVE GRINDING**

1. Employees must ensure that all safety guards are in place and adequately adjusted before operating any grinding machine.
2. Employees should never remove a safety guard from a grinding machine for any reason, other than service or maintenance of the equipment.
3. All electrically powered grinding machines used in the workplace must be grounded by wiring or be double-insulated.
4. Eye protection is required and will be enforced for employees operating machines and for anyone that might be exposed to projectiles or particles from the grinding operation.

5. Employees engaging in grinding operations will wear suitable clothing covering exposed skin that might be subject to cuts and abrasions from flying particles or projectiles created during grinding operations.

### **COMPRESSED AIR**

1. Employees must always use air chucks that are approved, having holes or perforations on the side near the end.
2. Employees must use any protective barriers or shields provided to protect other employees from flying debris created by using compressed air. Employees must also take whatever steps necessary to ensure that others are protected when using compressed air.
3. Eye protection must be worn when using compressed air for any reason. Additional personal protective equipment may be necessary or required, such as face shields, gloves, aprons, or other devices.
4. Compressed air must never be used to clean or blow off a person's skin or clothing.
5. Always roll up or put away all hoses and equipment used with compressed air so that it is out of the way of traffic and to ensure that it does not create trip or fall hazards. Hoses should be put away if leaving the area or not.

### **COMPRESSED GASES**

1. Always support or tie off compressed gas cylinders or containers to prevent falling.
2. Always keep the protective cap on compressed gas cylinders or containers when not in use.
3. Always handle and maintain compressed gas cylinders in an upright position..
4. Never store compressed gas cylinders near pathways, walkways, emergency exit doors, or in an area where they could be struck by a motor vehicle or other equipment.
5. Keep flammable gases and oxidizers separated by at least 20 feet when not in use.
6. Keep compressed gases at least 20 feet away from flammable or combustible material.
7. Always treat all compressed gas cylinders and containers as if they were full.

## **CONFINED SPACE ENTRY**

1. All employees doing work-related duties that require entry into confined spaces must become familiar with the written confined space program before initiating entry. This program may be found in the confined space section of this manual.
2. All employees must observe all warning signs. Never enter an area designated as hazardous or a permit entry area without authorization.
3. Always follow directions and instructions of the entry supervisor.
4. Maintain constant communication with the entry attendant while doing work in a confined space.
5. Plan routes of entry' and escape before the initiation of work duties.
6. Evacuate the confined space at the first sign of problems or newly identified hazards.
7. Use all personal protective equipment as required by the confined space entry permit.
8. Never enter a confined space to attempt the rescue of an individual who is injured or unconscious unless you are trained in this procedure and are equipped with the appropriate personal protective equipment.

## **ELECTRICAL CORDS AND CABLES**

1. Employees must never run flexible cords through any areas that may cause damage to cord.
2. Employees must never run an electrical cord through a doorway or window unless cord is protected from abrasions or cuts.
3. Only approved industrial type electrical cords are to be used in the workplace.
5. Employees must ensure that any electrical cord used has the proper ground prong in place on the cord and the equipment being energized.
6. Adapters that allow for a bypass of the ground prong are never to be used in the workplace.
7. Employees must inspect electrical cords before each use to ensure that the cord is fully insulated and in safe working condition. Defective cords must be reported to a supervisor. Worn or frayed cords must not be used.

8. Employees must ensure that electrical cords and cables are kept out of walkways where they can create trip or fall hazards. Cords must be put away after each use and anytime they are to be left unattended.
9. Employees must ensure electrical cords in use are protected from accidental damage.
10. Electrical cords must never be run through water or used in wet or damp locations or areas.

### **ELEVATED WORK PLATFORMS AND SURFACES**

1. Always hold a handrail when ascending or descending stairways.
2. Never throw tools, equipment or debris from elevated working surfaces.
3. Always ensure that removable railings are replaced when not in use.

### **FIRST AID**

1. Employees must report any injury or illness, despite the severity or magnitude, to an immediate supervisor.
2. Only trained and authorized personnel will attempt to provide first aid or CPR to anyone.
3. Never attempt to move a victim of an accident until their condition can be assessed by a qualified person, unless the victim is in immediate danger if they remain in the same location.
4. Never expose yourself to blood or other body fluids or potentially infectious materials without proper protective measures, such as personal protective equipment and proper clothing.
5. First aid kits and the supplies in them are intended to be used for self treatment whenever possible. If medical attention is needed, or necessary, it will be provided.

### **FLAMMABLE LIQUIDS**

1. Flammable liquids must be stored in their designated location at all times when not in use.
2. Flammable liquids must be stored in and used from adequate or approved containers at all times. Flammable liquids should never be placed in or used from

glass or foam containers.

3. All containers of flammable liquids must be kept closed when not in use.
4. Never attempt to pour flammable liquids from a large container such as a 55 gallon drum, into a smaller container. Use an approved self closing nozzle or hand operated pump.
5. Always ensure that containers are grounded and electrically interconnected (bonded) before transferring liquids from one container to another.
6. Never use or store flammable liquids near sources of heat, flame, or spark.
7. Flammable liquids may be used only in well-ventilated areas.
8. Rags and waste items or materials used in conjunction with flammable liquids must be placed in closed containers until discarded.

### **HAZARD COMMUNICATION**

1. Become familiar with the written hazard communication program for the company. Know the location of this program and the material safety data sheet files.
2. The purpose of material safety data sheets is to provide information about what you are working with, what it can do to you, how to protect yourself and others from it and what to do in case of emergency.
3. Read warning labels and material safety data sheets for any substance used that present the possibility for exposure.
4. Always label the secondary container with the product name and any associated hazards such as flammable, combustible, toxic, corrosive, and any special precautions, such as "do not store near heat" or "do not mix with water".
5. Always return unused substances to the original container or dispose of them safely.
6. Replace the cover or lid to any substance when not in use.
7. If assigned to a new or different job, ask questions and find out about chemicals, materials, and substances you will be working with. Be aware of all substances that you are potentially exposed to, despite who is in control of them.



## **MATERIAL HANDLING, STORAGE, AND DISPOSAL**

1. Employees must never lift objects that are heavy or hard to handle without some type of assistance.
2. Where lifting-assist devices are not available, assistance from other employees must be requested to lift heavy or awkward objects.
3. Always size the load and assess the object for weight, stability and balance before lifting it.
4. Plan the most direct and hazard-free route of travel to the end destination of the object.
5. In making a lift:
  - Be sure you have firm and stable footing.
  - Bend at your knees and not your waist, keeping your back straight.
  - Get a good, firm grip on the object.
  - Lift with your legs and not your back.
  - Keep the load close to your body.
  - Do not twist at the waist but turn and point your feet in the direction that you are moving or traveling with the load.
  - Lower the load with the same movement used in lifting it.
6. If possible, avoid lifting loads from below the knees or above the shoulders.
7. If possible, push an object along the floor rather than lifting it. Avoid pulling objects.
8. Never reach or twist to pick up an object.
9. Do not obstruct your view when lifting or carrying objects.
10. Always lift with a smooth motion rather than jerking a load.
11. Try to break large, heavy loads into smaller, lighter ones.
12. Never attempt a lift, that you feel you are not capable of making safely.
13. Never lean over an object to lift another object.
14. Be sure that the hoist or rigging equipment is in good working condition and that the rated load capacities are not exceeded.
15. Do not stand or work under a suspended load anytime.

16. Make sure all materials stored in tiers are secured to prevent sliding, falling, or collapse.
17. Do not stack materials too high or insecurely. Pipe, unless racked, will be properly tacked and blocked to prevent spreading.
18. Keep aisles, passageways, fire lanes and work areas clear of unnecessary material.
19. Keep oily rags and other flammable trash in covered metal containers.
20. Keep aisles, passageways, fire lanes and work areas clear of waste materials.
21. Remove trash from the work area as soon as possible.
22. The dropping of excess debris or scrap material to ground level must not be done without first ensuring there are no other employees working below and then exercising extreme care.

# HEALTH HAZARDS & ENVIRONMENTAL CONTROLS

## GENERAL REQUIREMENTS

### **MAINTENANCE OF SAFETY INSTALLATIONS:**

Safety rules and regulations established for the project site require certain safety installations to be provided by the Subcontractors and/or its second tier subcontractors. Such installations may include, but not be limited to the following:

1. Guardrails
2. Safety Nets, both horizontal and vertical.
3. Overhead protection.
4. Temporary fire protection.
5. Signs and Posters.
6. Temporary lighting.
7. Rubbish Containers.
8. Communication systems, signals and alarms.

Subcontractors and their workers shall respect all such installations and fully cooperate in their maintenance. Where an employer must remove or relocate safety installations to facilitate the work, the employer shall provide an alternate means of protection for its employees during the work.

Where safety installations must be removed or relocated on a large scale, or for extended periods of time, or permanently, or the contractor does not have the means of reinstallation, the contractor shall make advance arrangements for coordination with BMC. All Subcontractors shall instruct their workers on this requirement. OSHA 1926.16  
RULES OF CONSTRUCTION!

## HOUSEKEEPING

***Poor housekeeping on construction projects creates unsafe walking and working conditions due to tripping hazards, but is an ever-present fire hazard due to the flammable and combustibile nature of most construction debris.***

All Subcontractors shall participate in the housekeeping program established by BMC at the start of the project. Responsibilities for clean up and removal of debris will be distributed to all involved in the project. The following housekeeping rules shall be enforced:

1. Make certain that all subcontractors understand their contractual obligations for clean up and removal of their debris, BMC will enforce contractual requirements.
2. Plan ahead and set up schedules for prompt emptying of rubbish containers. Full containers shall be emptied promptly and replaced with empty containers. Allow sufficient time in schedules for rubbish removal.
3. Hoses, extension cords, welding leads, etc., should be placed in such a manner not to create a tripping hazard.
4. Combustible or flammable debris shall be cleaned up and removed on a daily basis. Accumulations of this type of debris are prohibited.
5. Construction debris shall be cleaned up daily.
6. In no case shall construction debris be permitted to become strewn or accumulated in occupied areas outside of construction areas. Debris produced from construction activities in such areas shall be cleaned up and removed as it is produced. The following areas shall be kept clear of debris at all times:
  - Walkways
  - Aisles
  - Stairways
  - Ladder ways
  - Ramps
  - Loading docks
  - Entrance lobbies and landings
  - Entrances to the project
7. When debris is dropped through holes or openings in a floor without the use of chutes, the area onto which the debris is dropped shall be completely enclosed with barricades not less than 42 inches high and not less than 6 feet back from the projected edge of the opening above. Employees shall not enter the area while debris is being dropped.
8. All debris shall be kept back at least 10 feet from the open sides of floors and at least 6 feet back from the edges of floor openings until cleaned up and removed.
9. Nails may not be left protruding from lumber removed.

