

**Document 01 35 23**  
**Construction Safety Plan**

Division of Administration and Finance  
Planning + Design + Construction  
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***UNIVERSITY OF CINCINNATI***

**Planning + Design + Construction**

**Construction Safety Plan**

Note:

The Contracting Authority may make project specific edits to this plan with the approval of the University Construction Safety Representative (EH&S) prior to inclusion in the contract documents.

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## **1.0 INTRODUCTION**

- 1.1** The prevention of injury and/or illness to personnel, protection of the environment, and compliance with applicable federal, state and local laws are primary objectives of the Contracting Authority. The goal of the Safety Program is to integrate the contractor/ supplier management organization, its supervisors, and its employees into the concept of a wholly safe and effective work environment. Because of the importance the Contracting Authority places on meeting these goals and objectives, selected requirements have been outlined in this document to guide contractors/suppliers while working on campus projects. These requirements should be regarded by contractors/suppliers as minimum standards, since local site work requirements may, in some instances, exceed these standards.
- 1.2** It is the responsibility of the contractor/supplier to know and understand all federal, state and local laws governing its activities along with any local site requirements and job site hazards. Such information shall be communicated by the contractor/supplier to its personnel and to its subcontractors/suppliers. A contractor engaged in work for the Contracting Authority is fully responsible for the safe performance of all work, and shall take all measures within its control to protect the environment as well as the safety and health of other persons, the general public, and its own personnel. The contractor/supplier shall comply with all applicable safety, health, and environmental rules.
- 1.3** Prior to the start of any work, the contractor/supplier shall videotape and survey the work site and review site safety, health and environmental rules with the University Safety Representative. The contractor/supplier agrees to provide the authorized University Safety Representative full access to any job site. The contractor/ supplier shall maintain communication with the University Safety Representative throughout the course of the contracted work, and shall have pre-job discussions with its subcontractor/supplier personnel as different phases of the work are initiated. Rules applicable to primary contractors/suppliers are also applicable to secondary subcontractors/suppliers. The contractor/supplier shall communicate all such rules herein to its personnel.
- 1.4** These standards are not intended to be comprehensive or exhaustive in nature, and serve no limit. The safety, health, and environmental rules outlined in this document cannot cover every eventuality. It is, therefore, expected that the contractor/supplier will exercise good judgment in all such matters, even though not specifically mentioned in these rules.
- 1.5** The hierarchy for safety reporting, accountability, and communication purposes is as follows:
- 1.5.1** Contractors providing services to Contractors are called subcontractors. All safety-related paperwork, accountability, and communication issues from the subcontractors should be forwarded to the Contractors and their safety representatives.

**1.5.2** Contractors under written agreement with the Contracting Authority are called Contractors. Contractors shall forward all safety issues and paperwork to the University Safety Representative through the representative of the Contracting Authority.

## **2.0 GENERAL REQUIREMENTS**

### **2.1 Safety and Health Program**

**2.1.1** Each contractor/supplier shall develop and maintain an effective safety and health program, which will provide systematic policies, procedures, and practices that are adequate to recognize and protect their employees from occupational safety and health hazards.

**2.1.2** The contractor/supplier safety and health program shall include:

**2.1.2.1** Management commitment and employee involvement;

**2.1.2.2** Work site analysis and safety hazard assessment;

**2.1.2.3** Hazard prevention and control procedures; and

**2.1.2.4** Safety and health training.

**2.1.3** The program shall be submitted to the University Safety Representative, through the Contracting Authority representative (PM or CM), for review prior to the performance of any on site work by the contractor/supplier.

## **2.2 Documentation**

**2.2.1** Documentation of employee safety training records must be made available to the University Safety Representative, through the Contracting Authority representative, prior to commencement of work.

**2.2.2** Under state and federal requirements, employers must certify that all operators of mobile equipment (forklifts, cranes, man lifts, etc.) have been trained on the proper operation of the equipment. Copies of training and certification records shall be kept on file at the job site, and shall be available for review by the University Safety Representative.

**2.2.3** Contractors are required to have weekly safety meetings (toolbox talks) for all of their employees on site. Copies of the safety information, along with signatures of all employees present, shall be maintained at the project site and accessible to the University Safety Representative within 24 hours of each weekly safety meeting. Weekly safety meetings shall occur no later in the week than each Tuesday at noon.

**2.2.4** Contractor safety representatives shall meet on a monthly basis with the University Safety Representative. Additional meetings shall be scheduled as needed.

**2.2.5** Documentation of equipment (e.g. cranes) inspections, which must take place daily, weekly, and/or monthly, shall be kept on site. This information shall be available for review by the University Safety Representative.

**2.2.6** Contractors shall complete the Accident Statistics Report for each month in which they conduct work and/or oversee on the project. These reports are due by the fifth day of each month (or other agreed upon date) for the preceding month. This report shall include all information about sub-tier contractors associated with the Contractor activities.

**2.2.7** Certain operations may require a permit from the Contracting Authority. The Contractor representative shall inquire at least 72 hours in advance, with the University Safety Representative, to determine if any part of the contractor's activities requires such a permit. ***Such activities include but are not limited to welding and cutting (hot work), confined space, vessel entry, digging, trenching, energized electrical work and excavations.***

**2.2.8** Some activities require state permits/applications prior to commencement of work. Each contractor shall be responsible for obtaining state permits for their portion of work if required. A copy of the permit shall be provided to the University Safety Representative prior to commencement of any work requiring such a permit.

**2.2.9** Contractors shall comply with and are responsible for state and federal reporting and recording requirements for their employees.

**2.2.10** Contractors shall compile and submit monthly total personnel hours worked. Contractors shall also submit lost time results on a monthly basis. This information shall be submitted to the University Safety Representative no later than the end of the first business week (or other approved date), following the month relating to the information submitted. Contractors shall record cumulative totals through the duration of the project.

**2.2.11** Contractors shall submit for approval a logistics and barrier plan, as required by the General Conditions.

**2.2.12** Contractors shall submit MSDS information as required by section 4.1 of this Safety Program and the General Conditions.

### **2.3 Observance of Rules and Requirements**

**2.3.1** The following rules and regulations apply for all work performed by a contractor/supplier and its agents. Disregard of the rules set forth herein may be considered a breach of contract, and may result in termination of or removal from the contract.

**2.3.2** Safety rules and requirements associated with a project may vary somewhat depending on the location of the job site and the type of work to be performed. In each case, the specific requirements to be enforced shall be reviewed with each contractor/supplier by the University Safety Representative prior to the start of work.

**2.3.3** Contractors/suppliers shall abide by and enforce the site safety, health and environmental rules of the Contracting Authority, as well as all applicable federal, state, and local laws, ordinances and regulations. Contractors/suppliers may be asked to remove from the job site any of its employees or secondary subcontractor/supplier employees not conforming to such rules, or any applicable laws, ordinances and regulations. Contractors/suppliers shall also abide by and enforce all job-specific security rules and procedures as promulgated by the State of Ohio ***Standard Requirements for Public Facility Construction***.

**2.3.4** Contractors/suppliers shall comply with all OSHA safety and health regulations and requirements.

**2.3.5** The contractor agrees to abide by all established health and safety policies, advisories and procedures of the Contracting Authority's Environmental Health and Safety & Radiation Safety offices. These policies include, but are not limited to, no food, drink, gum or tobacco products and no application of cosmetics (e.g., lip balm) in any laboratory environment and watching for hazardous material signage. Prior to working in areas where hazardous material signage is present contractors shall contact an appropriate representative of the Contracting Authority and ensure the contractor is made aware of the hazards present and then abides by applicable safety requirements. Progressive penalties may be applied for non-compliance of health and safety policies and procedures. The penalties may include requiring selected individuals to not work under a contract, fines and/or suspension of contractors/subcontractors from future bid processes.

**2.3.6** Contractors are to refer to the Contracting Authority website for links to the Environmental Health and Safety & Radiation Safety office's websites for their specific procedures and policies.

**2.3.7** Contractors, sub-tier contractors, and term contractors shall require their prevailing wage and field supervisory workers to participate in the COATS Substance Abuse and Drug Testing Program. Information about the program can be found on the Midwest Toxicology website [www.midwesttoxicology.com](http://www.midwesttoxicology.com), click on University of Cincinnati – COATS Program.

