SECTION 01 35 23 –CONTRACTOR'S SAFETY REQUIREMENTS

PART 1 - GENERAL

1.1 INTRODUCTION AND OBJECTIVES

A. The Contractor must ensure the safety of all persons at and adjacent to the Project Site, the Work, and other property at or adjacent to the Site. The Contractor also must ensure that all persons working on the Project Site are aware of the Contractor's responsibility in ensuring safe working conditions.

B. The Contractor is responsible for complying with all construction safety laws, regulations, codes and standards or any other laws governing safety matters including, but not limited to, Occupational Safety & Health Administration (OSHA), Maryland Occupational Safety and Health (MOSH), ANSI/ASSE, NFPA, NEC, AWS, and IEC regulations, and Manufacturer's Safety Instructions or Recommendations. The Contractor must take all prudent steps to ensure that the Contractor, and every Subcontractor or Sub-subcontractor, does not allow or require any worker employed in the performance of the Contract to work in surroundings or under working conditions which are unsanitary, hazardous, or dangerous to his/her health or safety.

C. The Contractor must be familiar with all current safety and health laws, regulations, codes and standards or any other laws pertaining to the Work and must follow and enforce such legal requirements. The Contractor must take all prudent steps to ensure that every Subcontractor or Sub-subcontractor is familiar with all current safety and health laws, regulations, codes and standards or any other laws pertaining to its portion of the Work and follows and enforces such legal requirements. The Contractor must keep at the Site at all times, and have available, copies of all relevant construction safety and health laws, regulations, codes and standards.

D. The Contractor must provide the safety training and direction required to handle the specific safety requirements particular to the Work. The Contractor must instruct its site personnel, and must ensure that every Subcontractor or Sub-subcontractor instructs its site personnel in the recognition and avoidance of unsafe conditions and the regulations applicable to his work environment to control or eliminate any hazards or other exposure to illness or injury.

1.2 SCOPE, RELATED DOCUMENTS, AND SAFETY LAWS

A. The Contractor's safety requirements include those requirements set forth in this section, and in the Contract Documents, as well as those requirements imposed by OSHA, MOSH, and all other applicable safety laws, regulations, codes and standards (collectively referred to as the "Contractor's Safety Requirements").

B. In the event of any conflict between this section and any safety laws, regulations, codes and standards including, but not limited to, OSHA and MOSH requirements, the stricter requirement shall apply. However, in all cases, the Contractor's full compliance with all applicable safety laws, regulations, codes and standards including, but not limited to, ANSI, OSHA and MOSH requirements is required.

C. The Contractor is responsible for initiating, maintaining, and supervising all safety precautions in connection with the performance of the Contract. Neither the Owner nor the Architect/Engineer have control over, or charge of, or are responsible for construction means, methods, techniques, sequences or procedures, or for safety precautions and programs in connection with the Work, since these are solely the Contractor's responsibility as provided in the Contract Documents.

1.3 SPECIFIC CONTRACTOR SAFETY RESPONSIBILITIES

The Contractor must plan for the overall safety and health on the Project. As part of the planning process, the Contractor must develop a Project-specific Safety Plan to include Job Safety Analyses (JSAs) for all hazardous tasks. The Contractor must establish regular safety and health planning meetings with all Subcontractors and Sub-subcontractors for the purpose of coordinating Project activities. The Contractor must ensure that all persons at the Project Site are adequately trained and competent to carry out the work assigned to them. The Contractor must ensure that all persons at the Project Site are aware of any known hazards likely to occur in the course of the Work and to ensure that they are instructed in the safety procedures to be followed to avoid these hazards. **All workers must receive a safety orientation** (Reference ANSI/ASSE A10.1).

A) General Safety and Health Provisions (CFR 29 OSHA 1926.20)

The Contractor must designate a Safety Supervisor (also known as a Safety Officer) with minimum 30 hours of OSHA construction outreach certified safety training. The Safety Supervisor must control and ensure safety on the project site, and maintain documentation of the safety program including all record keeping and reporting. The Safety Supervisor must also be trained on how to manage safety on the construction site including how to give a toolbox talk and how to respond to, investigate, and report an accident.