10. Oil and grease spills shall be cleaned up at once.
11. Where sweeping of debris from floors may create dusty atmospheres, sweeping compound shall be used or the floors sprinkled with water, whichever is required to reduce dust in the atmosphere to acceptable levels. Workers shall wear the appropriate Personal Protective Equipment (PPE) such as dust masks when required when performing sweeping operations.
12. Where openings to rubbish chutes may permit materials to ricochet or fly out of the openings or where the openings present a falling hazard to employees, the opening shall be equipped with a cover of 3/4-inch plywood or its equivalent or with a 2" X 4" bar across the opening. Covers or bars shall be kept in place when the opening is not in use. Where the openings are large enough to admit a wheelbarrow, a substantial wheel stop shall be installed on the floor in front of the openings.
13. Where employees may be required to enter into chutes or under the bottom discharge of chutes to clear blockages, make repairs to the chute, arrange debris in containers or switch containers, etc., an adequate warning system shall be provided to prevent others from dumping debris down the chute onto employees below. **An example system may consist of the following:**

*A string of green lights installed on the chute with one light at each opening. Lights to be on at all times when chute is safe for use. Lights to be turned off when the chute is not safe for use. Post a sign at each opening instructing employees not to use the chute unless the green light is on. When employees must enter into or under the chute, turn off the light.*
14. In no case shall the bottom discharge of a chute be left in such a condition as to permit employees to inadvertently walk or enter under the open end. When there is no rubbish container under the chute, the area under the discharge shall be barricaded as described in Item 7 above.
15. Where construction activities take place in occupied areas, outside of regular construction areas, and the work cannot be isolated, only such tools, equipment and materials as may be immediately used shall be permitted. One employee shall serve as flagman to warn occupants of the hazards and direct them away from or around the work.
16. Construction materials and equipment shall not be stored in occupied areas outside of construction areas.
17. Where construction materials, tools, supplies and equipment must be moved through occupied areas, one employee shall serve as flagman to warn occupants of the hazards and direct them away from or around the move.

## **WORK IN OCCUPIED STRUCTURES**

All Subcontractors construction activities taking place in or close to occupied structures create special safety hazards for the occupants, increasing our exposure to liability claims. All Subcontractors must be aware that occupants are unfamiliar with construction processes and that special controls are required for the safety of the structure and its occupants.

All Subcontractors shall review in advance all construction work in occupied structures which may create safety hazards for the occupants or the structure with the building manager. Safety controls shall be reviewed at the same time. This will allow both to safely coordinate their work and permit building management to implement their own safety controls and notify occupants.

Where any Subcontractors do any work in occupied structures which may require any of the controls set forth below, the work shall not proceed without approval of the General Contractor at least 24 hours in advance of the work.

## **ENVIRONMENTAL CONTROLS FOR OCCUPIED STRUCTURES**

1. Where occupants may be exposed to excessive noise and vibration, alternate methods and equipment may be employed. Tools, machinery and other construction equipment with special mufflers and sound silencing accessories are available for use in such circumstances. Where feasible, the work may be scheduled to off hours so that occupants are not adversely affected by the work.
2. Where occupants may be exposed to welding flashes, laser beams, or other forms of radiation, the work shall be screened.
3. Where occupants may be exposed to contaminated atmospheres due to gases, vapors, fumes, dusts, mists, or odors, the work shall be isolated from occupied areas by temporary closures or the affected areas ventilated by natural or mechanical means as required to reduce the exposure.

*Where occupants of the structure may be exposed to the build-up of flammable or combustible atmospheres, natural or mechanical ventilation shall be employed to reduce the exposure. Sources of ignition in the affected areas shall be eliminated. See section below on Fire Prevention and Protection for other requirements.*

4. The use of equipment powered by internal combustion engines inside of closed structures is prohibited.
5. Where fire or smoke alarms may be set off due to construction activities, the Prime/Trade Contractor shall coordinate the work with the building management to prevent false alarms. Coordination may require the temporary isolation or shutting down of alarm systems.

6. Where smoke, fumes, odors, etc. from construction activities may be dispersed into occupied areas through air intakes, air handling systems, etc., the Superintendent shall coordinate such activities with the building management to control the hazard. Coordination may require the closing of intakes or shutting down air handling systems.

### **CLOSURES AND BARRICADES**

1. Construction areas and activities in occupied structures shall be isolated from occupied areas by the installation of temporary partitions, fences, barricades or other means as required to prevent unauthorized or inadvertent entry by occupants.
2. All temporary closures shall be free of projections which may present tripping hazards to occupants, or upon which they may become snagged, impaled or bumped into.
3. Doors or gates equipped with locking devices shall be installed at all points of entry to construction areas and shall be closed and locked during non-working hours.

## **HEALTH HAZARDS**

### **TYPES & ENVIRONMENTAL CONTROLS**

#### **EXHAUST FUMES:**

Tools, equipment, and machinery powered with internal combustion engines shall not be operated so as to exhaust into enclosed workspaces. Exhausts shall be fully vented to the outside or equipment powered by other means substituted.

#### **WELDING FLASHES:**

Where welding operations are not transient, but set up on an extended basis, the work shall be screened off to prevent exposure of employees to welding flashes.

#### **SWEEPING:**

Where sweeping of floors creates dusty or contaminated atmospheres in enclosed workspaces, the floor shall be sprinkled with sweeping compound, to control excessive dust. Employees sweeping floors shall wear disposable particle filter masks while sweeping if necessary.

#### **ASBESTOS:**

Work with asbestos or asbestos bearing materials requires extensive safety controls. Do not permit employees to work with asbestos either in demolition or construction operations until consulting the Safety Department regarding required controls. The involvement in any asbestos contract requires the approval chairman/CEO and or the chief operating officer.

#### **LIGHTING LEVELS:**

OSHA regulations require general construction areas to be lighted to a minimum of five (5) foot candles per square foot. (See section on "Electrical Safety" for additional requirements).

#### **TOXIC AND CONTAMINATED ATMOSPHERES:**

To prevent all workers from injury or death by being exposed to inhalation, ingestion, skin absorption, or contact with any toxic material or substance which may cause physical harm, controls shall be implemented to reduce or eliminate the exposure. The Hazard Communication Safety Program should be followed. Such materials may be present in the atmosphere in the form of gases, vapors, fumes, dusts, or mists. Their presence may be caused by the application or use of paints, sealer, acids, adhesives, etc., which are brushed, sprayed, troweled, etc.

For materials which are believed to be toxic, consult labels on containers, and specifications in the Material Safety Data Sheets (MSDS) furnished by suppliers or manufacturers, for warnings and recommended safeguards. Follow the manufacturers recommendations. The following controls shall be implemented in the order shown, for



atmospheres with toxic substances:

1. Where the concentration of hazardous substances is excessive, local exhaust ventilation shall be used to reduce employee exposure to safe levels. The exhaust shall run continuously while the work is in progress, and shall be vented to the outside and not into areas occupied by other employees.
2. Where subcontractor employees exposure to hazardous substances cannot be reduced to safe levels by ventilation, appropriate personal protective equipment may consist of the following items:
  - a. Respirators
  - b. Goggles or spectacles
  - c. Gloves
  - d. Footwear
  - e. Protective garments

For selection of respirators, consult Table E-4 in Subpart E of the OSHA Construction Regulations. For selection of eye and face protection, consult Table E-1 in Subpart E of the OSHA Construction Regulations.

#### **NOISE:**

Employees may not be exposed to excessive sound levels for prolonged periods of time without controls or protective equipment. For example: Employees may not be exposed to more than 90 decibels of sound for more than 8 hours. Breaking concrete with an air hammer produces 95 decibels of sound for the operator. Employees may not be exposed to 95 decibels for more than 4 hours without controls or protective equipment. Exposure of employees to noise shall be controlled in the order shown below:

1. Rotate or replace employees on noisy work so as to reduce time of exposure.
2. Utilize equipment that has been engineered to run silently or is equipped with mufflers or sound reducing accessories.
3. Where it is not feasible to employ the first two controls, or where they fail to reduce noise to safe levels, issue personal protective equipment to exposed employees and enforce its use. Such equipment may consist of ear plugs or ear muffs designed to protect hearing.

#### **LASERS:**

The following safety requirements shall apply to lasers and their use:

1. Only qualified and trained employees shall be permitted to operate lasers.
2. All employees working in areas in which a potential exposure to direct or reflected laser light 5 milli-watts exists, shall be provided with laser eye protection.

See Table E-3 in Subpart E of OSHA Construction Regulations for selection. Laser labels indicate output.

3. Areas in which lasers are used shall be posted with standard laser warning placards.
4. Lasers shall be shut off when not in use and shall not be left on when unattended for more than 15 minutes.
5. Laser beams shall not be directed at employees.
6. Lasers with outputs greater than 10 milli-watts shall not be permitted.

#### **RADIOACTIVE MATERIALS AND X-RAYS:**

Only persons specially trained in the proper and safe use of such equipment shall be permitted to operate it. Contact the Safety Department for other specific requirements of the Atomic Energy Commission where radioactive materials are to be used.

#### **FLAMMABLE ATMOSPHERES:**

Where the use of flammable and combustible materials such as gases, adhesives, paints, or sealers may cause a buildup of an explosive or flammable atmosphere in a confined area, the area shall be well ventilated by natural or mechanical means. Smoking, open flames, or other sources of ignition in the area shall be eliminated. At least one Multi-Class ABC dry chemical type fire extinguisher shall be available within 25 feet outside of the area.

#### **EXTERNAL:**

In most communities, local codes regulate construction activities which may affect the external environment. The Subcontractors shall plan ahead to determine what controls are required for these activities and enforce their implementation to comply with the codes.

Items most frequently regulated are as follows:

1. Emissions of smoke, dust and other airborne contaminants such as over spray from spray-on fireproofing operations. Temporary closures, prompt clean up, and other controls shall be employed as required.
2. Noise from cranes, trucks, pile drivers, air hammers, air compressors, etc. Codes usually restrict the operation of this type of equipment to certain hours of the day in given areas of the community. Work shall be scheduled to comply with the codes.
3. Deposits of dust, dirt and mud from construction operations on streets and

sidewalks. Prompt and regular clean up of all such debris shall be enforced.

**NOTE:** Local inspectors tend to place the blame for all violations of local environmental codes on the Contractor or Construction Manager, shall avoid accepting citations for code violations where they are caused by subcontractors' operations. Instead, the Prime/Trade Contractor shall direct the inspector to the responsible subcontractor

# FALL PROTECTION

Bob Moore Construction, Inc. has adopted the "6 FOOT RULE"; which translates to any task on any BMC project which requires the employee to work 6 foot or above on any given floor or ground level shall have some means of fall protection.

## TYPES OF FALL PROTECTION AND REQUIREMENTS

### GUARD RAILS

#### Installation and Maintenance

1. Subcontractors shall plan ahead for the prompt installation and maintenance of guarding as required in these requirements.
2. Subcontractors shall assign responsibilities for the installation and maintenance of guarding to the appropriate parties and enforce their compliance with these requirements.
3. Subcontractors shall provide for daily inspection of all areas where guarding is in place or may be required. He shall place particular emphasis on areas of high activity or rapidly changing conditions where the need for installation and maintenance may be most critical, and issue instructions for prompt corrections to guarding deficiencies found.
4. Subcontractors shall see that the design and installation of guarding is readily adaptable to the type of work to be performed in the guarded areas. The guarding shall facilitate removal and replacement where required, be readily maintainable, and provide maximum protection for employees engaged in the work.
5. Where guarding must be removed to facilitate the work in progress, the guarding shall be replaced in original condition upon completion of the work and the unguarded area shall not be left unattended until the guarding is replaced. Subcontractors shall enforce this requirement with the responsible parties.

### GUARDING REQUIREMENTS

1. Every open sided floor, balcony, mezzanine, platform or work surface **6 feet or more** above adjacent floor or ground level shall be guarded with a standard guardrail system.