## **2.4 Reporting of Accidents and Incidents**

**2.4.1** Contractors/suppliers shall report all work related injuries, illnesses, and environmental incidents, regardless of severity, to the University Safety Representative with a copy to the representative of the Contracting Authority.

**2.4.2** Contractors/suppliers shall notify the University Safety Representative immediately in the event of an injury, first aid case, near miss, property damage, or environmental incident, such as a spill or release of hazardous material. Contractors/suppliers shall submit a completed accident/incident report for these types of incidents to the University Safety Representative within 24 hours of the occurrence of the injury, incident, etc. The report shall include, as a minimum, the nature and extent of the injury, first aid case, near miss or incident, causes of the injury etc., and corrective actions needed and/or taken to prevent a recurrence.

**2.4.3** Any follow-up information on personal injuries (doctor's reports, insurance or worker's compensation reports etc.) shall be forwarded to the University Safety Representative as soon as it becomes available.

**2.4.4** As required by federal, state, or local laws or ordinances, the contractor/ supplier shall report certain work related injuries, illnesses, or environmental incidents to the appropriate agencies. Contractors/suppliers shall be knowledgeable of these reporting requirements, and shall inform and copy the University Safety Representative when such reporting is necessary or is made.

## **2.5 Potential Hazards and Emergencies**

**2.5.1** Contractors/suppliers shall inform their employees of potential hazards, take appropriate steps to reduce exposure to potential hazards, and be prepared to respond to emergency situations.

**2.5.2** Contractors/suppliers shall provide emergency response procedures for the job site, and shall communicate such procedures to its employees. Emergency response procedures shall include the identification of any emergency alarms and warning systems, a list of emergency phone numbers, identification of emergency evacuation assembly areas, placement and use of emergency equipment, and procedures for notification of local authorities, agencies, and the University Safety Representative.

**2.5.3** In the absence of emergency medical response within a reasonable time and distance, contractors/suppliers shall have qualified personnel trained in first aid and CPR available as necessary. Contractors/suppliers shall have readily available the names and locations of off-site medical personnel to handle major occurrences. Adequate first aid and emergency medical equipment shall be provided as necessary. Contractors shall have an adequate number of first aid kits in gang boxes.

**2.5.4** Contractors/suppliers shall obtain Material Safety Data Sheets (MSDS) and other appropriate information (e.g. chemical inventory list, etc.), and shall inform its employees and the University Safety Representative of any potentially hazardous materials to which they may be exposed while in performance of the Work. Contractors shall have this information available on site in a conspicuous and marked location.

**2.5.5** Contractors/suppliers shall immediately rectify any situation or condition occurring as a result of the work, that could result in injury or illness to personnel at the site, or that could cause an environmental hazard. If such a condition cannot be corrected immediately, contractors/suppliers shall provide temporary barricades and appropriate warning signs and devices necessary for the protection of people, equipment, and property.

## **2.6 Employee Qualifications and Conduct**

**2.6.1** Contractors/suppliers shall employ or cause to be employed only persons who are fit, qualified, and skilled in the work to be performed. They shall also ensure that employees receive and successfully complete the necessary safety training, and are capable of performing work activities in a safe manner. Documentation of such training shall be available upon request. Additional training may be required when individuals are considered competent personnel on the job site. It is the responsibility of the employer to ensure that these individuals receive this training.

**2.6.2** Contractor/supplier personnel shall confine their activities to the assigned work areas.

**2.6.3** Contractor/supplier personnel shall use only facilities designated by the Contracting Authority Representative for non-work activities such as eating/breaks, staging of material, or using the restroom.

**2.6.4** Contractors/suppliers shall designate a competent person or persons who understand the hazards associated with the jobsite, have the authority to correct any deficiencies, and the ability to clearly and effectively communicate with its workers (i.e. no language barriers). A competent person must be on the job site at all times. The University Safety Representative must be notified of any changes in the competent person status.

**2.6.5** Contractors/supplies shall ensure that no firearms, weapons, controlled or illegal substances, or alcoholic beverages are brought onto the job site by their workers or subcontractor /supplier employees.

**2.6.5.1** No contractor/supplier employee shall report to work or shall work impaired by any substance, drug, or alcohol--lawful or unlawful. "Impaired" means under the influence of a substance such that the employee's motor senses (i.e., sight, hearing, balance, reaction, reflex), or judgment are, or reasonably assumed to be affected.

**2.6.5.2** Any violation of this policy may result in removal from the job site.

**2.6.5.3** Contractor/supplier employees taking prescription medication that warns against driving or operating machinery shall inform their foremen or safety representative of such.

**2.6.6** Contractor/supplier employees shall not bring cameras onto the site without the express permission of the Contracting Authority.

**2.6.7** Contractors/suppliers shall require that employees obey all precautionary warning signs, product and process labels, and posted instructions unless they have been specifically advised by the University Safety Representative that it is not necessary to do so.

**2.6.8** When vehicles of contractor/supplier employees are on Contracting Authority property, contractors/suppliers shall enforce the rules for safe vehicle operation. Drivers shall obey all signs and posted speed limits. Drivers and passengers in vehicles shall wear seat belts and/or shoulder harnesses.

## 2.7 General Safety Processes

**2.7.1** Contractors/suppliers shall keep its job site(s) clean and orderly at all times. This shall include maintaining an orderly arrangement of operations, tools, equipment, storage facilities, and supplies during the entire course of the project. Scrap materials, refuse and other debris shall be deposited in appropriate containers or neatly stacked in areas distant from construction activities. They shall be removed from the job site on a regular basis, and disposed of properly.

**2.7.2** Contractor/suppliers shall not permit unauthorized persons on the job site unless the University Safety Representative or Contracting Authority has given express permission for them to be present, and then only to the extent they are accompanied at all times by a contractor/supplier representative.

**2.7.3** Contractors/suppliers shall brief all authorized visitors to the job site concerning safety rules and site hazards. Requirements associated with personal protective equipment and all rules of conduct shall pertain to all visitors.

**2.7.4** Contractors (and the suppliers if on site more than sporadically) shall conduct weekly "tool box" safety meetings with all its onsite personnel. All safety meetings shall be documented. The topic and attendance records shall be maintained at the project site and accessible to the University Safety Representative within 24 hours after completion of the meeting. The topics for the meeting shall be at the discretion of the Contractor, but shall be relevant to the tasks at hand.

**2.7.5** Contractors/suppliers shall contact the University Safety Representative and the Contracting Authority representative immediately when an OSHA compliance officer arrives at the job site. Contractors/ suppliers shall inform the University Safety Representative of any employee complaint, incident, etc. that results in or may result in an OSHA inspection.

**2.7.6** Contractors (and suppliers when applicable) shall submit a copy, amended as necessary to meet specific project requirements, of its safety program to the University Safety Representative, through the Contracting Authority representative, before its work begins. Contractors/suppliers shall ensure that it meets and/or exceeds the safety requirements for the project. Contractors/ suppliers must also submit its fall protection, steel erection, and/or excavation plans (if applicable), and any other site-specific paperwork associated with the project, before work begins.

**2.7.7** Contractors/suppliers and their employees shall direct all public media inquiries to the Contracting Authority. At no time shall contractors/ suppliers or their subcontractors/suppliers authorize media to enter the job site, without express authorization from the Contracting Authority.

**2.7.8** Contractors shall comply with all requirements of applicable safety regulations during the hook up, use, and removal of temporary controls, facilities, and utilities.

**2.7.9** Contracting Authority dumpsters, trash receptacles and drains shall not be used for the disposal of any construction debris, waste or hazardous materials.

**2.7.10** A minimum of 5 foot-candles shall be provided for building construction. Lighting removed by the Contractor during construction shall be replaced with adequate temporary lighting during the time of construction.

**2.7.11** Contractors shall keep public streets and roads adjacent to property utilized for construction traffic clean, clear, and free from mud, dirt and debris. Failure to clean will result in such being done by the Contracting Authority at the Contractor's expense, plus fines.

**2.7.12** Roads, walks, ramps, corridors, doors stairs, etc., that need to be closed or blocked to the Contracting Authority community or building occupants during the performance of the work shall be appropriately "signed" and barricaded by the contractor. Alternate routes shall be established that are clearly marked with signage, well lighted and provide for safe passage, subject the approval of the Contracting Authority.