The Project Site must be secured and protected. Only authorized personnel must be allowed on Site. The Contractor must ensure that the Site is kept clean and safe daily. All adjacent properties to the Project Site must be protected. All visitors to the Project Site must wear appropriate protective clothing including work boots, safety vests and hard hats.

The Contractor must ensure that each employee of the Contractor or any Subcontractor or Sub-subcontractor at the Project Site is trained: in the recognition and avoidance of unsafe conditions, and regarding the regulations applicable to his/her work environment to control or eliminate any hazards or other exposure to illness or injury.

The Contractor must post the name, telephone number, and address of the Safety Supervisor for the Site at prominent and visible locations.

The Contractor must ensure that each employee of the Contractor or any Subcontractor or Sub-subcontractor at the Project Site is trained to immediately notify the Safety Supervisor in the event of an emergency or unsafe site condition. In case of a critical injury or a fatality, the Safety Supervisor must immediately call 911 and then notify MOSH, the Owner's On-site Representative, and County Project Manager within one hour of the incident.

The Contractor must provide adequate containers for the collection and separation of waste, trash, oily rage, used rags, and other refuse. Containers used for garbage and other oily, flammable, or hazardous wastes, such as caustics, acids, harmful dusts, etc. must be equipped with covers. Garbage and other waste must be disposed of at frequent and regular intervals.

The Contractor must be responsible for the removal of all waste from the Project Site. Waste must be collected in suitable containers. The Contractor must notify the Owner of any unanticipated hazardous wastes encountered at the Project Site; all hazardous wastes must be appropriately disposed of by the Contractor in accordance with all governing regulations including but not limited to Maryland Department of Environment (MDE) and Montgomery County Department of Environmental Protection (DEP) regulations.

B) Occupational Health and Environmental Controls (CFR 29 OSHA 1926.51)

The Contractor must ensure that plans are codified in the Project-specific Safety Plan, prior to commencement of the Project, for prompt medical attention in case of serious injury. If an infirmary, clinic, hospital, or physician is not reasonably accessible in terms of time and distance to the Site for the

treatment of injured employees, the Contractor must ensure the Site presence of a person with a valid certificate in first-aid training from the American Red Cross, or equivalent training that can be verified by documentary evidence, to render first aid. First aid supplies must be easily accessible when required.

The Contractor must ensure that protection against excessive noise exposure is provided when the Site sound levels (continuous, intermittent and impulse) exceed 85 dBA and above. Where possible, noise must be controlled at the source through the use of engineering and administrative controls to minimize the need for personal protective equipment (Reference: ANSI/ASSE A10.46 Appendix 1).

The Contractor must ensure that site personnel are not exposed to inhalation, ingestion, skin absorption, or contact with any material or substance at a concentration above those specified in the current edition of "Threshold Limit Values of Airborne Contaminants" of the American Conference of Governmental Industrial Hygienists.

The Contractor must ensure that construction areas, ramps, runways, corridors, offices, shops, and storage areas are lighted to not less than the minimum illumination intensities listed in Table D-3 of Part D, CFR 29 OSHA 1926 for Construction while any work is in progress.

The Contractor must ensure that, whenever hazardous substances such as dusts, fumes, mists, vapors, or gases exist or are produced in the course of the Work, their concentrations do not exceed the limits specified in the latest edition of ACGIH "Threshold Limit Values of Airborne Contaminants".

For compliance with the airborne toxin limits as described above; the Contractor must implement administrative or engineering controls first whenever possible. (Part D, CFR 29 OSHA 1926.55(b)). If administrative or engineering controls cannot adequately reduce exposures, the Contractor must use respirators in compliance with a full respiratory protection program. The respiratory protection program administrator must be designated and is responsible for the implementation of the program. (29 CFR 1926.55(b) and .103 (referencing 1910.134)).

When ventilation is used as an engineering control method, the Contractor must install and operate the system according to the requirements of CFR 29 OSHA 1926 for Construction, mechanical codes, and any other applicable law, regulation, code or standard.