2. Every floor opening measuring more than 2 inches in its least dimension in any floor, roof or platform shall be guarded with a cover or a standard guardrail system.
3. Every stairway opening, ladder opening or ladder platform shall be guarded on all exposed sides with a standard guardrail system.
4. Every opening for manholes, pits, hatches, trapdoors, chutes, and skylights shall be guarded with a cover or standard guardrail system.
5. Every wall opening from which there is a drop of more than 6 feet above the floor shall be guarded with a standard guardrail.
6. Every extension platform outside an open floor or wall opening shall be guarded on all open sides with a standard guardrail.
7. Every ramp or runway 4 feet or more above the floor or ground level shall be guarded on all open sides with a standard guardrail.
8. The above guarding requirements are applicable to the completed sides and openings of decks and concrete formwork of all types. Perimeter guarding of formwork shall be installed as completed sides of the formwork are developed.
9. On temporary planked floors or temporary metal-decked floors, a single safety railing of wire rope cable installed approximately 42 inches above the floor, shall guard the periphery of the floor. Perimeter cable shall be installed as completed sides of the floor are developed.
10. Temporary planked or temporary metal-decked floors shall be covered over the entire surface. All unused openings shall be covered with plank or metal deck secured against accidental displacement.
11. The uncompleted or leading edge of any temporary floor whether of planking, metal deck or concrete formwork shall not be left unguarded or unattended for extended periods of time due to delay or interruption of the completed installation, in such cases, access to the open end of the floor shall be closed to employees by wire rope cable or barricading off the floor at least 10 feet back from the open end of the floor.
12. Where subcontractors install guarding on floors under their control, such guarding may be left in place to service the long-term needs for guarding of the project, providing that it meet all of the requirements of this Section of the Manual.

## **GUARDING STAIRWAYS**

1. Every flight of stairs having four (4) or more risers shall be equipped with stair railings or handrails as specified below:

- a. A stair railing on each open side of the stairway.
  - b. Enclosed stairways less than 44 inches wide shall have at least one handrail. Enclosed stairways more than 44 inches wide shall have a handrail on each side.
2. Risers and treads on temporary stairs shall be of uniform height and width.
  3. Permanent steel or metal stairways and landings with hollow pan type treads that are to be filled with concrete or other materials, when used during construction, shall be filled to the level of the nosing with solid materials.

### **GUARDING SPECIFICATIONS**

1. A standard guardrail shall consist of a top rail approximately 42 inches high, intermediate rail halfway between the floor and top rail, toe board, and posts.
2. For wood railings, the posts shall be of at least 2"x 4" spaced not to exceed 8 feet; the top rail shall be of at least 2" x 4"; the intermediate rail shall be of at least 1" x 4" .
3. A standard toe board shall be 4 inches minimum height, and shall be securely fastened in place with not more than 1/4 inch clearance above floor level. It may be of any substantial material, either solid or with openings not more than over 1 inch in greatest dimension.
4. For pipe railings, posts, top and intermediate railings shall be at least 1 1/4 inches in diameter with posts spaced not more than 8 feet on center.
5. For structural steel railings, posts, top and intermediate railings shall withstand 200 lbs of force from any direction, with posts spaced not more than 8 feet on center.
6. For wire rope cable railing, top and intermediate railings, posts are not required providing that both rails do not sag more than 3 inches between attachment points and are capable of withstanding a load of 200 pounds applied in any direction at any point on the rails, with a minimum of deflection.
7. A stair railing and handrail shall be constructed similar to a guard rail but the vertical height shall be not more than 34 inches or less than 30 inches from the top of the riser.
8. The anchoring of posts, framing, and attachments for members of railings of all types shall be of such construction that the completed structures shall be capable of withstanding a load of 200 pounds applied in any direction at any point on the

top rail, with a minimum of deflection.

9. The use of fiber or synthetic rope for guard rails is prohibited.
10. Covers for floor holes and openings shall be capable of supporting the maximum intended load and so installed as to prevent accidental displacement.

**NOTE:** Specific guarding requirements for other conditions and situations are detailed under the pertinent headings elsewhere in this Manual.

## **SCAFFOLDS**

1. The footing or anchorage for scaffolds shall be sound, rigid, and capable of carrying the maximum intended load without setting or displacement. Unstable objects as barrels, boxes, loose brick or concrete blocks shall not be used to support scaffolds or planks. Base plates shall be used on all scaffolding.
2. Guard rails and toe boards shall be installed on all open sides and ends of scaffold platforms 6 feet or more above the ground or floor. Scaffolds 4 feet to 10 feet in height, having a minimum horizontal dimension in either direction of less than 45 inches, shall have guard rails installed on all open sides and ends of the platform.
3. Where persons are required to work or pass under any scaffold, the scaffold shall be provided with a screen of No. 18 Gauge U.S. Standard 1/2 inch wire mesh or equivalent, between the toe board and the top guard rail.
4. All wood planking used for scaffolding platforms shall be Scaffold Grade.
5. Where scaffold platforms are constructed of single lengths of plank, which are not secured by overlapping, the planks shall be secured from movement by cleating, tying or otherwise secure to the scaffold. All other types of scaffold platforms shall be likewise secured.
6. Where planks on scaffold platforms are overlapped, the overlap shall not be less than 12 inches or secured to prevent movement. Planks shall overlap so that both planks are bearing on a scaffold support at the point of overlap.
7. Scaffold planks shall not extend over the end supports less than 6 inches or more than 12 inches.
8. The poles, legs or upright supports of scaffolds shall be plumb and securely and rigidly braced to prevent swaying and displacement.
9. Overhead protection shall be provided for employees on a scaffold exposed to overhead hazards.

10. Welding or torch cutting on any swinging or suspended staging or scaffold suspended by means of fiber or synthetic rope is prohibited.
11. An access ladder or equivalent safe access shall be provided to and from the platform of all scaffolds.
12. The maximum permissible span for planking used for scaffold platforms is 10 feet.
13. The use of lean-to scaffolds is prohibited.
14. Scaffolds erected adjacent to any wall, building or structure shall be secured and braced to the building at manufacture's specifications.
15. Wheels and casters on mobile scaffolds shall be provided with locking devices to hold the scaffold in position. Locking devices shall be set when the scaffold is in use.
16. Free-standing mobile scaffold towers shall not be higher than 4 times the maximum base dimension.
17. Beams on outrigger scaffolds shall not extend more than 6 feet beyond the face of the building, and the inboard end of the beams shall not be less than 1 1/2 times the outboard end in length. Beams shall be secured against tipping or horizontal displacement. Inboard ends of beams shall be securely anchored by means of struts bearing against sills in contact with the ceiling or beams overhead or secured to the floor or beams underfoot.
18. For swinging scaffolds (swing stages) the coping hooks or outrigger beams shall be tied back to the structure of the building with a cable rope. Employees working on the scaffold shall wear safety belts and tie off to independent lifelines of 3/4 inch manila rope or equivalent, secured to a structural member of the building.
19. Employees working on float scaffolds shall wear a safety belt and tie off to a lifeline or a structural member of the building.

## **SAFETY NETS**

1. Safety nets shall be provided when workplaces are more than 25 feet above the ground or other surfaces where the use of guard rails, ladders, scaffolds, catch platforms, temporary floors, safety lines, or safety belts is impractical to guard against fall hazards.
2. Nets shall extend eight (8) feet beyond the edge of the work surface where employees are exposed and shall be installed as close under the work as



practical, but in no case more than 25 feet below the work surface.

3. Nets shall be hung with sufficient clearance to prevent user's contact with surfaces below. Such clearances shall be assured by impact load testing before work operations begin.
4. Forged steel safety hooks or shackles shall be used to fasten the net to its supports.
5. On buildings or structures not adaptable to temporary floors, and where scaffolds are not used, safety nets shall be installed whenever the potential fall hazard exceeds two stories or 25 feet.
6. On roofs with a slope greater than 4 inches in 12 inches, without a parapet, and the working area is more than 16 feet to eaves, a catch platform shall be installed below the work area. The platform shall extend at least 2 feet beyond the eaves and be provided with a standard guardrail. This provision shall not apply where employees are protected by a safety belt attached to a lifeline.

### **PERSONAL FALL ARREST SYSTEMS**

Personal fall arrest systems and their use shall comply with all of the following requirements:

1. Body Belts are prohibited for the use as part of a personal fall arrest system.
2. Non-locking snaphooks are prohibited from use as part of a fall arrest system.
3. The use of any parts of a personal fall arrest system for hoisting materials is prohibited.
4. A full body harness shock-absorbing lanyard will be utilized for personal fall protection with fall arrest system.
5. Anchorage points used for attaching personal fall arrest systems will be independent of any other anchorages and capable of supporting 5000 lbs. per employee attached.
6. Lanyards and vertical lifelines will have a minimum breaking strength of 5000 lbs.
7. Snaphooks will be sized to be compatible with the object they are to be attached as to prevent unintentional disengagement. They will be proof tested to a minimum tensile load of three thousand six hundred (3,600) pounds without cracking, breaking or showing signs of permanent deformity.

8. Horizontal lifelines will be designed, installed and used under the supervision of the competent person(s). The horizontal lifeline will maintain a safety factor of two. This safety factor will determine the size of the cable, along with the number of employees that will be attached to it at any given time.
9. Vertical lifelines, when combined with positioning devices, can provide 100% fall protection. Only one person per vertical lifeline is allowed and the lifeline will have a minimum breaking strength of five thousand (5000) pounds.
10. Retractable lifelines can be used as vertical lifelines. The proper application must be known before purchasing this type of equipment. If a retractable lifeline varies more than thirty (30) degrees off of the vertical plane the automatic fall arrest mechanism will not function properly. A retractable lifeline which automatically limits free fall to two (2) feet or less must be capable of sustaining a minimum tensile load of three thousand (3000) pounds.
11. Retractable lifelines that do not automatically limit free fall are prohibited from use as part of a personal fall arrest system.
12. When stopping a fall, a personal fall arrest system must limit the maximum arresting force on the employee to one thousand eight hundred (1,800) pounds when used with a body harness; be rigged to limit free fall to six (6) feet nor make contact with a lower level and have sufficient strength to withstand twice the potential impact energy of an employee free falling six (6) feet.
13. After any piece of a personal fall arrest system has been subjected to impact loading, it shall be inspected by a competent person before being used for employee protection. Shock absorbing lanyards will not be used for employee protection after they have been impact loaded.
14. All components of a personal fall arrest system shall be inspected prior to each use. Any piece of equipment found not to be suitable for use will be discarded immediately.

## **POSITIONING DEVICE SYSTEMS**

1. The use of non-locking snap-hooks as part of a positioning device system is prohibited.
2. The use of any part of a positioning device system for hoisting materials is prohibited.
3. Positioning device systems are similar to personal fall arrest systems. The purpose is to securely hold an employee in a position where it is possible to perform a task. Fall protection is required while the employee gains access to and leaves the work area.

4. Positioning device systems will not allow an employee to free fall more than two (2) feet and will be secured to an anchorage capable of supporting at least twice the potential impact load of an employee's fall or three thousand (3000) pounds whichever is greater.
5. Positioning device systems will be inspected prior to each use and any equipment unsuitable for use will be discarded immediately.

# PERSONAL PROTECTIVE EQUIPMENT (PPE)

Subcontractors are responsible for procuring, issuing, using, and maintaining personal protective equipment as required in this Section. Each subcontractor will survey the needs for such equipment in advance and see that it is available for use of their employees when the need arises. Each subcontractor will be required to issue equipment to their employees and instruct supervision to enforce its use.

Each Subcontractor at the project site shall review in advance PERSONAL PROTECTIVE EQUIPMENT, (PPE) and have available for use by their workers and it's projected needs for such equipment readily available.

**ALL BMC PROJECT SITES ARE HARD HAT PROJECT SITES (Unless designated by BMC Safety Director).**

All Subcontractors and Second- Tier Subcontractors shall maintain Personal Protective Equipment (PPE) in serviceable condition. Such equipment and its use shall include but may not be limited to the following:

1. Hard Hats - all employees and visitors while at the project site shall wear Hard Hats. Hard hats need not be worn while inside project site offices, trailers or shanties.
2. Eye and Facial Protection - Eye and facial protection shall be issued to all workers engaged in work creating hazards to eyes and the face area. Such protection shall be selected from the "Eye and Face Protector Selection Guide" shown in Table E-1 of the OSHA regulations. Failure to comply with requirements shall be grounds for removal from the jobsite.
3. Inhalation – Inhalation protection shall be issued to employees on an as needed basis.