## **2.8 Safety Inspections**

**2.8.1** The University Safety Representative will conduct periodic safety inspections of the project. Any safety deficiency observed will be reported to the appropriate Contractor for immediate abatement.

**2.8.2** The University Safety Representative inspections in no way relieve contractors/suppliers of their responsibility to self-inspect their workplace, activities, and equipment.

**2.8.3** Contractors are responsible for conducting daily safety inspections of its job site. It is strongly recommended that at least one safety inspection each week is documented.

**2.8.4** When requested, documentation associated with safety inspections shall be submitted to the University Safety Representative for review.

## **2.9 Site Safety Representation**

**2.9.1** Contractors are required to have a qualified safety representative, and as certain activities may require a competent person, who shall be on site when any work is taking place associated with their contracts.

**2.9.2** Notification as to who the on-site safety representative is shall be provided to the University Safety Representative before the Contractor and/or its subcontractors begin work on the project.

**2.9.3** The safety representative shall attend all regularly scheduled monthly safety meetings, as well as any additional meetings needed to address safety issues.

**2.9.4** The safety representative must have completed the OSHA 30-Hour Construction Course within the last 24 months.

**2.9.5** The University Safety Representative reserves the right to request additional and/or substitute safety support from prime Contractors if deemed necessary.

## **2.10 Contractor Adherence Policy**

**2.10.1** The University Safety Representative is committed to the goal of providing a safe place of employment, free of recognized hazards. To achieve this goal, it is a contractual requirement that Contractors, Subcontractors, Suppliers, agents and visitors comply with all applicable safety regulations.

**2.10.2** This adherence policy is intended to provide an effective, consistent procedure to ensure that Contractors comply with applicable safety regulations. Safety regulations must be taken seriously. This policy in no way relieves any contractor of their safety responsibilities including those set forth in state and federal OSHA standards.

**2.10.3** First violation:

**2.10.3.1** The University Safety Representative will issue a written notice of safety noncompliance to the Contractor employee and the Contractor's supervisor and/or safety representative. This notice details the item(s) of noncompliance, and requests immediate corrective action.

**2.10.3.2** The University Safety Representative will also forward a copy of the warning to a designated manager of the Contractor and the Contracting Authority's representative.

**2.10.4** Second violation:

**2.10.4.1** A second warning for the same issue may result in temporary or permanent removal of the individual from the site.

**2.10.4.2** The University Safety Representative will forward copies of the documentation to the Contractor employee and Contractor senior management, the Contracting Authority's representative and its Purchasing Department.

**2.10.4.3** A meeting may be scheduled with Contractor management to review safety issues associated with the violation, and to determine corrective action.

**2.10.4.4** The University Safety Representative may arrange for abatement of the safety issue through another Contractor, and then back charge the non-compliant Contractor.

**2.10.5** Third violation:

**2.10.5.1** The University Safety Representative shall require the removal of the individual responsible for the safety issue or the abatement of such.

**2.10.5.2** The University Safety Representative and the Contracting Authority may, after ensuring that the adherence policy has been followed, terminate the contract in accordance with General Conditions Article 11, "Suspension and Termination".

**2.10.6** Imminent danger:

**2.10.6.1** Upon discovery of safety issues deemed imminently dangerous, the University Safety Representative has the ability to suspend or stop the related work immediately. Work may be resumed only after the safety violation has been corrected by the Contractor(s) and verified by the University Safety Representative.

**2.10.6.2** Examples of imminent danger include but are not limited to:

- Elevated fall hazards of 6 feet or greater;
- Excavation work in violation of established standards;
- Electrocution hazards;
- Work activities posing injury potential to the general public, other employees, or oneself; and
- Operation of machinery or heavy equipment in an unsafe manner.

## **2.11 Safety Orientation Training**

**2.11.1** All construction workers shall attend scheduled Contractor Orientation Training before their work begins on the project.

**2.11.2** This program may review all anticipated and existing hazards that are associated with or will affect the contractor employees. At this time, the contractor shall identify its competent person(s), if applicable. Contractors shall provide a list of contact persons, with telephone numbers, for 24-hour emergency contact. The meeting shall also include a review of safety protocol and requirements for the project.

**2.11.3** The University Safety Representative shall conduct the Orientation Training for the safety representatives of the Contractors. The University Safety Representative will maintain a list of contractor representatives that complete the training.

**2.11.4** The safety representatives of the Contractors shall conduct the Orientation Training for their fellow employees, and for the Subcontractor employees associated with their contracts.

**2.11.5** Hardhat stickers will be issued upon successful completion of the training.

**2.11.6** Possession of a COATS card, successful completion of the training and a hardhat sticker are requirements for working on the job site.

**2.11.7** It is the responsibility of the Contractor safety representatives to ensure that anyone providing service to machinery and/or equipment under contract with the Contractor is thoroughly familiar with and trained on the safety requirements associated with such.

## **2.12 Safe Plans of Action**

**2.12.1** A written safe plan of action must be completed on a daily basis. This analysis is designed to review the scope of the Work for the day, and identify how that Work can be performed safely in light of the anticipated hazards.

**2.12.2** The crew or the field personnel prepare the information contained in the safe plan of action. Signatures of the individuals involved in the process must be included in the document.

**2.12.3** Safe plans of action must be retained at the job site, and must be available for review by the University Safety Representative upon request.

## **3.0 SAFETY REQUIREMENTS**

### **3.1 Personal Protective Equipment**

**3.1.1** Personal protective equipment, including hard hats, safety glasses, respirators, gloves, safety shoes, high visibility safety apparel and other such equipment shall be provided by contractors/suppliers.

**3.1.2** Non-metallic hard hats meeting American National Standards Institute (ANSI) Z89.1 specifications shall be worn at all times by all personnel at the work site. This requirement specifically includes all work completed during the finish stages of the project. Hard hats shall be worn with the brim facing forward, unless a welding shield (or other device, which prevents such) is in use.

**3.1.3** 100% eye protection is required on the job site. Safety glasses (including safety prescription eyewear) with permanently attached side shields meeting the American National Standards Institute (ANSI) Standard Z87.1, latest issue, shall be worn. Face shields and/or goggles shall also be required when there is possible exposure to particulate matter generated by hammering; chipping; welding; grinding; cutting; heating; burning; or insulation handling, or where there is possible exposure to hazardous chemicals; cryogenic fluids; acids; caustics; or dust.

**3.1.4** When handling acids, caustics, and chemicals with corrosive or toxic properties, suitable protection, such as acid suits or chemical resistant aprons and gloves, shall be worn to prevent accidental contact with the substance.

**3.1.5** Personnel shall wear personal clothing and footwear that is safe and proper for the work and any job site exposures. At a minimum, full-length trousers and shirts with a minimum 4-inch sleeve are required.

**3.1.6** Work boots are required for all contractor personnel on site. They are also required for suppliers when they are exposed to hazards affecting the feet. In all cases, contractors/suppliers shall wear work boots that are commensurate with the hazards of the work and the work site area. This includes rubber boots when working in or near damaging liquids or concrete, or steel-toe boots (or equivalent protection) when moving or rigging heavy objects.

**3.1.7** Contractors/suppliers shall wear work gloves whenever practical and safe to do so. High visibility safety apparel consisting of fluorescent yellow-green, orange-red or red shall be worn by flaggers, roadway and site workers to achieve the highest degree of worker contrast per (ANSI) Standard 107-2004.

**3.1.8** Contractors/suppliers shall familiarize itself with and comply with more rigorous standards as required with specific work activities.

## **3.2 Elevated Work and Fall Protection**

**3.2.1** The goal of this program is not just to eliminate falls and/or fall hazards on our worksites. The goal is also to provide an effective level of protection, should individuals be involved in elevated falls. In particular, personal fall arrest systems are designed to protect the individual from injury as the fall occurs. In achieving such a goal, the Contracting Authority is committed to obtaining 100% fall protection activities involving elevated work, and to eliminate slips, trips, and other related falls whenever possible.