When local exhaust ventilation is used, the Contractor must design the ventilation to prevent dispersion into the air of dusts, fumes, mists, vapors, and gases in concentrations causing harmful exposure. Such exhaust systems must be so designed that dusts, fumes, mists, vapors, or gases are not drawn through the work area of persons at the Project Site.

C) Personal Protective & Life Safety Equipment (CFR 29 OSHA 1926.95)

The Contractor must ensure that all persons at the Project Site wear appropriate clothing and personal protective equipment (PPE) for the type of work being performed. The Contractor must ensure all persons at the Project Site are trained in the appropriate wear, use and maintenance of their PPE. The Contractor must ensure that no alcoholic beverages, narcotics or other dangerous drugs are used or allowed on the Project Site and must ensure that no smoking is permitted in any building(s), including the building(s) under construction. The Contractor must post NO SMOKING signs at appropriate locations to enforce this requirement.

The Contractor must be provide, use, and maintain in a sanitary and reliable condition protective equipment, including personal protective equipment for eyes, face, head, and extremities, protective clothing, respiratory devices, and protective shields and barriers, wherever it is necessary by reason of hazards of processes or environment, chemical hazards, radiological hazards, or mechanical irritants encountered in a manner capable of causing injury or impairment in the function of any part of the body through absorption, inhalation or physical contact.

Where employees provide their own protective equipment, the Contractor must ensure its adequacy

including proper maintenance, and sanitation of such equipment.

D) Fire Protection and Prevention (CFR 29 OSHA 1926.150)

The Contractor must develop a fire protection program to be followed throughout all phases of the Work. The Contractor must provide for firefighting equipment as required by any work hazard and, as any fire hazard occurs, there must be no delay in providing the necessary equipment. Access to all available firefighting equipment must be maintained at all times.

The Contractor must install electrical wiring and equipment for light, heat, or power purposes in compliance with the requirements of the Contract.

Internal combustion engine powered equipment must be so located that the exhausts are well away from combustible materials. When the exhausts are piped to outside the building under construction, a clearance of at least 6 inches must be maintained between such piping and combustible material

The Contractor must ensure that appropriate fire prevention measures are taken while working at the Project Site. The Contractor must take all necessary precautions to prevent accidental activation of fire alarms. Combustible material must not be placed near heaters. Welding and cutting are only permitted within easy reach of a suitably rated and charged fire extinguisher. Care must be taken to prevent sparks from falling on combustible material, workers or others near the site. Smoking is prohibited in all buildings, including buildings under construction and portable site offices. The Contractor must ensure that matches and smoking materials are properly extinguished when smoking in designated areas.

Smoking must be prohibited at or in the vicinity of operations which constitute a fire hazard, and must be conspicuously posted: "No Smoking or Open Flame."

E) Signs, Signals and Barricades (CFR 29 OSHA 1926.200)

Signs and symbols required by applicable safety laws, regulations, codes and standards must be visible at all times when work is being performed, and must be removed or covered promptly when the hazards no longer exist.

The Contractor must provide traffic control on the Site and its vicinity according to OSHA/MOSH requirements and the Contract Documents. All traffic control signs or devices used for protection of construction workers must conform to Part VI of the Manual of Uniform Traffic Control Devices (AMUTCD). For traffic control, Class 2 high visibility clothing must be worn on the Site, particularly for road work, Class 3 clothing must be worn at night. The Contractor must designate a safe parking location on or off the Site.

F) Materials Handling and Storage, Use and Disposal (CFR 29 OSHA 1926.250)

All materials stored in tiers must be stacked, racked, blocked, interlocked, or otherwise secured to prevent sliding, falling or collapse. Maximum safe load limits of floors within buildings and structures, in pounds per square foot, must be conspicuously posted in all storage areas, except for floor or slab on grade. Maximum safe loads must not be exceeded. Aisles and passageways must be kept clear to provide for the free and safe movement of material handling equipment or employees. Such areas must be kept in good repair. Reference ANSI/ASSE A10.46

All materials, whether temporary or permanent, must be suitable for its intended use and must be stored and installed in strict conformance with the manufacturer's instructions. Material Safety Data Sheets (MSDS) must be available on site.