Selection shall be made from Table E-4 of the OSHA regulations and from the on site Material Safety Data Sheets (MSDS).

4. Hearing Protection – All Subcontractors employees exposed to sound levels in excess of those shown in Table D-2 of the OSHA regulations shall wear hearing protection meeting the requirements of OSHA 1926.101, (a) through (c). See Section on "environment controls -noise" for additional requirements.

5. Safety harness – Subcontractors employees exposed to a fall hazard greater than 6 feet shall wear safety harnesses meeting the requirements of OSHA 1926.104, (a) thru. (f), if personal fall arrest system is chosen by subcontractor.

Safety harnesses shall be issued to and used by employees when they are at work in any area where they are subject to a fall and the use of guard rails, ladders, scaffolds, catch platforms or safety nets is impractical.

The safety harness lanyard shall be of 1/2-inch nylon rope or equivalent, with a maximum length to provide for a fall of no greater than 6 feet. Safety harness lanyard shall be secured to a structural member of the building or structure.

Where the lanyard cannot be secured to a structural member of the building or structure, it shall be secured to a lifeline of 3/8-inch wire rope or equivalent, which is secured to a structural member of the building or structure.

**PROPER WORK BOOTS** shall be worn at all times on the jobsite.

Additionally, all BMC and Subcontractor employees will be required to wear **orange reflective vests** while working on or near the area roadways of the project construction site.

Replacement of lost or missing Personal Protective Equipment, i.e. safety glasses, vest, hardhats, and work gloves will be at a predetermined **cost to the employee**. This equipment shall be inspected, maintained and cleaned as indicated by the equipment's manufacturer. All employers will be held responsible to assure the workers wear their Personal Protective Equipment.

### **WORKING OVER OR NEAR WATER PROGRAM**

1. Employees working over or near water, where the danger of drowning exists, shall be provided with U.S. Coast Guard-approved life jacket or buoyant work vests.
2. Prior to and after each use, the buoyant work vests or life preservers shall be inspected for defects that would alter their strength or buoyancy. Defective units shall not be used.
3. Ring buoys with at least 90 feet of line shall be provided and readily available for emergency rescue operations. Distance between ring buoys shall not exceed 200 feet.
4. At least one lifesaving skiff shall be immediately available at locations where employees are working over or adjacent to water.

# ELECTRICAL SAFETY

1. All electrical work installation and wire capacities, both temporary and permanent, shall be in accordance with the National Electrical Code.
2. All electrical equipment whether portable or fixed shall be grounded.
3. Portable tools, which are double insulated, need not be grounded.
4. All extension cords and cords on plug-connected equipment shall be of three-wire type, equipped with three pronged plugs or double-insulated which meet OSHA requirements. No flat cords may be used.
5. Temporary lights shall be equipped with guards to prevent accidental contact with the bulb. Temp. Lighting will have independent suspension unless otherwise designed. Fluorescent temporary lighting will have a guard over the lamps to prevent accidental discharge of the lamp from the fixture.
6. Aisles, stairs, and walkways shall be kept clear of electric cords or cable so as not to present a tripping hazard. Unused cord and cables shall be picked up and stored away.
7. Cords with worn, frayed or broken insulation or with loose plugs (caps) shall not be used.
8. All switches, circuit breakers, receptacles, and fuse boxes, which may be exposed to water, shall be protected so that water does not enter.
9. All distribution panels, circuit breaker panels, and fuse boxes, which may be exposed to water, shall be protected so that water does not enter.
10. Energized transformers and other related energized equipment over 150 volts to ground shall be protected against accidental contact by providing individual housing or by an enclosure. Access to such energized equipment shall be secured by lock, and signs indicating danger and prohibiting unauthorized access shall be displayed on the housing or enclosure. Transformers on poles 12 feet from the ground are exempt from this requirement.
11. Makeshift connections in welding leads are prohibited. All connections shall be insulated.
12. Site Safety shall enforce the use of Ground Fault Circuit Interrupter Devices by contractor's workers on all electrical tools and extension cords.

## **LOCK OUT- TAG OUT PROCEDURE**

### **GENERAL REQUIREMENTS**

1. A competent person shall determine potential sources of energy for equipment or building services prior to starting work.
2. The equipment or building service shall be de-energized from all energy sources as determined above.
3. The device(s) used to de-energize the equipment or service shall be physically secured in the "safe" position and a tag system and lock affixed.
4. The equipment or service shall then be checked to verify a "zero energy state".
5. Equipment or services shall not be re-energized until all affected personnel are notified and are cleared, and the system has been checked out by competent personnel

**Note:** *Energy source is defined to include electricity, compressed air (Pneumatic systems), hydraulic systems, and corrosive, flammable or toxic substances.*

### **SPECIFIC REQUIREMENTS**

1. Notification: Prior to commencing work, Contractor and all affected trade subcontractors shall be notified of any shutdown of equipment to buildings services.
2. Determination **of energy sources** With due consideration to the scope of work, all potential energy sources to the area or work shall be determined in advance by competent supervisory personnel. Special caution must be given to:
  - Multiple energy sources:
  - Residual energy:
  - Remote start up of equipment:

### **DE-ENERGIZATION AND LOCK OUT FOR SPECIFIC SYSTEMS**

#### **Electrical:**

Service disconnects and switches to the equipment or line upon which work is to be performed shall be opened (switch off) then locked in this position to prevent accidental engagement. A "Danger" tag and lock shall be affixed to the switch. This tag is to be dated and signed by the supervisor requesting the lock out. Where more than one crew or craft performs work on the system, each crew foreman shall affix a tag and lock to disconnect.

Multiple lock-out devices shall be used.

Lock keys shall be in the safe possession of the individual using the lock. Combination locks shall not be used.

**Caution:** Before any work is performed, a competent person shall verify that the system is de-energized

**Mechanical:**

All electrical powered pumps, valves and control devices in the system upon which work is to be performed shall be placed in the "safe" condition, then locked out and tagged in accordance with the electrical tag out/lock out procedure above.

Mechanical isolating devices should also be used; valves shall be placed in the "safe" position, and tagged and locked in this position, where possible. Slip blinds ("pancakes") may be required on systems without mechanical valves. Where more than one crew or craft performs work on a system, each crew foreman shall affix a tag and a lock to the physical isolating device.

A competent person to ensure a "Zero Energy State" shall check systems and equipment upon which work is to be performed

Process equipment, vessels and piping shall be drained prior to penetration. Systems, which have contained corrosive, toxic or flammable substances, must be flushed or purged prior to starting work.

**Release From Lock Out:**

No system shall be re-energized until all tags and locks are removed and the system has been inspected to ensure safe operation, authorized personnel shall only remove locks and tags.

**ANYONE WHO VIOLATES THIS REQUIREMENT SHALL BE TERMINATED FROM ANY BMC PROJECT!**



# HEAVY EQUIPMENT & MATERIAL HANDLING & STORAGE

## CRANE SAFETY

1. Cranes shall not be operated beyond their rated capacities and limits. Rated load capacities, recommended operating speeds, and manufacturer's operating instructions shall be posted conspicuously at the operator's station.

Prior to crane mobilization the following rules will be followed:

- The crane inspection certification must have been completed within the past six months.
  - Current operator certification or proof of experience must be submitted to BMC and maintained at the project site.
2. Illustrated hand signals for cranes shall be posted on the crane.
  3. Only one person shall be designated as a signalman. He shall be stationed in full view of the operator and use-approved signals as posted on the crane or radio systems may utilized.
  4. The operator or oilier shall inspect the crane prior to and during each use to make sure it is in safe operating condition. All defects shall be corrected before continued USE.
  5. Accessible areas within the swing radius of the rotating superstructure of cranes shall be barricaded in such a manner as to prevent an employee from being struck or crushed by the crane.
  6. An ABC multi-class dry chemical type fire extinguisher shall be located at the operator's station or in the crane cab at all times.
  7. No part of a crane is permitted to come within less than 10 feet of any energized electric lines as a minimum, this may increase due to voltage of line.
  8. Modifications or additions, which affect the capacity or safe operation of the crane, shall not be made without the manufacturer's written approval.
  9. All booms and jibs shall have positive stops to prevent their movement beyond 5 degrees of vertical. Cable type belly slings are not acceptable as boom or job stops.

10. Lifting bridles for platforms shall consist of four legs attached so that stability of the platform is ensured. The bridle shall be secured by a shackle, or attached by a closed hook which cannot be opened due to position of the load on the hook.
11. The platform and its components must be able to support at least four times the maximum intended load.
12. The platform should be enclosed with a guard rail system, including a top rail of approximately 42 inches, a mid rail and a toe board. The guard rail system should withstand a load of at least 200 pounds applied in any direction.
13. The number of employees to be hoisted should be kept to a minimum, and the number should never exceed four at any one time. Workers using the platform should be considered as weighing 250 pounds each.
14. Platforms should not be used during high winds, electrical storms, snow or other adverse weather conditions which could endanger workers.
15. Unless communication equipment such as a telephone, radio or their equivalent is present, the employer should ensure that standard Hand Signals to the crane operator are used, in accordance with OSHA Regulation 1926.550(a) (4). The signal should be visible or audible to the crane operator at all times.

### **WORK PLATFORMS ON LIFT TRUCKS**

1. The equipment manufacturer must certify that its equipment is properly designed to handle work platforms safety.
2. The platform must be designed by qualified engineer with structural design experience.
3. Platform must be capable of supporting it's weight and five times it's intended load.
4. A permanent marking must show the weight of the platform and its rated load capacity or maximum intended load.
5. Tools must be secured and evenly distributed during lift.
6. Test load all platforms before use.
7. All platforms must be secured firmly to the hoisting device.
8. Sufficient barriers must be in place to protect the user from any contact with moving parts, pinch points or other hazardous conditions.

9. Hoisting personnel and traveling with equipment is prohibited unless it can be shown that there is no safer way to work.
10. Daily tire condition and pressure check must be made by a competent person.
11. Each personnel platform shall be equipped with a guardrail system with top rail, midrail and toe board.

**NOTE:** This standard does not apply to work platforms suspended by cables from cranes.

### **LIFT TRUCKS**

Modifications or additions which affect the capacity or safe operations of the equipment shall not be made without the manufacturer's written approval. All high lift industrial trucks shall be equipped with overhead guards.

### **PARKING VEHICLES**

Wheels of rubber tire vehicles parked on ramps or inclined surfaces shall be blocked or chocked. Parking brakes shall be set. Vehicles left unattended at night in or adjacent to a public street or road shall have appropriate lights, reflectors or barricades equipped with appropriate lights or reflectors to identify the location of the equipment.

### **AERIAL LIFTS**

Aerial lifts include aerial device to elevate employees to jobsites above the ground and may include extendible boom platforms, aerial ladders, articulating boom platforms, vertical towers and a combination of any of these. All are subject to the following requirements:

1. Only authorized persons shall operate an aerial lift.
2. Belting off to an adjacent pole, structure or equipment while working from an aerial lift shall not be permitted.
3. A safety harness shall be worn and a lanyard attached to the boom, basket, platform or railing when working from an aerial lift.
4. Brakes shall be set and when outriggers are provided, they shall be fully extended and set in place on pads or a solid, surface.
5. An aerial lift shall not be moved when elevated in the working position with workers on the lift unless the equipment is specifically designed for this type of operation in accordance with the manufacturer's specifications.