**3.2.2** 100% fall protection is required when work involves elevations of 6 feet or higher. 100% fall protection is also required at lower heights if the individuals are working above dangerous equipment or activities. 100% fall protection is required for all crafts, trades, and activities associated with these types of elevations. This includes but is not limited to steel erection and roofing activities. The use of ladders and the construction of scaffolding may not be applicable in article 3.2, and are addressed elsewhere in this program.

**3.2.3** The following fall protection systems, outlined in the Fall Protection Guidelines, and in the OSHA Construction Standards, Subpart M, shall be the suggested choice for elevated work activities:

- Guardrail systems;
- Safety net systems; and
- Personal fall arrest systems.

**3.2.4** If contractors/suppliers can prove that more common fall protection is infeasible or creates a greater hazard, as defined in Subpart M of the OSHA Construction Standards, it may – where permitted - implement the following more complex systems in response to the fall hazards:

- Warning lines;
- Controlled access zones; and
- Safety monitoring systems.

**3.2.5** More complex fall protection systems may be utilized in controlled work environments provided the following is established:

**3.2.5.1** Explanation in writing is submitted to the University Safety Representative as to why the use of one of the three conventional fall protection systems is infeasible or creates a greater hazard/harm to the individuals involved;

**3.2.5.2** Development of a written fall protection plan, which outlines all elements involved with the usage of warning lines, controlled access zones, or safety monitoring systems; and

**3.2.5.3** Orientation process, which communicates this information to the individuals involved with the project, prior to beginning work.

**3.2.6** The purpose of this extensive pre-planning is to ensure that the most effective and appropriate fall protection systems are used whenever possible. It is also designed to ensure that those individuals involved with the usage of warning lines, controlled access zones, and safety monitoring systems truly understand the detail and organization required. Finally, the pre-planning will also highlight who is permitted (due in part to thorough training and communication) to work with these systems.

**3.2.7** Prior to the start of work, contractors/suppliers involved with elevated work shall meet with the University Safety Representative to review the scope of work, especially as it pertains to fall protection requirements and needs. As part of the pre-construction safety meeting, an evaluation should be made of the possible fall hazards and effective safety responses to such.

**3.2.8** The procedures developed in response to the identified fall hazards shall be reviewed with all individuals exposed to the hazards. Feedback is encouraged so as to ensure that the most effective systems are utilized.

**3.2.9** Contractors/suppliers shall be responsible for ensuring that their employees using fall protection systems have been adequately trained. Fall protection training shall involve as much hands-on activity with the equipment as possible. Completion of the training shall be documented, and available upon request. Communication on the following shall be included in the training:

- Fall hazards associated with the elevated work;
- Elements of the fall protection systems utilized;
- Fall protection equipment used;
- Elements of a fall protection plan, if applicable; and
- Proper inspection techniques of fall protection equipment.

**3.2.10** As a means of ensuring the competency of the individuals using fall protection systems, the University Safety Representative shall be inspecting the work activities on a periodic basis. This inspection process shall highlight deficiencies or areas of concern before they contribute to a workplace accident. It is every employee's responsibility to utilize effective fall protection when required.

**3.2.11** An inspection process of fall protection systems shall be established. Some equipment requires documented inspections by its manufacturer on a routine basis. This equipment shall have evidence of the inspection and re-certification process on it. This information shall be reviewed before the

equipment is actually used. Individuals shall visually inspect the fall protection equipment before each use.

**3.2.12** Any fall protection equipment that is defective, damaged, or has been subjected to an impact shall be identified and removed from service immediately. Individuals shall not throw used or damaged fall protection equipment into trash containers, as the worn or damaged equipment could be unintentionally re-used.

**3.2.13** Aerial lifting devices, excluding scissors lifts require the use of full body harnesses and lanyards in any elevated position.

**3.2.14** Contractors/suppliers retain all responsibility for the effective implementation of fall protection programs as well as all other safety programs, regardless of any review by the University Safety Representative.

### **3.3 Scaffolding**

**3.3.1** Each part of the platform or scaffolding shall be capable of supporting at least 4 times its intended load. Footings shall be sound and rigid. Concrete blocks, bricks, barrels or similar items shall not be used for supports. All planking shall be overlapped to a minimum of 12 inches and secured to prevent movement.

**3.3.2** Scaffolds 3 sections or higher shall be tied to a solid support. All tube-and-coupler scaffold, tubular welded scaffold, etc. shall be secured against displacement every 26 feet vertically and every 30 feet horizontally. Where a solid support is not available, outriggers shall support the scaffold. Scaffolds more than four (4) sections high shall be guyed with rope or wire at each corner.

**3.3.3** All manufacturers' bracings, couplings, or stacking and vertical locking pins shall be installed on metal scaffolding.

**3.3.4** Guardrails and toe boards must be provided on all sides and ends of scaffolds 6 feet or more in height. If the scaffold platform is less than 45 inches wide, guardrails should be installed at heights of 4 feet or higher. Open-sided ends shall be guarded.

**3.3.5** Scaffolds shall be provided with an access ladder or equal safe access.

**3.3.6** Rolling scaffolds shall have their wheels locked when in use. No scaffold shall be moved while occupied, or while tools or equipment is on it.

**3.3.7** Contractors/suppliers must have a competent person involved with the erection, dismantling, and inspection of scaffolding.

**3.3.8** Contractors/suppliers shall inspect all elevated work platforms each day. Defects shall be corrected prior to use.

**3.3.9** Appropriate protection shall be provided for individuals working in the area of scaffolding, or for those who are exposed to overhead hazards while working on scaffolding.

**3.3.10** Notwithstanding the specific requirements listed herein, all scaffolds and scaffold installation processes must meet or exceed all manufacturers' requirements.

**3.3.11** A scaffold-tagging program must be used. All scaffolds shall have a scaffold tag attached, indicating the contractor's name, date of installation, duration of anticipated use, and status of scaffold safety requirements.

### **3.4 Use of Ladders**

**3.4.1** Metal ladders are prohibited on Contracting Authority projects.

**3.4.2** Job-made ladders shall be built for their intended use. Double-cleat ladders shall be used if more than 25 workers are using the ladder, or 2-way traffic is expected.

**3.4.3** Ladders shall not be used as platforms or scaffold planks.

**3.4.4** Ladders shall be kept free of grease and oil. Personnel going up or down shall face toward the ladder and grip the side rails with both hands. Tools or other objects shall be hoisted up as necessary, or carried in a tool pouch and not carried by hand up or down the ladder.

**3.4.5** Extension and straight ladders shall be tied off at the top and/or bottom when in use. Until secured, a second person shall be used to keep the ladder from slipping. Only one person shall be allowed on a ladder at a time.

**3.4.6** Ladders shall not block doorways, passages, etc. unless the area is barricaded. Warning signs shall be posted, or a spotter shall be involved.

**3.4.7** When using ladders in front of doors or doorways, the doorway shall be barricaded.

**3.4.8** Extension ladders must be set at a 1 to 4 slope.

**3.4.9** Stepladders shall not be used as a leaning ladder. The top step or the back braces must not be used as a step or a seat.

**3.4.10** Damaged ladders shall be taken out of service. Ladders shall not be painted, except for stenciling for identification purposes. Ladders shall be inspected for defects prior to use.

**3.4.11** Ladders must be inspected on a periodic basis. Documentation of these inspections should be available at the job site.

### **3.5 Electrical Safety**

**3.5.1** For work involving the use or installation of electrical equipment or work on or in the proximity of equipment where exposure to electrical hazards exist, contractors/ suppliers shall observe and enforce the following rules.

**3.5.2** All electrical equipment, including main feeder lines, branch circuits, and grounding systems shall be installed in accordance with the National Electrical Code as a minimum requirement.

**3.5.3** A minimum of 3 feet of clearance should be kept when working around live grounded electrical parts. Concrete, brick, and tile walls are considered grounded.

**3.5.4** Cabinets or other forms of enclosures shall be used when live parts of 50 volts or greater are exposed. Entrances to rooms containing live parts shall be marked with warning signs. Covers shall be approved for boxes and fittings.

**3.5.5** Electrically powered portable hand tools shall be protected by a grounding conductor program. The metal parts of portable and/or plug connected equipment shall be protected through 3 wire cords and plugs.