The Contractor must ensure that all equipment is in good working condition, properly maintained and certified if required by regulations. Only trained and certified personnel must be allowed to operate equipment.

G) Tools – Hand and Power (CFR 29 OSHA 1926.300)

The Contractor must ensure that all hand and power tools and similar equipment, whether furnished by the employer or the employee, are maintained in a safe condition.

When power operated tools are designed to accommodate guards, they must be equipped with such guards when in use. Belts, gears, shafts, pulleys, sprockets, spindles, drums, fly wheels, chains, or other reciprocating, rotating or moving parts of equipment must be guarded if such parts are exposed to contact by employees or otherwise create a hazard. Guarding must meet the requirements as set forth in American National Standards Institute B15.1-1953 (R1958), Safety Code for Mechanical Power-Transmission Apparatus.

H) Welding and Cutting (CFR 29 OSHA 1926.352)

All welding, cutting activities, materials and equipment must conform to ANSI Z 49.1 Standard and MOSH and OSHA requirements

The Contractor must ensure that their workers and employees use the required specialized personal protective equipment required when working with welding or cutting equipment. The Contractor must also ensure that welding curtains are used where possible to protect other persons and property near the Project Site from welding arcs and flash. Hot work permit(s) must be used and enforced.

When practical, objects to be welded, cut, or heated must be moved to a designated safe location or, if the objects to be welded, cut, or heated cannot be readily moved, all movable fire hazards in the vicinity must be taken to a safe place, or otherwise protected. If the object to be welded, cut, or heated cannot be moved and if all the fire hazards cannot be removed, positive means must be taken to confine the heat, sparks, and slag, and to protect the immovable fire hazards from them.

Suitable fire extinguishing equipment must be immediately available in the work area and must be maintained in a state of readiness for instant use.

All combustible or flammable materials within 50 feet of the site which can neither be hosed down with water nor moved away from the area must be protected by a covering of non-combustible material at all times during the operations.

I) Electrical (CFR 29 OSHA 1926.402)

All electrical activities, materials and equipment must conform to all safety requirements including but not limited to NEC, IEC, NFPA 101, MOSH and OSHA requirements.

NOTE: If the electrical installation is made in accordance with the National Electrical Code ANSI/NFPA 70, exclusive of Formal Interpretations and Tentative Interim Amendments, it will be deemed to be in compliance with OSHA 1926 – **for the purposes of this Specification Section only.**

Reference CFR 1926, Subparts V – Power Transmission and Distribution, CC – Cranes and Derrick in Construction, for requirement regarding possible contact with live circuits in equipment and overhead.

J) Scaffolds (CFR 29 OSHA 1926.451)

The Contractor must ensure that each scaffold and scaffold component is capable of supporting, without failure, its own weight and at least 4 times the maximum intended load to be applied or transmitted to it.

Direct connections to roofs and floors, and counterweights used to balance adjustable suspension scaffolds,

must be capable of resisting at least 4 times the tipping moment imposed by the scaffold operating at the rated load of the hoist, or 1.5 (minimum) times the tipping moment imposed by the scaffold operating at the stall load of the hoist, whichever is greater.

Each suspension rope, including connecting hardware, used on non-adjustable suspension scaffolds must be capable of supporting, without failure, at least 6 times the maximum intended load applied or transmitted to that rope.

Aerial lifts must be designed and constructed in conformance with the applicable requirements of the American National Standards for "Vehicle Mounted Elevating and Rotating Work Platforms," ANSI A92.2-current edition, including appendix. Aerial lifts include the following types of vehicle-mounted aerial devices used to elevate personnel to job-sites above ground: Extensible boom platforms; Aerial ladders; Articulating boom platforms; Vertical towers. Lift controls must be tested each day prior to use to determine that such controls are in safe working condition. Only authorized persons shall operate an aerial lift.