6. Aerial lifts design as personnel carriers shall have both platform (upper) and lower controls. Upper controls shall be in or beside the platform within easy reach of the operator. Lower controls shall provide an overriding of the upper controls. Controls shall be plainly marked as to their function. Lower controls shall not be operated without the permission of the employee in the Lift, except in case of an emergency.
7. Platforms of aerial lifts shall be equipped with standard guard rails and toe boards.

## **RIGGING**

1. Rigging equipment shall be inspected prior to each use so as to ensure that it is safe to use. Defective equipment shall be removed from service.
2. Rigging equipment shall not be loaded in excess of its recommended safe working load.
3. Rigging equipment, when not in use, shall be removed from the immediate work area so as not to present a tripping hazard to employees.
4. Make-shift fasteners, formed from bolts, rods, wire, etc., shall not be used.
5. Wire rope cables shall not be secured by knots for any purpose.
6. Wire rope cables, used in hoisting, lowering or pulling loads, shall consist of one continuous piece without knots or splices.
7. When U-bolt wire rope clips are used to form eyes or loops in any load bearing cable, a minimum of three (3) clips shall be used. Clips shall be applied so that the "SADDLE" portion of the clip is not in contact with the dead end of the cable.
8. Hooks used for lifting should be equipped with a safety latch; unless other safer means is available.

## **MATERIAL STORAGE AND HANDLING**

Subcontractors storing material on site shall consult in advance with BMC for assignment of storage space and instructions for safe delivery routes as well as storage.

BMC shall designate and assign safe locations for bulk storage of materials. Separate and segregated areas for bulk storage of compressed fuel gases, flammable and combustible liquids shall be designated and assigned outside of buildings when

possible.

Employers shall review and comply with Local Municipal Agency requirements and OSHA regulations 1926.151, (a) and (b) which are applicable to safe material storage.

Special consideration shall be given by employers to those regulations for segregation, clearance and methods of storing and stacking materials.

BMC shall strictly enforce Subcontractor's compliance with the following material storage requirements:

1. Material stored in buildings under construction shall not exceed the maximum safe load limits of floors. The maximum allowable safe load limit of floors shall be conspicuously posted on each floor.
2. All material shall be kept back at least 10 feet from the outer perimeter of open floors and at least 6 feet back from interior floor openings and open shafts.
3. Material shall not be stored in aisles and passageways, on loading docks or in such a way as to block exits. Material shall be kept well back from the entry to hoists.
4. Materials stored in tiers shall be stacked, racked, blocked, interlocked or otherwise secured to prevent sliding, falling or collapse.
5. Cylindrical material such as pipe, unless in racks, shall be stacked and blocked to prevent falling or spreading of the stack.
6. Materials shall not be stored on scaffolds in excess of that needed for immediate use.
7. Materials shall not be stored on top of any overhead protection.
8. Materials shall not be piled or leaned against guard rails. Materials stored adjacent to guard rails shall not be piled higher than the guard rails.

### **STORAGE AND USE OF FLAMMABLE LIQUIDS**

Subcontractors storing and using flammable and combustible liquids at the project site shall review and comply with, NFPA safety standards Local Municipal Fire Department Diesel's rules and OSHA regulations 1926.153 (a) and (g).

Subcontractors with bulk or large-scale storage needs shall consult in advance with BMC for assignment of safe storage space and instructions for safe storage. Storage locations of hazardous & flammable chemicals shall be identified and located on the Fire Prevention Site Plan, which is covered under a separate submittal. Structures and

locations will be properly marked and maintained. BMC shall strictly enforce contractor's compliance with the following requirements:

1. Only approved U.L. safety cans must be used for handling and storing flammable liquids. Once a drum of flammable liquid has been opened, it must be provided with an U.L. ground and bond system, dispensing system and vent bung.
2. Provide adequate ventilation in areas where flammable and combustible liquids are stored or in use. Employers shall comply with Local Municipal Fire Safety Codes and OSHA regulations 1926.55, (a) and (c) and 1926.57 (a) through (3).
3. Use U.L. approved fire extinguisher in areas where flammable and combustible liquids are stored or in use.
4. All areas where flammable and combustible liquids are stored and used shall be kept clear of debris and sources of ignition.

### **COMPRESSED GAS CYLINDERS**

1. All compressed gas cylinders, whether full or empty, in use or in storage, shall be secured in an upright position at all times.
2. Cylinders not in use shall be capped.
3. When in storage, oxygen cylinders shall be separated from other types of compressed gas cylinders by at least 20 feet or by fire proof barrier.
4. The storage of propane cylinders inside buildings is prohibited. Cylinders not hooked up for use are considered to be in storage.
5. Propane cylinders hooked up for use need not be secured providing that they stand on a firm, level and stable footing.

# PROTECTION FOR THE PUBLIC

Activities on Construction projects frequently create safety hazards for the public; strong positive steps must be taken to control such hazards and to reduce our exposure to liability claims. Therefore, before the start of the project, Subcontractors shall review the work ahead to determine what hazards to the public may arise during the course of the work and what controls are required to protect the public.

As work on the project progresses, Subcontractor's shall continually review their work to locate new hazards, which may arise, and implement new controls as required. During the life of the project all items installed for public safety shall be regularly inspected and maintained in safe condition.

BMC shall enforce all requirements for public protection with all subcontractors where their work creates safety hazards for the public. Public protection shall conform to all local codes as well as the following requirements:

## **SIGNS**

BMC and/or Subcontractors shall provide for the prompt and conspicuous posting and maintenance of Danger Signs, Caution Signs and Safety Instruction Signs as required for general use at the project to alert and inform employers and workers of safety hazards and safety rules and regulations.

1. Areas adjacent to gates where construction vehicles are entering and leaving the job site shall be posted with signs warning the public to watch out for trucks and other vehicles.
2. All doors, gates or other points of entry from occupied areas into construction areas shall be posted with warning signs. Signs may state:

**“Danger Construction Area”, “Keep Out”, “Authorized Personnel Only”** etc.

## **BOMB THREAT PROCEDURE**

In the event of an unconfirmed bomb threat, employees must be given the opportunity to determine their own course of action on an individual basis. The decision as to whether or not they will evacuate the premises shall rest with them. Upon receiving information of a bomb threat, the Contractor shall follow this Procedure:

1. Notify BMC Safety Director and/or BMC Project Supervision of the full details of the bomb threat. Employees shall be told that the decision to remain at work or evacuate, shall rest with them. .

2. BMC Project Supervision will notify the ranking supervisor of each subcontractor of the full details of the bomb threat and instruct them that they must make their own decision to evacuate their employees or keep them at work. In any event, they should be instructed to notify their employees individually and give them the choice to remain at work or evacuate.
3. In the event that BMC management confirms the bomb threat, or a bomb is discovered, the Management Team shall take immediate steps to notify all employees to evacuate. All employees should be kept away from the bomb and no effort should be made to touch or remove the bomb. Notify the local police department at once.



# STAIRWAYS AND LADDERS

1. The use of ladders with broken or missing steps or rungs broken or split side rails or other defects is prohibited.
2. Job built ladders shall be built to ANSI specifications which may be provided upon request.
3. Ladders used to travel from one level to another shall meet the following requirements:
  - a. Side rails of ladders shall extend not less than 36 inches above the top landing level, and the space between the side rails at the top 36 inches shall be free of rungs or other obstructions so as to permit employees to enter or leave the ladder between the side rails.
  - b. The ladder shall be tied, blocked, nailed or otherwise secured to prevent being displaced when in use.
  - c. The pitch of the ladder shall be such that the horizontal distance from the top support to the foot of the ladder is  $\frac{1}{4}$  of the length of the ladder between the top support and the base.
4. If one ladder is to provide the only means of access or exit from a working area for 25 or more employees or simultaneous two-way traffic is expected, a double ladder shall be provided.
5. Ladders shall not be used in the horizontal position as platforms, runways or scaffolds.
6. The use of planks and ladders to make a scaffold is prohibited.
7. Metal ladders shall not be used for electrical work or where they may contact electrical conductors such as wiring for temporary lighting and power.
8. Feet of extension ladders shall be equipped with safety shoes.
9. Sections of extension ladders shall not be separated for use.

# FIRE PREVENTION AND PROTECTION

BMC shall provide through its Subcontractors the prompt installation and maintenance of a general fire protection system as required by OSHA regulation 1925.150, (c), (1) and (2). Employers and their workers shall cooperate in the maintenance of this system as described in the section, “**Maintenance of Safety Installations**” in this program.

**BMC shall implement and enforce the following requirements:**

## **EMERGENCY SERVICES**

Refer to the “Emergency Services” section in this manual for additional requirements for Fire Prevention and Protection.

## **WORK IN OCCUPIED STRUCTURES**

Temporary buildings (shanties, offices, storage rooms etc.) located within another building or in buildings under construction shall be either noncombustible construction or combustible construction and shall have a fire resistance rating of not less than one (1) hour. Partitions and walls constructed of 5/8 inches drywall on both sides or wood or metal studs located 18 inches on center provide a one (1) hour fire rating.

## **HOUSEKEEPING**

Combustible debris shall not be permitted to accumulate! Combustible debris shall be cleaned up and removed daily.

## **STANDPIPES**

In all structures in which standpipes are required, or where standpipes exist in structures being altered, they shall be brought up as soon as applicable laws permit, and shall be maintained as construction progresses in such a manner that they are always ready for fire protection use. The standpipes shall be provided with Siamese Fire Department Connections on the outside of the structure, at street level and shall be conspicuously marked or otherwise identified. Access to Siamese Connections shall not be obstructed. There shall be at least one standard hose outlet on each floor.

## **USE OF FLAMMABLE LIQUIDS**

Only approved U.L. safety cans can be used for handling and use of flammable liquids in quantities greater than one gallon, except that this shall not applied to liquids which

are extremely hard to pour. For quantities of one gallon or less, the original container may be used.

An approved U.L. safety can is a closed containers, of not more than five (5) gallons capacity, having a flame arresting screen in the pour spout and a spring closing lid and spout cover. Flammable liquids shall be kept in closed containers when not actually in use.

### **INDOOR STORAGE OF FLAMMABLE AND COMBUSTIBLE LIQUIDS**

No more than twenty-five (25) gallons of flammable and combustible liquids shall be stored in a room outside an approved U.L. approved flammable liquids storage cabinet of metal construction, bearing the Underwriters Laboratories approval or similar. No more than sixty (60) gallons of flammable liquids shall be stored in one cabinet and nor more than three (3) cabinets shall be permitted in a single storage area.

### **STANDBY FIRE EXTINGUISHERS**

Standby fire extinguishers shall be provided by the responsible employer as follows:

1. At least one portable multi-class ABC dry chemical fire extinguisher with a minimum rating of 2A:2OBC shall be located outside of, but not more than ten (10) feet from the door opening of any room used for the storage of more than sixty (60) gallons of flammable or combustible liquids.
2. A portable multi-class ABC dry chemical fire extinguisher with a minimum rating of 2A:10 BC shall be provided within fifty (50) feet of all welding operations, torch cutting operations or wherever more than five (5) gallons of flammable or combustible liquids or five (5) pounds of flammable gas are being used.
3. A portable multi-class ABC dry chemical fire extinguisher with a minimum rating of 2A:5BC shall be available at the operator's station of all cranes, derricks, hoist and elevators.
4. A portable multi-class ABC dry chemical fire extinguisher with a minimum rating of 2A:2OBC shall be provided on all tank trucks or other vehicles transporting or dispensing flammable or combustible liquids such as fuel trucks, roofers, tankers, & etc.
5. A portable multi-class ABC dry chemical fire extinguisher with a minimum rating of 2A:20 BC shall not be located less than twenty-five (25) feet nor more than seventy five (75) feet from any flammable liquid storage area located outside such as gasoline and diesel fuel tanks, & etc.
6. Storage locations for propane cylinders shall be provided with at least one portable multi-class ABC dry chemical fire extinguisher with a minimum rating of

2A;2OBC.