**3.5.6** All 120 volt, single phase, 15 and 20 amp receptacle outlets on construction sites, which are not part of the permanent wiring, shall have GFCI protection. Portable or vehicle mounted two wire generators rated not more than 5 kW where conductors are insulated from the generator frame and all other grounded surfaces, need not have GFCI protection.

**3.5.7** GFCI protection is also required when cord sets, power tools, etc. are connected to permanent wiring during the construction process.

**3.5.8** GFCI is required with all extension cords. Cords shall be protected from sharp edges and corners. Cords shall not be spliced or taped.

**3.5.9** Extension cords and cables passing through the work area shall be elevated or covered for protection, and arranged to eliminate any tripping hazards. All cords should be checked for proper polarity.

**3.5.10** All electrically powered equipment, including motors, transformers, generators, welders, and other machinery, shall be properly grounded, insulated, and/or protected by a ground fault interruption device.

**3.5.11** Electrical equipment shall be periodically inspected and repaired as necessary. The electrical contractor shall inspect temporary power sources on a weekly basis. Results of these inspections will be documented, and available to The University Safety Representative.

**3.5.12** Controls that must be deactivated during the course of work shall be tagged accordingly. De-energized equipment and circuits shall be rendered inoperative, and tagged at points where the equipment can be energized. Contractors/ suppliers shall provide a written lockout/tagout program specific to the work. See paragraph 3.6 of this program.

**3.5.13** Work on live electrical circuits or gear is not permitted. In rare instances when live work is required the Contactor shall prepare and submit an Energized Electrical Work Permit to the University Safety Representative. Contractor shall also comply with NFPA 70E if a permit is granted.

**3.5.14** During temporary wiring, light bulbs shall be protected from breakage. Metal case sockets shall be grounded. Do not suspend temporary lights by their electrical cords. GFCI is required when lighting is over 120 volts or is located in wet or conductive locations.

**3.5.15** When energized parts are exposed, barriers and guards shall be used to prevent the area involved in electrical work from becoming an access point.

**3.5.16** All subcontractor/supplier personnel authorized to work around live electrical systems shall be trained on safe work practices.

### **3.6 Lockout, Isolation, and Tagout of Equipment**

**3.6.1** Equipment that could present a hazard to personnel if accidentally activated during the performance of installation, repair, alteration, cleaning, or inspection work shall be made inoperable and free of stored energy and/or materials prior to the start of work. Such equipment shall be secured where possible by locking and tagging methods. Protocol and safety requirements established in Subpart K of the OSHA Construction Standards and 29 CFR

1910.147 as applicable shall be followed.

**3.6.1.1** When several individuals are working on locked out equipment, each shall attach his/her own tag and lock with his/her name, date, and company name.

**3.6.2** Where equipment is subject to unexpected movement such as rotating, turning, dropping, falling, rolling, sliding, etc., mechanical and/or structural constraints shall be applied to prevent such movement.

**3.6.3** The use of tags without locks shall be permitted only when the use of locks is physically impossible. Strict controls and supplemental protective measures such as physical separation, blocking, removing fuses, or positioning an attendant by the tagged equipment shall also be utilized.

**3.6.4** Where safety locks are used for locking out or isolating equipment, the lock shall be specially identified and easily recognized as a safety lock. All such locks shall be individually keyed with the key(s) in the control of the authorized individual. The use of a master key to open any safety locks is prohibited.

**3.6.5** Where more than one person is assigned to work on a piece of equipment or system, each person shall be responsible for applying their own individually keyed lock to each lockout device. When this is not possible, a group lockout system is acceptable, provided that a plan is developed and communicated to The University Safety Representative before lockout takes place.

**3.6.6** Contractors shall coordinate and comply with the Contracting Authority's established lockout/tagout procedure whenever a system is or needs to be de-energized. Depending on the location, as much as 10 day advance notice may be required.

### 3.7 Confined Space Entry

**3.7.1** Confined spaces, including tanks, manholes, vessels, containers, pits, bins, vaults, tunnels, shafts, trenches, ventilation ducts, or other enclosures where known or potential hazards may exist, shall not be entered without strictly adhering to a confined space entry policy, which meets the requirements of 29 CFR 1910.146.

**3.7.2** Prior to entering the confined space, the area shall be completely isolated to prevent the entry of any unauthorized individuals, hazardous substances, or materials which threaten the safety of the entrants and the stability of the space. All energy sources, including stored or residual energy, shall be isolated and/or blanked, and locked out.

**3.7.3** The atmosphere shall be monitored to determine if it is safe. Acceptable limits are:

- **Oxygen:** 19.5% lower – 22.0% upper;
- **Flammable Gas:** Not to exceed 10% of Lower Flammable Limit (LFL);
- **Toxic Contaminants:** Not to exceed the Permissible Exposure Level (PEL).

**3.7.4** Periodic atmospheric testing shall take place throughout the entry, especially after breaks or work interruptions during the entry. Continuous monitoring is preferable, and may be necessary in certain situations. Monitoring results shall be documented on the entry permit, with the initials of the individual conducting the testing.

**3.7.5** Contractors/suppliers shall complete a confined space entry permit before permitting workers to enter the space. This document shall be reviewed and approved via a signature by the entry supervisor. The contents of the completed permit shall be reviewed with the entrants before entering the space.

**3.7.6** The confined space shall have an attendant monitoring the activities within the space. This individual shall be in constant communication with the entrants inside the space. At all times, the attendant shall know who is inside the space. The attendant shall not have any other responsibilities than monitoring the space. He/she may not enter the space to perform rescue unless relieved of his/her duties as an attendant.

**3.7.7** Adequate ventilation shall be provided to establish and maintain a stable atmospheric environment. Ventilation systems shall be designed for use in confined spaces.

**3.7.8** Any space 5 feet or more in depth shall have a mechanical retrieval system. This system shall be designed for the retrieval of humans, and shall not be used for equipment purposes. Entrants inside the space shall wear full body harnesses, and shall be connected to the retrieval system.

**3.7.9** Rescue procedures shall be established prior to entry. The local fire department shall be contacted prior to entry if they will be the primary source of rescue.

**3.7.10** All individuals working in confined space must maintain the appropriate certification and carry documentation of this certification during confined space activity.

**3.7.11** Once the confined space work has been completed, the entry permit shall be canceled. A copy of the cancelled permit shall be given to the University Safety Representative.

### **3.8 Excavation and Trenching Activities**

**3.8.1** The Contractor, prior to starting excavation or trenching, shall notify any public authority having jurisdiction over the project and secure any required approval/permit.

**3.8.2** Prior to excavation, trenching or digging, a Contracting Authority digging permit shall be initiated by the Contractor and authorized by the Contracting Authority representative (PM or CM) for the purposes of locating underground utilities in the vicinity of work. The Contractor shall comply with the Contracting Authority's written procedures for underground and concealed utility identification, which shall be obtained through the University's Safety Representative or Contracting Authority representative.

**3.8.2.1** A new "digging permit" must be issued for each work operation within a given area. For example, a permit would be issued for excavating and grading for a sidewalk. A separate permit would be issued if a different crew would come later to form the walks and drive stakes into the ground.

**3.8.2.2** If utility markings are erased by traffic, rain, etc., the area must be re-marked by the Contractor before work can continue

**3.8.3** A competent person shall perform daily inspections of excavations. Inspections shall occur before the work begins, and after rain or other hazardous events that may affect the stability of the excavation. If evidence of possible cave-in or engulfment is apparent, all work in the excavation shall cease until the necessary precautions have been taken to protect the workers.

**3.8.4** Shoring systems, sloping of the ground or other equal measures (including trench boxes or sliding trench shields) shall be used on the walls and faces of all excavations 5 feet or more in depth when workers are exposed to the danger of moving ground. Shoring at depths less than 5 feet may be required if examination of the ground indicates the possibility of hazardous ground movement.

**3.8.5** Except in hard rock, excavations below the footings of foundations or retaining walls shall not be permitted, unless the wall is underpinned and steps have been taken to ensure stability of adjacent walls.

**3.8.6** Water shall not be permitted to accumulate in an excavation, especially when individuals are working in the area.

**3.8.7** Support systems shall be planned and designed by a qualified person (generally a professional engineer) when the excavation is in excess of 20 feet deep, adjacent to structures, or subject to water or vibration.