The Contractor must ensure that each employee who performs work while on a scaffold is trained by a person qualified in the subject matter to recognize the hazards associated with the type of scaffold being used and to understand the procedures to control or minimize those hazards. The training must include the following areas, as applicable: the nature of any electrical hazards, fall hazards and falling object hazards in the work area; the correct procedures for dealing with electrical hazards and for erecting, maintaining, and disassembling the fall protection systems and falling object protection systems being used; the proper use of the scaffold, and the proper handling of materials on the scaffold; the maximum intended load and the load-carrying capacities of the scaffolds used; and any other pertinent requirements.

The Contractor must ensure that each employee who is involved in erecting, disassembling, moving, operating, repairing, maintaining, or inspecting a scaffold is trained by a competent person to recognize any hazards associated with the work in question.

When the Contractor has reason to believe that a person at the Project Site lacks the skill or understanding needed for safe work involving the erection, use or dismantling of scaffolds, the contractor must require the training or retraining of each such employee so that the requisite proficiency is demonstrated. This training or retraining is required in at least the following situations: where changes at the worksite present a hazard about which an employee has not been previously trained; or where changes in the types of scaffolds, fall protection, falling object protection, or other equipment present a hazard about which an employee has not been previously trained; or where inadequacies in an affected employee's work involving scaffolds indicate that the employee has not retained the requisite proficiency.

Mast climber platforms must be erected, used, and dismantled according to the manufacturer's specification. Special care must be taken to ensure there is no corrosion of scaffold components. The Contractor must ensure that loading and balancing limitations are observed; that bases are adequately supported, and that anchorages are sufficient. The travel path must be free of obstructions. Full guardrail systems and adequate planking are maintained, and tie-offs during dismantling the platform are not removed prematurely.

All scaffolding systems including mast climber platforms must require a safety inspection and must be clearly tagged cleared for use by third party before they can be put into service.

K) Fall Protection (CFR 29 OSHA 1926.501)

The Contractor must determine if the walking/working surfaces on which any persons at the Site are to travel have the strength and structural integrity to support the persons safely. Any persons at the Site must be allowed on those surfaces only when the surfaces have the requisite strength and structural integrity.

Each person at the Site on a walking/working surface (horizontal and vertical surface) with an unprotected side or edge which is 6 feet (1.8 m) or more above a lower level must be protected from falling by the use of guardrail systems, safety net systems, or personal fall arrest systems.

Guardrail systems and their use must comply with the following provisions: Top edge height of top rails, or equivalent guardrail system members, must be 42 inches plus or minus 3 inches above the walking/working level. When conditions warrant, the height of the top edge may exceed the 45-inch height, provided the guardrail system meets all other criteria of this paragraph. Note: When employees are using stilts, the top edge height of the top rail, or equivalent member, must be increased an amount equal to the height of the stilts.

Midrails, screens, mesh, intermediate vertical members, or equivalent intermediate structural members must be installed between the top edge of the guardrail system and the walking/working surface when there is no wall or parapet wall at least 21 inches high. Midrails, when used, must be installed at a height midway between the top edge of the guardrail system and the walking/working level. Screens and mesh, when used, must extend from the top rail to the walking/working level and along the entire opening between top rail supports.

Guardrail systems must be capable of withstanding, without failure, a force of at least 200 pounds applied within 2 inches of the top edge, in any outward or downward direction, at any point along the top edge. When the 200 pound test load is applied in a downward direction, the top edge of the guardrail must not deflect to a height less than 39 inches above the walking/working level.

Midrails, screens, mesh, intermediate vertical members, solid panels, and equivalent structural members must be capable of withstanding, without failure, a force of at least 150 pounds applied in any downward or outward direction at any point along the midrail or other member. Guardrail systems must be so surfaced as to prevent injury to an employee from punctures or lacerations, and to prevent snagging of clothing. The ends of all top rails and midrails must not overhang the terminal posts, except where such overhang does not constitute a projection hazard.

The Contractor must ensure provide a training program for each employee who might be exposed to fall hazards. The program must enable each employee to recognize the hazards of falling and must train each employee in the procedures to be followed in order to minimize these hazards.

Where possible, site personnel must be protected from falls through use of guardrail systems. Personal fall arrest systems must be used only where guardrail systems are technically not possible. The use of personal fall arrest systems must comply with 29 CFR 1926.502(d).