7. Areas temporarily heated with heaters fueled by propane, natural gas, oil or solid fuel shall be provided with at least one portable multi-class ABC dry chemical fire extinguisher with a minimum rating of 2A:2OBC.

## **WELDING AND TORCH CUTTING**

The following requirements shall apply to all welding and torch cutting operations:

1. Each employee using fuel gas such as propane, acetylene, oxygen, & etc. shall be instructed in their safe use as set for in OSHA regulation 1926.350 (d) Items I through 6. These regulations are included in the Employee Safety Manual.
2. Cylinders shall be kept far enough away from the actual welding or cutting operations so that sparks, hot slag, or flame will not reach them. When this is impractical, fire resistant shields shall be provided.
3. Cylinders shall be placed where they cannot become part of an electrical circuit.
4. Cylinders shall not be subjected to flame, hot metal or other sources of artificial heat.
5. Fuel gas cylinders shall not be taken into confined spaces.
6. Oxygen cylinders, fittings and accessories shall be kept free of oil and grease.
7. All manifolds, regulators, couplings, hoses and torches shall be inspected prior to each day use to see that they are in safe condition and free of leaks. Defective equipment shall be taken out of service and repaired or replaced.
8. Before welding torch cutting operations take place, all moveable fire hazards and combustible materials in the vicinity shall be removed or otherwise protected. If fire hazards cannot be removed, positive means shall be taken to confine the heat, sparks and slag.
9. No welding or torch cutting shall be performed in areas where flammable atmospheres exist due to heavy concentrations of flammable paints, gases, fumes, dusts or compounds.
10. When welding or torch cutting is performed on walls, floors and ceilings, since direct penetration of sparks, slag or heat transfer may introduce a fire hazard to an adjacent area, the same precautions shall be taken on the opposite side on which the work is being performed.
11. Whenever torches are not to be used or left unattended for more than thirty (30)

minutes in confined or enclosed spaces, the gas supply shall be shut off at the regulator. Overnight, the torch and hose shall be removed from the enclosed space.

12. When Oxygen and Acetylene are in storage, they will be separated by at least 20 feet or by a wall no less than 5 feet tall with at least a one (1) hour fire rating.

### **FIRE WATCH**

When the welding or torch cutting operation is such that normal fire prevention precautions are not sufficient, additional personnel shall be assigned to guard against fire while the actual work is being performed, and for a sufficient period after completion of the work to ensure that no possibility of fire exists. Such personnel shall be instructed as to the specific anticipated fire hazards fire reporting procedures and how fire-extinguishing equipment provided is to be used.

### **TEMPORARY HEATERS**

The following precautions shall be taken for areas under temporary heat:

1. The storage of propane cylinders whether full or empty within buildings is prohibited. Cylinders not connected for use are considered "in storage". To eliminate the need for storage of full replacement cylinders in the area, as many as three (3) cylinders of 100 pounds capacity may be manifolded together for connection to a heater.
2. Heaters shall be located at least six (6) feet away from propane cylinder storage.
3. Heaters shall not be directed toward any propane cylinder within twenty (20) feet.
4. Heaters shall be located at least ten (10) feet away from tarpaulins, plastic sheeting, or canvas coverings or closures. Coverings and closures shall be securely fastened to prevent being blown onto the heater by the wind.
5. Sufficient fresh air and ventilation shall be provided with either naturally or mechanically to maintain the health and safety of the workers, ensure proper combustion and prevent excessive temperature rise in the heated area.

**OPEN FIRES** - The use of open fires of wood, paper or other combustible materials is prohibited.

### **TEMPORARY GENERAL FIRE PROTECTION SYSTEM**

This system is to be installed as soon as permanent floors are developed and maintained in usable condition until the permanent system is activated. The Safety Director must take positive steps to enforce respect for this emergency standby system

with each subcontractor and worker so that the system does not deteriorate through theft and vandalism. The system shall meet the following requirements:

1. A fire extinguisher rated not less than 2A shall be provided under construction. Travel distance from any point to the nearest extinguisher shall not exceed 100 feet. At least one (1) fire extinguisher shall be located adjacent to each stairway.
2. A 2A fire extinguisher is a water type extinguisher containing 2 1/2 gallons of water. The unit may be pressurized or hand pump operated.
3. One 55 gallon drum of water with two (2) fire pails may be substituted for one 2A fire extinguisher.
4. Water type fire extinguisher or drums shall be protected against freezing.
5. Dry chemical fire extinguishers are not subject to freezing and may be used in place of water extinguishers or drums of water. One five (5) pound multi-class ABC dry chemical fire extinguisher with a 2A:IOBC rating is equivalent to a 2A fire extinguisher. Additional information will be provided under separate submittal.

# STEEL ERECTION

**NOTE:** As of January 18, 2001, the OSHA standards in Subpart R have been revised. Please be sure to refer and comply to this standard when performing any Steel Erection Operation on any BMC Project.

1. The derrick or erection floor shall be solidly planked or decked over its entire surface except for access openings. Planking of not less than 2 inches thick full size undressed, or decking of equivalent strength shall be used, and shall be laid tight and secured to prevent movement.
2. A temporary floor shall be maintained within two stories or 25 feet, whichever is less, below and directly under the erection floor and that portion of each tier of beams on which bolting, riveting, welding or painting is being done.
3. During the final placing of solid web structural members, the load shall not be released from the hoisting line until the members are secured with not less than two bolts at each connection and drawn up wrench tight.
4. If specified in the plans, bar joists shall not be placed on any structural steel framework unless such framework is safely bolted or welded.
5. In steel framing where bar joists are used and columns are not framed in at least two directions with structural steel members, a bar joist shall first be field bolted at the columns to provide lateral stability during erection.
6. Tag lines shall be used for controlling hoisted loads of structural steel members during steel erection.
7. See "Guarding" section of this Manual for guard rail requirements on temporary floors of plank or metal deck.
8. Please refer to Crane Section, which is located in the Heavy Equipment section, for further steel erection activities.

# CONCRETE

1. Unless otherwise specified by the contract, the concrete subcontractor is responsible for implementation of all safety requirements set forth in this Manual on all floors and formwork under his control until turned over to and accepted by BMC. The superintendent shall place particular emphasis on enforcing compliance with requirements in the following section of the Manual:
  - a. Guard Rails
  - b. Ladders
  - c. Housekeeping
  - d. Material Storage
  - e. Fire Prevention and Protection
  - f. Overhead Protection
  - g. Scaffolds
  - h. Safety Nets
2. Employees shall not be permitted to work above vertically protruding reinforcing steel unless it has been protected to eliminate the hazard of impalement.
3. Employees working more than 6 feet above adjacent working surfaces placing and tying reinforcing steel in walls, tiers, columns, etc. shall be provided with a safety harness and tie off while aloft on the steel.
4. Reinforcing steel for walks, tiers, columns and similar vertical structures shall be guyed and supported to prevent collapse.
5. Handles on bull floats, used where they may contact energized electrical conductors, shall be of nonconductive material, or insulated with a nonconductive sheath.
6. Where employees may work or pass below operations involving the stripping and removal of concrete formwork and shoring, the following precautions shall be observed:
  - a. All loose debris, material, and equipment shall be removed from formwork before stripping the form.
  - b. Only those employees involved in the work shall be permitted in areas where formwork and shores are being removed.
  - c. Areas below operations involving the stripping or removal of forms or shores shall be roped off, barricaded, or guarded by a flagman to prevent employees from entering in under the operations.



# EXCAVATIONS

BMC Site Supervision & Safety Director shall enforce the following safety requirements for excavating work:

1. Prior to opening an excavation, effort shall be made to determine whether underground installations; i.e., sewer, telephone, water, fuel, electric, gas lines, etc. will be encountered, and if so, where such underground installations are located. When the excavation approaches the location of such an installation, the exact location shall be determined, and when it is uncovered, proper supports shall be provided for the existing installation. Utility companies, authorities and if necessary Local Municipal Agencies shall be contacted and advised of proposed work prior to the start of actual excavation.
2. Any subcontractor involved excavation activities, shall comply with OSHA's excavation law 1926.650, 1926.651, 1926.652 and 1926.653, shall obtain a soils report that will determine the classification of the ground to be excavated. Soil conditions may only be classified as Stable Rock, Soil A, Soil B and Soil C.
3. A copy of the soils report must be kept onsite during excavation operations. A copy of the soils report must be forwarded to the BMC Project manager before excavation operations begin.
4. The walls and faces of all excavations in which employees are exposed to danger from moving ground shall be guarded by shoring, sloping to the proper angle of repose, or some other equivalent means.
5. The determination of the angle of repose and design of the supporting systems shall be based on careful evaluation of pertinent factors such as type of soil; possible variation in water content of the material while the excavation is open; anticipated changes in materials from exposure to air, sun, water, or freezing; loading imposed by structures, equipment, overlying material; and vibration from equipment, traffic, or other sources. The soils report shall be used as a guideline for cutting back the excavation sides to the proper angle of repose. Any shoring system being used on excavations 20' deep or less should use the suggested design systems as offered in the OSHA standard. Any shoring systems that are deeper than 20' or are different than the suggested OSHA designs shall have drawings on them. These drawings must be stamped by a in state P.E. Again copies of the shoring system drawings must be on site during the excavation activities with a copy given to the BMC Safety Director.
6. All subcontractors or its second-tier subcontractor firm completing the excavation work shall have a Designated Competent Person on site during excavation operations. The excavation shall be inspected before and during excavation

activities, after every rainstorm or other hazard-increasing occurrence.

**NOTE:** Subcontractor's Designated Competent Person shall be familiar with OSHA Excavation Laws and have the authority to stop work in the excavation at any time.

6. All excavations 4' deep or more shall require a means of egress every 25'. This means of egress may be a ladder, stairways or ramp.
7. In excavations which employees may be required to enter, excavated or other material shall be kept back at least 2 feet from the edge of the excavation.
8. Water shall not be allowed to accumulate in an excavation. Diversion ditches, dikes, or other suitable means shall be used to prevent surface water from entering an excavation and to provide adequate drainage of the area adjacent to the excavation.
9. Adequate physical barrier protection shall be provided at all remotely located excavations into which persons may fall and not be able to climb out because of steepness of sides. Wells, pits, shafts, etc., shall be barricaded or covered.
10. Walkways and ramps over excavations shall be constructed of 2 inch planking, or equivalent, on strong stringers, with guardrails on both sides.
11. If it is necessary to place or operate excavating machinery or trucks on a level above and near an excavation, the side of the excavation shall be sheet-piled or shored, and braced as necessary to resist the extra pressure of such superimposed loads.
12. When mobile equipment is used or allowed adjacent to excavations, substantial stop logs or barricades shall be installed.
13. Sides of trenches more than 4 feet deep shall be shored or sloped back to the angles of repose.
14. Portable trench boxes or sliding trench shields may be used for the protection of employees in lieu of shoring or sloping. They shall be designed and constructed to provide protection equal to or greater than shoring required for the trench.
15. Open excavations in the public way shall be securely covered over with 2" planking, or 3/4 plywood or its equivalent, or guarded on all open sides with a standard guardrail during non-working hours.
16. All pits, shafts, or steep sided excavations shall be covered with 2" planking or 3/4" plywood, or its equivalent or guarded with a standard handrail on all open sides during non working hours.