**3.8.8** Excavations 4 feet or more in depth and occupied by personnel shall be provided with ladders or other effective means of exit. These access points must be located within 25 feet of the area in which the individuals are working.

**3.8.9** Adequate barrier protection for the excavation(s) shall be provided. Barriers shall be easily visible, day or night.

**3.8.10** When an atmospheric condition may exist and/or develop in an excavation, atmospheric monitoring of the excavation shall take place before and during entry. Ventilation shall be provided when the monitoring indicates the necessity of such.

**3.8.11** Excavated earth or other materials shall be stored more than 2 feet from the excavation.

**3.8.12** At no time shall equipment be operated within 2 feet of any excavation. If it is necessary to operate heavy equipment on a level above and near an excavation, the sides of the excavation shall be sheet-piled, shored, and braced as necessary to resist additional pressure. Barricades or stop logs shall be used around an excavation when mobile equipment is used near an excavation.

**3.8.13** Backfilling and removal of trench supports shall progress from the bottom of the trench. Ropes shall be used to pull out the jacks after all workers have cleared the trench.

### **3.9 Use of Mobile/Heavy Equipment**

**3.9.1** The design capacity of any piece of equipment shall not be exceeded, nor shall the equipment be modified in any manner that alters the original safety or capacity factor.

**3.9.2** Mobile equipment shall be fitted with suitable alarms and motion sensing devices, including backup alarms, where required.

**3.9.3** Equipment shall be inspected by the contractor/supplier using and/or controlling such equipment prior to its use on the job, and periodically thereafter to ensure that it is in safe working order. Inspections shall be documented, and the results of such should be kept on-site. Special attention shall be given to such items as cables, hoses, guards, brooms, blocks, hooks, and safety devices. Defective equipment shall be removed from service immediately, and a warning tag attached. Equipment with exposed gears, belts, couplings, etc. must be provided with proper guards.

**3.9.4** A safety observer shall be assigned to watch the movement of heavy mobile equipment where such movement may cause a hazard to other personnel, or where equipment could hit overhead lines or structures. The observer shall also ensure that people are kept out of the way or path of suspended loads, and clear of the mobile equipment.

**3.9.5** Winch trucks shall not have a load suspended from the hook while traveling. The load shall be secured on the bed of the truck. The hook of a winch truck must be tied down or secured in some manner, and not allowed to dangle freely when traveling.

**3.9.6** Under no circumstances, shall a crane or load come within 12 feet of any energized overhead power line, or other critical structure.

**3.9.7** Natural and synthetic fiber rope made of materials such as manila, nylon, polyester, or polypropylene shall not be used as slings on mobile equipment.

**3.9.8** Only trained, qualified, and authorized personnel shall operate mobile equipment. Contractors shall not operate equipment owned or operated by another contractor unless authorization is given in advance.

**3.9.9** Cranes with a suspended load shall not be left unattended for any period of time.

**3.9.10** No one should walk, stand, or work under suspended loads or equipment.

**3.9.11** Contractors/suppliers shall be required to attend any scheduled pre-construction meetings focusing on crane signaling and other specific safety issues, whenever its works involves or is associated with cranes or whenever the University Safety Representative deems it necessary.

**3.9.12** Working or riding on crane loads suspended, lowered, or hoisted is prohibited except as permitted by 29 CFR 1926.550(g)(4), focusing on crane suspended personnel platforms.

### **3.10 Welding and Cutting**

**3.10.1** At the beginning of the Project the Contractor shall inform the Contracting Authority of its intent to use blowtorches, welding apparatus or similar exposed flame and sparking devices. The Contractor shall notify the Contracting Authority at least 72 hours before the start of non-routine or nonrecurring hot-work. Use of sources of fire, flame or sparks and flammable materials shall be kept to an absolute minimum.

**3.10.1.1** When construction operations require welding, cutting or burning, the Contractor shall obtain a Permit for Welding and Cutting Operations from the Contracting Authority's Department of Public Safety, Fire Prevention Unit through a representative of the Contracting Authority (PM or CM).

**3.10.2** The Contractor shall provide a 30 minute fire watch after the work is completed, including during any breaks. Fire watchers shall have a fire extinguisher readily available, shall be trained in the use of fire extinguishers, and shall be familiar with facilities and procedures for sounding an alarm in the event of a fire. In addition to any permanently placed units, a minimum of one 20 lb A, B, C, dry chemical extinguisher shall be immediately available in the work area.

**3.10.3** Adequate ventilation shall be provided to maintain acceptable atmospheric conditions when welding, cutting, grinding, or heating. Where adequate ventilation cannot be maintained, respirators or air hoods shall be used.

**3.10.4** Compressed gas cylinders shall have their valve caps in place when transported, moved, or stored, unless they are on a welding truck or cart equipped with racks which securely hold them in place.

**3.10.5** Compressed gas cylinders shall be secured in an upright position at all times. Cylinder valves shall be closed when work is interrupted or finished, and when cylinders are empty or being moved.

**3.10.6** When cylinders are lifted by hoisting equipment, a basket, cradle, or a similar handling device shall be used. Electromagnets, hooks, rope, or slings shall not be used to lift cylinders, and cylinders shall not be lifted by their caps.

**3.10.7** Oxygen cylinders shall not be stored close to cylinders of acetylene or other fuel gases, and they must be kept clear of fuel oils, grease, etc. Cylinders stored in the open shall be protected from accumulation of ice and snow, and shielded from direct sun when temperatures are high. Compressed gas cylinders shall be stored so as to avoid possible destruction or obliteration of labels or other means of identifying the contents. Oil or other hydrocarbon contamination shall be avoided on all cylinder gauge connections and regulator devices.

**3.10.8** Electric arc welding machines shall be disconnected when moved, and turned off when not in use. They shall be disconnected from the primary supply at the end of the workday.

**3.10.9** Welding cables shall be positioned so they will not be damaged or present a trip hazard.

**3.10.10** The ground return electrode shall be attached directly to the work to prevent current flow through structures and equipment. All welding cables and connections shall be first quality industrial material, and shall be in good repair.

**3.10.11** Welding equipment powered by hydrocarbon fuels shall not be used unless proper exhaust venting is provided.

### **3.11 Fire Prevention**

**3.11.1** The contractors'/suppliers' emergency response procedures shall contain provisions for handling a fire or explosion. Contractors/suppliers shall know the location of and shall be familiar with the fire control equipment. The phone number of the nearest local fire department shall be readily accessible.

**3.11.2** An adequate number of fire extinguishers of the proper type for the materials exposed and the work performed shall be placed in accessible locations based on the work taking place. Individuals who may use these devices shall be trained in their use. Contractors/suppliers should provide their own extinguishers, especially for activities that require them in the direct vicinity of their work.

**3.11.3** Extinguishers shall be checked monthly for usage and service condition, and shall be in good operating conditions at all times.

**3.11.4** Equipment and materials shall be stored so as not to block access to fire control and emergency equipment such as fire hydrants, extinguishers, hose racks, alarm boxes, safety showers, self-contained breathing apparatus, etc. A minimum of 15 feet of clearance shall be maintained around fire hydrants. Likewise, materials and equipment shall not block or compromise the integrity of smoke/fire walls, doors and exits.

**3.11.5** Only approved containers shall be used for the storage, transport, and use of flammable substances. Portable containers used for transporting and transferring gasoline or other flammable liquids shall be approved safety cans equipped with flash arrestors and self-closing lids. All such containers shall be clearly labeled as to contents. When transferring flammable liquids from one container to another, a bonding wire shall connect the containers.

**3.11.6** Areas around welding or flame cutting operations shall be kept free of flammable or combustible materials. Welding, cutting, or any ignition source is not permitted within 50 feet of any refueling, spray painting, or storage of flammable liquids.

**3.11.7** For mixing and spray application of flammable and combustible materials, only equipment, which is approved for that specific use, shall be employed.

**3.11.8** Adequate ventilation to prevent an accumulation of flammable vapors shall be provided where solvents or volatile cleaning agents are used. Extra precaution is needed when solvents are used in the presence of hot surfaces, or where high heat and ultra-violet rays from welding may present an additional hazard from toxic vapors.