L) Excavations (CFR 29 OSHA 1926.651)

All surface encumbrances that are located so as to create a hazard to site personnel must be removed or supported, as necessary, to safeguard employees.

The estimated location of utility installations, such as sewer, telephone, fuel, electric, water lines, or any other underground installations that reasonably may be expected to be encountered during excavation work, must be determined prior to opening an excavation. When excavation operations approach the estimated location of underground installations, the exact location of the installations must be determined by safe and acceptable means. While the excavation is open, underground installations must be protected, supported or removed as necessary to safeguard employees.

A stairway, ladder, ramp or other safe means of egress must be located in trench excavations that are 4 feet or more in depth so as to require no more than 25 feet of lateral travel for employees.

Persons on the Site exposed to public vehicular traffic must be provided with, and must wear; warning vests or other suitable garments marked with or made of reflectorized or high-visibility material.

No person on the Site shall be permitted underneath loads handled by lifting or digging equipment. Persons must be required to stand away from any vehicle being loaded or unloaded to avoid being struck by any spillage or falling materials. Operators may remain in the cabs of vehicles being loaded or unloaded when the vehicles are equipped, to provide adequate protection for the operator during loading and unloading operations.

When mobile equipment is operated adjacent to an excavation, or when such equipment is required to approach the edge of an excavation, and the operator does not have a clear and direct view of the edge of the excavation, a warning system must be utilized such as barricades, hand or mechanical signals, or stop logs. If possible, the grade should be away from the excavation.

The Contractor must perform testing and controls to prevent exposure to harmful levels of atmospheric contaminants and to assure acceptable atmospheric conditions in accordance with the following requirements: Where oxygen deficiency (atmospheres containing less than 19.5 percent oxygen) or a hazardous atmosphere exists or could reasonably be expected to exist, such as in excavations in landfill areas or excavations in areas where hazardous substances are stored nearby, the atmospheres in the excavation must be tested before employees enter excavations greater than 4 feet in depth. Adequate precautions must be taken to prevent employee exposure to atmospheres containing less than 19.5 percent oxygen and other hazardous atmospheres. These precautions include providing proper respiratory protection or ventilation.

Each person in an excavation or trench must be protected from cave-ins by an adequate protective system designed with the capacity to resist without failure all loads that are intended or could reasonably be expected to be applied or transmitted to the system.

The slopes and configurations of sloping and benching systems must be selected and constructed by the Contractor and supervised by a competent person.

M) Concrete and Masonry Construction (CFR 29 OSHA 1926.701)

No construction loads must be placed on a concrete structure or portion of a concrete structure unless the Contractor determines, based on information received from a person who is qualified in structural design, that the structure or portion of the structure is capable of supporting the loads.

All protruding reinforcing steel, onto and into which Site persons could fall, must be guarded to eliminate the hazard of impalement.

No persons on the Site (except those essential to the post-tensioning operations) shall be permitted to be behind the jack during tensioning operations. Signs and barriers must be erected to limit personnel access to the post-tensioning area during tensioning operations.

No person shall be permitted to ride concrete buckets. No person shall be permitted to work under concrete buckets while buckets are being elevated or lowered into position. To the extent practical, elevated concrete buckets must be routed so that no person, or the fewest number of persons, is exposed to the hazards associated with falling concrete buckets. No person shall be permitted to apply a cement, sand, and water mixture through a pneumatic hose unless the person is wearing protective head and face equipment.

A limited access zone must be established whenever a masonry wall is being constructed. The limited access zone must be established prior to the start of construction of the wall. The limited access zone must be equal to the height of the wall to be constructed plus four feet, and must run the entire length of the wall. The limited access zone must be established on the side of the wall which will be unscaffolded. The limited access zone must be restricted to entry by persons actively engaged in constructing the wall. No other persons shall be permitted to enter the zone.

N) Steel Erection (CFR 29 OSHA 1926.752)

Before authorizing the commencement of steel erection, the Contractor must ensure that the steel erector is provided with the following written notifications: The concrete in the footings, piers and walls and the mortar in the masonry piers and walls has attained, on the basis of an appropriate ASTM standard test method of field-cured samples, either 75 percent of the intended minimum compressive design strength or sufficient strength to support the loads imposed during steel erection. Any repairs, replacements and modifications to the anchor bolts were conducted.