## **DEFINITIONS**

1. An **excavation** is any man made cavity or depression in the earth's surface formed by earth removal, and producing unsupported earth conditions by reasons of the excavation.
2. A **trench** is a narrow excavation at least 4 feet deep and not over 15 feet wide.
3. The **angle of repose** is the greatest angle above the horizontal plane at which a material will lie naturally, without sliding.

## **NOTES**

1. Table P-1 in Subpart P of the OSHA Construction Regulations shows the approximate angle of repose for various types of soil conditions.
2. Table P-2 in Subpart P of the OSHA Construction Regulations shows minimum construction requirements for shoring in trenches.
3. For additional requirements for caisson work, see section "Environmental Controls".

## **PROTECTION FROM LIVE SYSTEMS**

Prior to any work, that may accidentally interrupt live systems, (mechanical, electrical, sewerage, hydraulic, pneumatic, etc.); the subcontractor shall review and coordinate the work with the representative utility company, authority or Local Municipal Agency and with trades doing the work. Proper safeguards shall be implemented as required to prevent accidental interruption of such systems. Work requiring review and safeguards may include demolition and any blind penetration of floors, walls and ceilings.

All live systems whether they are mechanical, electrical, sewerage, hydraulic, pneumatic, etc. shall be properly identified and location verified. In the event these systems may have to be temporarily shut down, the authorized representative from the utility company or Local Municipal Agency shall shut the system and when necessary, reactivate it.

## **GENERAL NOTES**

1. For all excavations of trenches, which will exceed a depth of four feet, the Subcontractor's trench safety procedures shall meet the current standards established by OSHA on excavations, trenching, and shoring, all of which are incorporated herein by reference.

2. If details shown are not feasible due to unanticipated conditions, the Subcontractor shall notify the Trench Safety Engineer for re-evaluation.
3. These drawings assume all excavated areas remain free of water seepage or intrusion. Excavations shall be inspected after every storm or other hazard-increasing occurrence to assure the continued safety of the trench. The Subcontractor shall seek guidance from the Trench Safety Engineer where needed.
4. When installing a support system, shoring will be applied by starting at the top of the trench excavation and working downward. All crossbeams, trench jacks, etc., will be placed in a true horizontal position. Support system removal shall begin at the bottom and proceed upward, performed from outside the trench.
5. Materials used for sheeting, sheet-piling, bracing, shoring, etc., shall be in good serviceable condition. Timbers used shall be sound and free from large or loose knots, shall be designed, and installed so to be effective to the bottom of the excavation.
6. Alternate design for use of steeper slopes or the use of supporting systems, i.e., piling, cribbing, shoring, etc., may be submitted by the Subcontractor for evaluation by the Trench Safety Engineer.
7. Slopes shown shall be the maximum unless changed by the Trench Safety Plan from Subcontractor due to changing soil conditions. Slopes shown are for a short-term period, if excavations are open for more than 24 hours, the Trench Safety Plan from subcontractor shall be reevaluated.
8. Type "A" soil is a cohesive soil with an unconfined compressive strength greater than 3,000 psf. Type "B" soil is a cohesive soil with an unconfined compressive strength greater than 1,000 psf. and less than 3,000 psf. Type "C" soil is a cohesive soil with an unconfined compressive strength less than 1,000 psf., that is not flowing or submerged.

# CONFINED SPACE ENTRY PROCEDURE (CSEP)

## PURPOSE

This confined space entry procedure (**CSEP**) has been designed with the objective of preventing serious physical injury or death caused by Subcontractor's employees attempting to perform work in confined space areas without prior proper testing and evaluation. All Subcontractors performing work in these areas, shall ensure that their employees and supervisors are trained in this procedure and that it is used where appropriate. Any confined space operation not conforming to this procedure will be viewed as imminent danger and all work will be discontinued.

**NOTE:** 48 hour written notice must be submitted to BMC field office for any Confined Space Work; at this point a Pre-Con Meeting will set to review Subcontractor's Procedures.

## CONFINED SPACES

Confined Space: An enclosed area that has the following characteristics:

1. Is large enough that a person can enter and perform work;
2. Is not designed of continuous employee occupancy; and
3. Has one or more of the following characteristics:
  - a. Potential for a hazardous atmosphere;
  - b. Potential for engulfment of an entrant;
  - c. Potential for an entrant to be trapped or asphyxiated by inwardly converging walls, or a floor which slopes downward and tapers to a smaller cross-section.
  - d. Contains any other recognized serious safety or health hazards.

## PERMIT REQUIRED CONFINED SPACES

A permit space means an enclosed space which:

1. Has all the characteristics of a Confined Space; and
2. Has limited or restricted passageways for entry and exit;
3. There is a known hazard present inside the space

## **NON-PERMIT REQUIRED CONFINED SPACES**

A Non-Permit space means an enclosed space which:

1. Has all the characteristics of a Confined Space; and
2. Has limited or restricted passageways for entry and exit;
3. There is **no** known hazard present inside the space

## **ENTRY PERMIT PROGRAM**

Under the entry permit program, the Project shall determine:

1. If the project contains "Permit Required Confined Spaces".
2. The procedures to be carried out prior to entry of a permit required confined space.
3. Hazards associated with the confine space and implement the procedures to follow to control these hazards.
4. A written method for permit entry.
5. Notification system to include signs which identify the hazards that may be present and prevent any unauthorized entry.
6. To establish a program instructing employees to work safely in and around the permit space.
7. To provide, maintain and ensure the proper use of safety equipment.
8. Pertinent information about the confined space and provide it to all effected contractors.
9. A standardized permit format will be followed.

## **Permit Requirements**

The following are items to be included in a standardized permit:

1. Identification:
  - a. Location
  - b. Date, time and expiration of permit

- c. Person authorizing entry and individual in-charge at the site
2. Hazards associated with the confined space.
3. Measures to isolate and prepare the confined space for safe entry.
4. Use appropriate guidelines to establish acceptable levels for atmospheric conditions.
5. Personal protective equipment required.
6. Testing equipment appropriate to the potential hazard.
7. Rescue measures.
  - a. Response teams are notified prior to entry.
  - b. Workers are informed of emergency procedures.

### **Responsibilities**

Confined space areas must be evaluated prior to employee entry by supervision and/or qualified safety personnel. Once the evaluation is complete, supervision will draft its plan for ensuring that the elements of the CSEP are met.

### **Implementation**

#### **Pre-Entry Requirements:**

Personnel shall not enter the confined space area until the following are accomplished:

1. Lines which may convey flammable, injurious, or incapacitating substances into the space shall be disconnected, blinded, or blocked off by other positive means to prevent the development of dangerous air contamination and/or oxygen deficiency within the space. The disconnection or blind shall be so located or completed in such a manner that inadvertent reconnection of the line or removal of the blind are effectively prevented.
2. The confined space shall be emptied, flushed, or otherwise purged of flammable, injurious, or incapacitating substances to the extent feasible.
3. Qualified Subcontractor personnel shall test the atmosphere with an approved calibrated device to determine whether dangerous contaminants and/or oxygen deficiency exists. Written records of such testing results shall be made and posted adjacent to the identified confined space. The date, time, and the name of the testing official shall also be recorded. Subcontractor personnel who may either be supervision or safety personnel shall perform these tests on an "as

needed" basis. Records of these tests must remain a permanent record of construction site operations.

4. Where interconnected spaces are blinded off as a unit each space shall be tested, results recorded, and the most hazardous conditions found shall govern the operation.
5. If dangerous air contamination and/or oxygen deficiency does not exist within the space, as demonstrated by the test, entry into and work within the space may proceed subject to the following provision:

Frequent testing shall be conducted to ensure that a dangerous air contamination and/or oxygen deficiency does not develop during the performance of any operation.

If this does occur during the operation, the requirements covered in "Confined Space Operations" shall apply.

Where the existence of either dangerous air contamination and/or oxygen deficiency is demonstrated by tests, existing ventilation shall be augmented by appropriate means (usually additional ventilation).

6. When additional ventilation has removed the dangerous air contamination and/or oxygen deficiency, as demonstrated by additional tests (and recorded), entry into and work within the space may proceed.
7. No source of ignition shall be introduced until the implementation of appropriate provisions has ensured that dangerous air contamination due to flammable and/or explosive substances does not exist.
8. Whenever oxygen-consuming equipment such as salamanders, plumbers' torches, or furnaces and the like are to be used, measures shall be taken to ensure adequate combustion air and exhaust gas venting.
9. To the extent feasible, provision shall be made to permit ready entry and exit.
10. Where it is not feasible to provide ready exit from spaces equipped with automatic fire suppression systems employing harmful design concentrations of toxic or oxygen-displacing gases, or total foam flooding, such systems shall be deactivated. Where it is not practical or safe to deactivate such systems, the provisions of "Confined Space Operations" related to the use of self-contained breathing equipment shall apply during entry into work within such spaces.

### **CONTRACTORS MUST REMEMBER**

Surveillance of the surrounding areas must be considered to avoid drifting vapors from



tanks, piping, and sewers which might adversely affect the atmosphere of the confined space.

**NOTE:** Respirators are of no use in an oxygen-deficient atmosphere. Either an air-line respirator or self-contained breathing equipment is effective for use in an oxygen-deficient atmosphere.

## **REQUIREMENTS, CONFINED SPACE OPERATIONS**

Subcontractor personnel shall **not** be allowed to enter a confined space with an oxygen deficient or potentially toxic/explosive atmosphere, except for emergency or rescue personnel as directed by the BMC Project Representative.

## **ENTRY INTO AND WORK WITHIN CONFINED SPACES**

1. Tanks, vessels, or other confined spaces with side and top openings shall be entered from side openings when practical. (Note: Side openings are those within 3 and 1/2 feet of the bottom.)
2. Approved respiratory protective equipment shall be provided and worn when needed; this equipment may include self contained breathing equipment.
3. An approved safety belt with attached line shall always be used. The free end of the line shall be secured outside the entry opening. The line shall be at least 1/2-inch diameter and 2,000 pounds test.
4. At least one employee shall stand by on the outside of the confined space, ready to give assistance in case of emergency. At least one additional employee who may have other duties shall be within sight or call of the standby employee(s).
  - a. The standby employee shall have appropriate approved respiratory equipment, which may include an independent source of breathing air, and adequate communications.
  - b. The standby employee shall be equipped with an emergency light source.
  - c. A standby employee(s), protected as prescribed, may enter a confined space. In case of emergency, the employee must alert an additional employee of the pending emergency, and the standby employee's intention to enter the confined space.
5. When entry must be made through a top opening, the following requirements shall apply:
  - a. The safety belt shall be of the harness type that suspends a person in an upright position.
  - b. A hoisting device or other effective means shall be provided for lifting employees out of the space.

6. Work which involves the use of a flame, arc, sparks, or other sources of ignition is prohibited within a confined space (or any adjacent space having common walls, floor or ceiling with the confined space) which contains, or is likely to develop, dangerous air contamination due to flammable and/or explosive substances, i.e., repair of gas tanks, etc.
7. Whenever gases such as nitrogen are used to provide an inert atmosphere for preventing the ignition of flammable gases or vapors, no flame, arc, spark or other source of ignition shall be permitted unless the oxygen concentration is maintained at less than 20% of the lower explosive limit (LEL). Subcontractor's supervision must be aware of operations of this description.
  - a. Atmosphere testing shall be conducted by a competent subcontract person with sufficient frequency to ensure conformance with this paragraph.
  - b. A written record of the results of such testing shall be made and a copy posted adjacent to the confined space.
8. Only approved lighting and electrical equipment (12 volt, explosion-proof) shall be used in confined spaces subject to dangerous air contamination by flammable and/or explosive substances.
9. Employees working in confined spaces which had contained substances corrosive to the skin or substances which can be absorbed through the skin shall be provided with, and shall be required to wear, appropriate personal protective clothing.
10. An effective means of communication between standby employees and employees in a confined space shall be provided and used whenever the provisions of confined space operations require the use of respiratory protective equipment or whenever employees inside a confined space are out of sight of the standby employee(s). The Prime/Trade Contractor in the use of such communications system shall train all affected employees. The system shall be tested before each use to confirm its effective operation.