**3.11.9** Fuel fired heating devices shall not be used in confined or unventilated spaces.

**3.11.10** Open flame heating sources shall not be used in areas where combustibles are stored.

**3.11.11** No more than 25 gallons of flammable or combustible liquid shall be stored in a room outside of an approved storage cabinet. A maximum of 60 gallons of flammable liquid or 120 gallons of combustible liquid shall be stored in a storage cabinet. Quantities in excess shall be stored in a storage room.

**3.11.12** Contractors/suppliers shall abide by no smoking policies on Contracting Authority owned or leased Project sites.

**3.11.13** An individual designated as a “fire watch” shall be provided by the contractor/ supplier if required as a result of a specific work activity.

**3.11.14** It is the responsibility of each individual to become familiar with the location of the exits that could be used in case of a fire or other evacuation emergencies.

### **3.12 Use of Vehicles**

**3.12.1** Access to the job site shall be according to local regulations. Adequate traffic control signs shall be enforced. Access roadways shall be clearly marked, and shall be used.

**3.12.2** Contractor/supplier vehicles shall be kept in safe operating condition. Contractor/supplier personnel shall comply with local and site regulations regarding the operation of such vehicles.

**3.12.3** Contractors/suppliers shall not use or operate vehicles, mobile equipment, or employee vehicles owned or operated by other contractors without the specific authorization from the other contractor.

**3.12.4** Contractors/suppliers shall park in designated areas. They shall not park on roadways or service drives, or near doorways, loading bays, dumpster boxes, or access to fire hydrants or hoses. Subcontractor/supplier personnel shall always check carefully before backing up.

**3.12.5** Fuel tanks on vehicles shall not be filled while the engine is running. The driver shall stay with the vehicle.

**3.12.6** Vehicle accidents on the job site shall be reported to the University Safety Representative immediately.

**3.12.7** Material hanging over the sides or ends of a truck shall be flagged.

**3.12.8** Trucks hauling waste materials shall be equipped with an adequate rear closure and/or covering to prevent material from dropping or blowing onto the roadway.

**3.12.9** Transporting employees on equipment not designed for that specific purpose is prohibited. This includes riding while hanging onto the exterior of a vehicle or mobile equipment. No one is permitted to ride in the beds of trucks. All cargo shall be secured.

**3.12.10** Filling a gasoline container inside a vehicle or in a pickup truck bed is prohibited.

### **3.13 Personal Conduct**

**3.13.1** Threatening, intimidating, coercive, or other unsafe or disruptive behavior such as fighting and horseplay is prohibited on campus.

**3.13.2** Sexual harassment of any kind is strictly prohibited.

**3.13.3** Contractors/suppliers shall confine their activities to areas expressly authorized to them for such use. Activities include: entering the work site premises, parking vehicles, taking breaks, eating, drinking, and using lavatory facilities. Under no circumstances shall contractor/supplier personnel be allowed to enter, walk through, or loiter in operating or other areas not authorized for their use or entry.

## **4.0 HEALTH REQUIREMENTS**

### **4.1 Hazardous/Toxic Substances and Environmental Controls**

**4.1.1** Contractors/suppliers shall develop and maintain a written Hazard Communication Program as required by 29 CFR 1926.59. The written program shall be submitted to the University Safety Representative prior to beginning work. A copy of the program must be in the possession of the contractor while on site. Contractor/ supplier employees and appropriate regulatory officials shall have access to the program.

**4.1.2** The written program requirements include a current list of hazardous chemicals present at the site; a labeling system for containers of chemicals at the work site and containers of chemicals being shipped to other work sites; and Material Safety Data Sheets (MSDS).

**4.1.3** Contractors/suppliers shall submit copies of all relevant MSDS's to the University Safety Representative before the materials are brought on site.

**4.1.4** Material Safety Data Sheets (MSDS) shall be requested / obtained from the vendor for all hazardous chemicals or materials brought on site by contractors.

**4.1.5** Container labels or warning systems for hazardous chemicals/materials shall include the name of the chemical/material the hazard is associated with, its use and exposure, and any necessary precautions. All containers, even containers used to transfer materials or chemicals, brought on site must be properly labeled.

**4.1.6** Contact or exposure to hazardous chemicals/materials exceeding Permissible Exposure Levels (PEL) shall be avoided, preferably through the implementation of engineering or administrative controls. Where such controls are infeasible, appropriate personal protective equipment such as chemical resistant clothing, gloves, aprons, goggles and respirators shall be used. Unnecessary contact with any hazardous materials shall be avoided.

**4.1.7** The University Safety Representative shall be notified immediately of a spill or release of a hazardous material. The University Safety Representative shall inform the Contracting Authority's department of Environmental Health and Safety of the occurrence.

**4.1.8** Hazardous and/or toxic materials such as solvents, coatings, or thinners shall be stored in approved containers. Original shipping containers that satisfy local safety regulations are considered approved containers for transporting and storing these materials. Small quantities of hazardous liquids such as gasoline, diesel fuels and solvents shall be stored in a safety container with a flame arrestor and a self-closing lid. All hazardous or toxic materials shall be returned to the designated storage area at the end of each shift.

**4.1.9** Contractors/suppliers shall notify the University Safety Representative prior to bringing large quantities of hazardous/toxic substances onto the Project site.

**4.1.10** Contractors/suppliers shall train its employees about the contractors'/suppliers' obligations under the law, and hazards and protective measures of chemicals to which they may be exposed. Contractors/suppliers shall train their employees on the meaning of any labels, symbols, colors or other codes that might be used at the worksite by the contractor, the University Safety Representative, or other contractors/suppliers, to warn of particular worksite hazards. All such training shall be documented and retained by the contractor/supplier, with a copy provided to the University Safety Representative upon request.

**4.1.11** Contractors whose work that creates odors, dust, vapors or fumes shall provide an adequate ventilation system to prevent migration into occupied space. This may necessitate "off hours" work as directed by the Contracting Authority's representative (PM or CM) in consultation with the University Safety Representative.

**4.1.12** All equipment with combustion engines used indoors shall be fueled with LP gas, exhausted to the exterior, or be fitted with oxy-cat mufflers.

**4.1.13** The Contractor shall notify the University Safety Representative before any chemical/material creating noxious or toxic fumes is used in the Work.

**4.1.14** All hazardous materials brought on site must be removed in a safe and proper manner immediately upon completion of their intended use.

**4.1.15** The Contractor, with the assistance of representatives of the Contracting Authority, shall identify all air intake louvers on buildings within 200 feet of the Work and provide a temporary filter over the louvers to prevent airborne particles from entering the HVAC system.

**4.1.16** Construction Work in an area that must be kept in operation shall include appropriate containment barrier(s) to control dust, dirt, vapors, odors and fumes. Contractors shall submit and obtain Contracting Authority approval of a plan indicating the location and type of barrier(s) and proposed method(s) to control dust, dirt, vapors, odors and fumes. The Contractor shall maintain safe occupant flow around the work area.

**4.1.16.1** Containment barriers shall be maintained for the duration of the dust, dirt, vapor, odor and fume producing work, and shall be inspected daily. Contractor shall promptly repair tears, holes or other violated areas of the barrier.

**4.1.16.2** The contained area must continuously maintain a negative pressure of no less than 0.005 inches of water relative to all adjacent areas.

**4.1.16.3** A differential pressure monitoring device must be installed on the outside of the construction area to continuously measure and display the differential pressure.

**4.1.16.4** Cover all HVAC grilles in the work area with polyethylene sheeting to prevent entrainment into the building.

**4.1.17** Should the Contractor fail to provide appropriate containment barriers and/or should the occupants experience adverse health effects outside the barrier, the Contracting Authority reserves the right to issue a stop work order until the condition has been corrected. Costs incurred as a result of the stop work order shall be paid by the responsible Contractor.

## **4.2 Respiratory Protection**

**4.2.1** Contractors/suppliers shall protect personnel from exposures to dust, fumes, vapors, mists or gases in excess of Permissible Exposure Limits (PEL) or Short Term Exposure Limits (STEL), as referenced by the Occupational Safety and Health Administration (OSHA), American Conference of Governmental and Industrial Hygienist (ACGIH).