The Contractor must ensure that the following is provided and maintained: Adequate access roads into and through the site for the safe delivery and movement of derricks, cranes, trucks, other necessary equipment, and the material to be erected and means and methods for pedestrian and vehicular control. Exception: This requirement does not apply to roads outside of the construction site. A firm, properly graded, drained area, readily accessible to the work with adequate space for the safe storage of materials and the safe operation of the erector's equipment.

All hoisting operations in steel erection must be pre-planned per a Site-specific erection plan. Where the Contractor elects, due to conditions specific to the site, to develop alternate means and methods that provide personnel protection, it must be detailed in a site-specific erection plan developed by a qualified person and available at the work site.

Where technically possible, the Contractor must protect personnel from falls during leading edge work through the use of engineered systems designed to provide ample anchorage points along the leading edge of the work.

O) Demolition (CFR 29 OSHA 1926.850)

Prior to permitting personnel to start demolition operations, a written engineering survey must be made, by a competent person, of the structure to determine the condition of the framing, floors, and walls, and possibility of unplanned collapse of any portion of the structure. Any adjacent structure where personnel may be exposed must also be similarly checked. Also a survey for hazardous materials including but not limited to asbestos shall be conducted; all potential hazardous materials shall be identified and removed prior to commencing demolition work. The Contractor must have written evidence that such surveys have been performed. All electric, gas, water, steam, sewer, and other service lines must be shut off, capped, or otherwise controlled, outside the building line before demolition work is started. In each case, any utility company which is involved must be notified in advance.

When debris is dropped through holes in the floor without the use of chutes, the area onto which the material is dropped must 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. Signs, warning of the hazard of falling materials, must be posted at each level. Removal must not be permitted in this lower area until debris handling ceases above. All floor openings, not used as material drops, must be covered over with material substantial enough to support the weight of any load which may be imposed. Such material must be properly secured to prevent its accidental movement. Except for the cutting of holes in floors for chutes, holes through which to drop materials, preparation of storage space, and similar necessary preparatory work, the demolition of exterior walls and floor construction must begin at the top of the structure and proceed downward. Each story of exterior wall and floor construction must be removed and dropped into the storage space before commencing the removal of exterior walls and floors in the story next below.

Personnel entrances to multistory structures being demolished must be completely protected by sidewalk sheds or canopies, or both, providing protection from the face of the building for a minimum of 8 feet. All such canopies must be at least 2 feet wider than the building entrances or openings (1 foot wider on each side thereof), and must be capable of sustaining a load of 150 pounds per square foot.

To the extent possible, mechanical demolition must be conducted using wet methods to control personnel's and the public's exposure to dust.

P) Blasting and Use of Explosives (CFR 29 OSHA 1926.900)

The Contractor must permit only authorized and qualified persons to handle and use explosives. Smoking, firearms, matches, open flame lamps, and other fires, flame or heat producing devices and sparks must be prohibited in or near explosive magazines or while explosives are being handled, transported or used. No person shall be allowed to handle or use explosives while under the influence of intoxicating liquors, narcotics, or other dangerous drugs.

All explosives must be accounted for at all times. Explosives not being used must be kept in a locked magazine, unavailable to persons not authorized to handle them. The contractor must maintain an inventory and use record of all explosives. Appropriate authorities must be notified of any loss, theft, or unauthorized entry into a magazine. No explosives or blasting agents shall be abandoned.

No fire shall be fought where the fire is in imminent danger of contact with explosives. All employees must be removed to a safe area and the fire area guarded against intruders.

Q) Ladders (CFR 29 OSHA 1926.1051)

A stairway or ladder must be provided at all personnel points of access where there is a break in elevation of 19 inches or more, and no ramp, runway, sloped embankment, or personnel hoist is provided. Employees must not use any spiral stairways that will not be a permanent part of the structure on which construction work is being performed. A double-cleated ladder or two or more separate ladders must be provided when ladders are the only mean of access or exit from a working area for 25 or more persons, or when a ladder is to serve simultaneous two-way traffic.