## **EDUCATION AND TRAINING**

1. **Supervisor's Training**  
(Individual authorizing or in charge of entry)
  - a. Entry Permit- content and completeness.
  - b. Procedures, practices and equipment.
  - c. Entry operations monitoring.
  - d. Entry cancellation.
  - e. Closing procedures after completion.

f. Dealing with unauthorized personnel.

## 2. Entrants and Attendants Training

1. Hazard Recognition:

- a. Type of Hazard.
- b. Signs and symptoms.
- c. Consequence of exposure.

2. Communication

- a. Maintain contact between entrant and attendant.
- b. Entrant should notify the attendant prior to attempting self-evacuation.
- c. Notification of entrants by attendant. If:
  - \*Behavioral changes are observed.
  - \*Dangerous situations occur in or around the space.
  - \*Condition exists that is not consistent with the permit.
  - \*The attendant must leave the workstation.

3. Protective Equipment

- a. Appropriate equipment - respirators, clothing, retrieval lines, etc.
- b. Proper use of protective equipment.
- c. External protective barriers to prevent unauthorized entries.

4. Self-rescue

- a. when ordered by attendant to evacuate.
- b. If the entrant's monitor alarm sounds.
- c. If the entrant perceives danger.

5. Rescue

- a. Attendant will **not** enter the space to attempt rescue.
- b. Attendant should be trained in rescue procedures and the proper use of rescue equipment.

6. Rescue Team Training

- a. Hazard Recognition.
- b. Proper use of protective equipment including respirator and rescue equipment.
- c. Rescue Procedures.
- d. Emergency first aid and CPR.
- e. Simulated rescue operations drills.

# TOOLS

1. When power operated tools are designed to accommodate guards, they shall be equipped with such a guard when in use.
2. Belts, gears, shafts, pulleys, sprockets, spindles, drums, fly wheels, chains or other reciprocating, rotating or moving parts of equipment shall be guarded, if such parts are exposed to contact by employees or otherwise create a hazard.
3. All hand held power operated tools shall be equipped with constant pressure switches that will shutoff the power when the pressure is released.
4. The wooden handles of tools shall be kept free of splinters and cracks, and shall be kept tight in the tool. Taping of handles is prohibited.
5. All hoses for compressed air exceeding 1/2 inch inside diameter, shall have a safety device at the source of supply or branch line to reduce pressure in case of hose failure.
6. Only employees who have been trained in the safe use of the tool shall be permitted to operate a powder-actuated tool.
7. Mushroomed heads on chisels are prohibited.

## **POWDER ACTUATED TOOLS**

1. Only properly trained, qualified operators shall use powder-actuated tools. A listing of qualified operators shall be maintained on file in the Prime/Trade Contractor or Subcontractor's office. Each qualified operator will carry a valid manufacturer's certification card at all times while working on the BMC Project Site.
2. Powder actuated tools shall be kept in their respective cases when not use.
3. Tools shall be tested before each use to ensure that safety devices are in proper working condition, that the tool is clean, that all moving parts operate freely, and that the barrel is free of obstruction. Any tool not in working order or that develops a defect while in use, shall be immediately removed from service and tagged unsafe. Such tools shall not be issued for use until competent, trained personnel have made proper repairs.
4. Prior to the testing of any powder-actuated tool, employees shall ensure that tool is **not loaded.**

5. Safety glasses shall be worn by the operator and assistant during powder actuated tool operation. Full-face shields shall be worn if there is danger of flying plaster, wood, metal or concrete.
6. A loaded tool shall never be carried on the work site. Tools shall always be left unloaded until ready for actual use.
7. The tool shall never be pointed at anyone, whether loaded or unloaded, and hands shall be kept clear of the muzzle end.
8. Powder actuated tools shall never be stored or used in explosive atmospheres, in the vicinity of highly flammable materials, or in any area where non-sparking tools are required.
9. The tool shall be held firmly against and perpendicular to the surface to which it is applied.
10. Manufacturer's recommendations should be sought if there is any doubt about the fastening application. Most recommend against driving into very hard or brittle materials such as cast iron, glazed tile, surface hardened steel, glass block, live rock, face brick, hollow tile and similar materials.
11. To prevent flying hazards, no stud or attachment shall be driven without first ensuring it will not pass completely through the material being driven into.
12. Fasteners driven by standard velocity tools should not be driven directly into masonry materials closer than on half (1/2) inch from the corner edge.
13. Low velocity piston tools using fastener shank diameters of five thirty-seconds (5/32) of an inch or less may be driven no closer than two (2) inches from an edge in masonry or one-quarter (1/4) inch in steel.
14. Fasteners should not be driven into a spalled area such as where a previous fastener has failed, or into a very rough concrete or through predrilled or pre-punched holes.
15. In the event of a misfire, tools shall not be removed from the working surface for 15 seconds. The cartridge shall be removed from the tool before lifting it from the surface.
16. In the event of jamming, mis-fire or obstruction in the bore of the tool, follow the manufacturer's recommendations for clearing. An obstructed bore shall never be cleared by firing another cartridge or stud and cartridge assembly.
17. For the applications requiring the fastening of clips, brackets, tracks, etc., special shields, fixtures or adapters should be used.

18. Only fasteners which are specially designed and manufactured for use in powder actuated tools shall be used.
19. An operator's instructions manual should always be kept in the carrying case for the specific tool being used. This manual should be used for reference when necessary, concerning proper operation, service, etc.

# AUTHORIZED SAFETY INSPECTIONS

From time to time, various persons will present themselves to the Superintendent requesting permission to make safety inspections or accident investigations. Only the following persons are authorized to do so:

1. State of Federal OSHA Compliance officers
2. Inspectors from Local, State, of Federal government agencies
3. Representative of BMC insurance carriers
4. Representatives of the Owner, Architect and Engineer

The Superintendent shall admit such persons only upon recognition or presentation of proper credentials.

All other persons wishing to make safety inspections or accident investigations shall not be admitted without prior authorization from the BMC Safety Director.

The BMC Superintendent shall cooperate with all authorized safety personnel in developing and implementation of corrective measures for correction of safety hazards.

For clarification or conflicts, contact BMC Safety Director at the Main Office or via mobile number.

## **OSHA INSPECTION PROCEDURE**

**Upon learning of the presence of an OSHA Compliance Officer on a BMC worksite, the Project Supervision will advise BMC management (Project Manager, Safety Director and Vice President of Construction). If unable to contact BMC management, call for the President of BMC before proceeding as follows.**

### **VERIFICATION OF AUTHORITY**

1. Verify the credentials of the OSHA officer.
2. Ask the question, "What is the reason for this inspection?" Possible answers could be:
  - A complaint
  - A programmed inspection
  - A fatality/catastrophe investigation
  - An eminent danger situation
  - A follow-up inspection

3. DO NOT allow the OSHA officer to be “unattended.”
4. Initiate the BMC OSHA Inspection Report Form

## **INSPECTION PROCEDURE**

1. Opening Conference
  - a. Subcontractors normally included.
  - b. Company information will be requested.
  - c. Safety records and programs will be evaluated.
  - d. Make written notes of which documents are photocopied.
2. Walk Around
  - a. A. Make every attempt to establish a friendly, cooperative relationship with the OSHA officer.
  - b. Accompany the OSHA officer at all times.
  - c. Carry the same equipment (if available) as the officer (e.g., still camera, video camera, testing equipment) and duplicate samples, photographs, and evidence. If equipment is unavailable, request copies of photographs, samples, etc.
  - d. Involve at least one additional Company person for objectivity, fact collection, picture taking, etc.
  - e. Take written notes of situations commented on by the officer and explain or resolve, as soon as possible, any conditions or practices which concern them but which do not result in a citation.
  - f. When the question of multi-employer exposure is connected to any concern, ask the officer why BMC is an exposing or creating employer.
  - g. Make notes of any interviews or discussions conducted with employees, unless conducted in private. List the names of employees interviewed.
  - h. Question immediately with the officer, the reasons and explanations for any unclear reference to possible violations. DO NOT make statements or admissions. REMEMBER, managers are agents of Bob Moore Construction and their statements can be legally binding on the Company.
  - i. Collect all available evidence regarding violations (e.g., witness location.)
  - j. Maintain a professional attitude and conduct at all times.
3. Closing Conference
  - a. Alleged violation(s) will be discussed.
  - b. Abatement dates and procedures will be established.

## **TYPES OF VIOLATIONS**

**Willful** - Employer knew a hazardous condition existed but made no reasonable effort to eliminate the hazard and knowingly allowed employees to be exposed to the hazard.



**Serious** - A work place hazard that could result in serious injury or death.

**Repeated** - May be cited for repeated violation if you have been cited previously for a substantially similar condition within last three (3) years.

**Other** - For violations which would not likely cause injury (i.e. record keeping, poster, etc.)

### **IN CASE OF A CITATION**

After you receive a citation, you must post a copy at or near the place where each violation occurred for three (3) working days or until corrected. Even if the condition was abated or you contest the citation, you must post.

Employers have the right to contest abatement dates in writing within fifteen (15) working days after receiving citation.

### **FOLLOW-UP INSPECTION AND FAILURE TO ABATE**

If you receive a citation, a follow-up inspection may be conducted to verify that you have done the following:

1. Posted the citation as required,
2. Corrected the violations as required in the citation, and/or
3. Adequately protected employees and made appropriate progress in correcting hazards.

**Note: New violations discovered during follow-up inspections can be cited.**

# OSHA INSPECTION REPORT FORM

Superintendent \_\_\_\_\_ Project Manager \_\_\_\_\_

Job Name \_\_\_\_\_ Date \_\_\_\_\_

Job Number \_\_\_\_\_

**All Federal and State OSHA Inspections are to be reported on this form. If more space is required for any answer, attach a separate sheet**

1. Opening conference date and time: \_\_\_\_\_

2. Closing conference date and time: \_\_\_\_\_

3. Duration of field inspection: \_\_\_\_\_

4. Was BMC management advised prior to the opening conference and walk around?

YES? NO?

Who was advised: \_\_\_\_\_

5. Were BMC subcontractors on site: YES? NO?  
If so, were subcontractors involved in the inspection process? : YES? NO?

6. Name and title of OSHA Compliance Officer: \_\_\_\_\_

7. Reason for inspection: (accident, complaint, follow-up, general, other) \_\_\_\_\_

8. Was this a "Focused Inspection: YES? NO?

9. Did OSHA take photographs: YES? NO?

10. Did BMC take photographs: YES? NO?

11. Were any tests made: YES? NO?

If yes, explain: \_\_\_\_\_

\_\_\_\_\_

12. List all BMC and Subcontractor personnel who accompanied officer on inspection

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13. Identify areas of project inspected:

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14. Did the officer request to see any of BMC's safety or health records:

YES? NO?

If yes, explain:

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15. What, if any, materials were removed from site by OSHA?

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16. Did the officer have discussion with or interview individual employees:

YES? NO?

Name of Employees: \_\_\_\_\_

17. Summary of closing conference:

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18. Did the officer imply that citations would be issued: YES? NO?

19. What violations were alleged?

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20. Attach list of BMC subcontractors and alleged violations (if applicable).

***Fax a copy of this report to the Corporate Safety Director immediately. Include copies of additional notes, pictures, warrants, complaints, etc.***