**4.2.2** Where exposure is unavoidable, and engineering or administrative controls such as isolation of the hazardous materials, ventilation or limiting exposure periods may not provide adequate protection, use of approved respirators shall be required.

**4.2.3** Personnel shall wear appropriate respiratory protection when applying toxic or hazardous materials inside tanks, rooms, or other areas where adequate ventilation does not exist.

**4.2.4** When individuals are sandblasting, cutting or grinding concrete, or performing other work with potential exposure to silica, appropriate respiratory protection, including but not limited to air purifying respirators shall be worn. Contractors shall survey the work activity to determine the appropriate means of protection, and shall attempt to engineer out the hazards whenever possible.

**4.2.5** Personnel required to wear respiratory protection shall be trained, fit tested, and medically qualified to wear such devices.

**4.2.6** Contractors/suppliers shall implement a respiratory program, which includes proper maintenance and care of the respirators and any related equipment.

## **4.3 Medical Surveillance**

**4.3.1** Individuals, depending upon the type of work and qualifications, may be required to be medically qualified prior to doing certain types of work, or where exposure to certain hazardous materials exists.

**4.3.2** Contractors/suppliers shall provide post exposure surveillance when deemed necessary.

## **4.4 Hearing Conservation and Noise Control**

**4.4.1** Hearing protection is required in all high noise level areas of the project. Hearing protection may also be required where excess noise exposure exists even on a temporary basis. This would include situations where equipment such as jackhammers, saws, drills, grinders, or heavy equipment is being utilized, and the 90-decibel limit is exceeded.

**4.4.2** Contractors shall implement the necessary hearing protection in response to these noise hazards.

**4.4.3** Areas where noise levels exceed the 90-decibel standard, even on a temporary basis, shall require adequate hearing protection. This protection could include muffs, plugs, or a combination thereof. Individuals required to wear such hearing protection shall be properly fitted and trained

**4.4.4** Where routine exposure to noise in excess of the 85 TWA (Time Weighted Average, 8-hour Workday) decibel level occurs, the subcontractor personnel are subject to the provisions of the OSHA Hearing Conservation Standard. This includes audiometric testing, employee training and any other applicable requirements

**4.4.5** Work that creates excessive noise may need to be performed “off hours” as directed by the Contracting Authority’s representative (PM or CM) in consultation with the University Safety Representative.

## **4.5 Asbestos, Lead and other Hazardous Material Abatement**

**4.5.1** If asbestos or lead or other Hazardous Material is suspected or discovered on site, the Contracting Authority and the University Safety Representative shall be notified immediately. All work in and around the suspected materials shall cease until a determination is made, and any necessary abatement is completed by the Contracting Authority.

**4.5.2** The Contracting Authority shall retain the services of a licensed abatement contractor to survey and assess the condition. The Contracting Authority shall be responsible for any required abatement and off-site disposal. The Contractor may resume Work in the affected area upon notification from the Contracting Authority or his representative

## **5.0 ENVIRONMENTAL REQUIREMENTS**

### **5.1 Protection of the Environment**

**5.1.1** Contractors/suppliers shall be knowledgeable of and comply with all environmental laws, rules, and regulations for materials, including hazardous substances or wastes, under its control. Contractors/suppliers shall not dump, release, or otherwise discharge or dispose of any such materials without the express authorization of the University Safety Representative.

**5.1.2** The Contracting Authority policy includes procedures relating to emissions by air, by liquid-carried wastes, by solid and hazardous waste disposal, or by sonic, radioactive, or electromagnetic radiation. Equipment specifications, work practices standards, and design principles are adopted by the Contracting Authority to effectuate this safety policy. Contractors hired by the Contracting Authority shall be responsible for following and implementing practices designed to minimize risk and thereby avoid harmful exposure to chemicals, biological, or radiological substances, and physical or mechanical hazards.

**5.1.3** Any release of a hazardous substance to the environment, whether air, water, or ground, must be reported to the Contracting Authority immediately. When releases resulting from Contractor actions occur, the contractor/supplier shall take proper precautionary measures to counter any known environmental or health hazards associated with such a release. These would include remedial procedures such as spill control and containment, and notification to the proper authorities.

### **5.2 Air Pollution**

**5.2.1** Contractors/suppliers, depending on the type and quantity of materials, may be required to have an emergency response plan for any releases of materials to the atmosphere. Contractors/suppliers shall also be aware of local ordinances affecting air pollution.

**5.2.2** Diesel powered equipment shall not idle unnecessarily for more than 5 minutes or be operated near building air intakes unless proper engineering controls are implemented to prevent the intake of fumes and odors.

### **5.3 Water Pollution**

**5.3.1** Where materials under contractor/supplier control could be discharged to the ground or to the water, contractors/suppliers shall be aware of and comply with local sewer ordinances or other requirements which may prohibit the discharge of certain materials into the sewer system.

**5.3.2** Contractors/suppliers shall obtain and make available for inspection any necessary permits for materials under his control. These permits include, but are not limited to, Public Owned Treatment Works (POTW) contracts, Storm Water Control Permits, and Spill Prevention Control & Countermeasure (SPCC) plans.

### **5.4 Solid Waste**

**5.4.1** Where contractors'/suppliers' work involves solid waste materials, the contractors/suppliers shall train personnel in the procedures for handling such solid waste.

**5.4.2** Contractors/suppliers shall maintain manifest records and reporting systems on all solid waste disposal under the contractors'/suppliers' control per federal, state and local laws.

**5.4.3** Contractors/suppliers shall have contingency and emergency plans for solid wastes under the contractors'/suppliers' control.

**5.4.4** Written communication with the University Safety Representative shall take place prior to offsite disposal of any solid waste materials or hazardous materials under the contractors'/suppliers' control. Only approved licensed landfills shall be used for disposal.

## **6.0 SECURITY**

### **6.1 General Rules**

**6.1.1** All visitors to the project must first sign-in at the Contractor's trailers/offices upon entering the site.

**6.1.2** Visitors must be escorted at all times on the jobsite and wear appropriate personal protective equipment supplied by the Contractor.

**6.1.3** Loitering on the job site before or after the assigned shift is prohibited.

**6.1.4** Contractors who request and are assigned keys will be required to obtain a UC ID. Keys and ID's are to be returned to the Contracting Authority at the completion of the project.

### **6.2 Parking and Deliveries**

**6.2.1** All construction access will be through entrances designated by the Contracting Authority.

**6.2.2** Employees must park in designated parking areas. Parking on the construction site is not permitted.

**6.2.3** Construction related deliveries shall be scheduled and approved in advance by the University Safety Representative if they must take place in high traffic areas and during high traffic times (M-F 7:30am - 8:00 am).

**6.2.4** A walking “spotter” wearing high visibility safety apparel shall accompany the movement of materials and/or equipment outside the project limits.

**6.2.5** No Construction deliveries are permitted during the first 2 days of each semester between the hours of 7am - 4pm and on “Commencement” weekends.

## **6.2 Construction Barriers**

**6.3.1** It is the responsibility of the contractors/suppliers to provide a safe and secure work site. A secure work site shall be defined as one in which casual non-construction traffic (vehicular and pedestrian) is excluded from either entering into or passing through the site. It shall also include the effective securing of equipment, storage of materials, and adequate lighting of the site.

**6.3.2** Safety and warning signage shall be constructed and posted in accordance with ANSI Z35.1, latest edition.

**6.3.3** At a minimum, the site shall be completely enclosed by an 8-foot barrier (painted plywood wall or chain link fence). The integrity of said barrier shall be maintained so as to prohibit squeezing through, crawling under, or otherwise easily circumventing the barricade.

**6.3.4** Project gates must be kept closed at all times, and locked during non-working hours. Any campus police report indicating a violation of this requirement shall result in a \$300.00 back charge to the Contractor.

**6.3.5** Any Contractor that moves or damages the construction barrier shall restore it to its former location and condition.

## **6.4 Contractor Responsibilities**

**6.4.1** Contractors must provide a list of supervisory personnel, including off-duty phone or pager numbers, to the Contracting Authority representative.

**6.4.2** Contractors must adequately identify and secure tools and equipment to prevent damage, vandalism, theft, or unauthorized use.

**6.4.3** The Contracting Authority assumes no responsibility for damage, fire, or theft of contractor tools, vehicles, and/or materials.