When a building or structure has only one point of access between levels, that point of access must be kept clear to permit free passage of personnel. When work must be performed or equipment must be used such that free passage at that point of access is restricted, a second point of access must be provided and used. The Contractor must provide and install all stairway and ladder fall protection systems required before personnel begin any work that necessitates the installation and use of stairways, ladders, and their respective fall protection systems.

The Contractor must provide a training program for each employee who might be exposed to hazards of working on ladders. The program must enable each employee to recognize the hazards - and must train each employee in the procedures to be followed in order to minimize these hazards.

R) Power Transmission and Distribution (CFR 29 OSHA 1926.950)

Existing conditions must be determined before starting work, by an inspection or a test. Such conditions shall include, but not be limited to, energized lines and equipment, conditions of poles, and the location of circuits and equipment, including power and communication lines, CATV and fire alarm circuits.

Electric equipment and lines must be considered energized until determined to be de-energized by tests or other appropriate methods or means. Operating voltage of equipment and lines must be determined before working on or near energized parts. No personnel shall be permitted to approach or take any conductive object without an approved insulating handle closer to exposed energized parts than shown in OSHA 1926.950 Table V-1, unless: The person is insulated or guarded from the energized part (gloves or gloves with sleeves rated for the voltage involved shall be considered insulation of the employee from the energized part), or the energized part is insulated or guarded from him and any other conductive object at a different potential, or the person is isolated, insulated, or guarded from any other conductive object(s), as during live-line bare-hand work.

The minimum working distance and minimum clear hot stick distances stated in OSHA 1926.950 Table V-1 must not be violated. The minimum clear hot stick distance is that for the use of live-line tools held by linemen when performing live-line work. Conductor support tools, such as link sticks, strain carriers, and insulator cradles, may be used: Provided, that the clear insulation is at least as long as the insulator string or the minimum distance specified in OSHA 1926.950 Table V-1 for the operating voltage.

S) Cranes and Derricks (CFR 1926 Subparts V – Power Transmission and Distribution, CC – Cranes and Derrick in Construction)

"Ground conditions" means the ability of the ground to support the equipment (including slope, compaction, and firmness). "Supporting materials" means blocking, mats, cribbing, marsh buggies (in marshes/wetlands), or similar supporting materials or devices.

The equipment must not be assembled or used unless ground conditions are firm, drained, and graded to a sufficient extent so that, in conjunction (if necessary) with the use of supporting materials, the equipment manufacturer's specifications for adequate support and degree of level of the equipment are met. The requirement for the ground to be drained does not apply to marshes/wetlands.

The Contractor must: Ensure that ground preparations necessary to meet the requirements have been completed and tested. Inform the user of the equipment and the operator of the location of hazards beneath the equipment set-up area (such as voids, tanks, utilities) if those hazards are identified in documents (such as site drawings, as-built drawings, and soil analyses) that are in the possession of the Contractor (whether at the site or off-site) or the hazards are otherwise known to the Contractor.

If the A/D director for the crane and derrick Subcontractor (or Sub-subcontractor) determines that ground conditions do not meet the requirements for safe operation of the crane/derrick, that Subcontractor (or Sub-subcontractor) must have a discussion with the Contractor regarding the ground preparations that are needed so that, with the use of suitable supporting materials/devices (if necessary), safe operation requirements can be met.

Assembly/disassembly must be directed by a person who meets the criteria for both a competent person and a qualified person, or by a competent person who is assisted by one or more qualified persons ("A/D director"). The A/D director must understand the applicable assembly/disassembly procedures. The A/D director must review the applicable assembly/disassembly procedures immediately prior to the commencement of assembly/disassembly unless the A/D director understands the procedures and has applied them to the same type and configuration of equipment (including accessories, if any).

Before commencing assembly/disassembly operations, the A/D director must ensure that the crew members understand all of the following: Their tasks, the hazards associated with their tasks, and the hazardous positions/locations that they need to avoid.

Before a crew member goes to a location that is out of view of the operator and is either in, on, or under the equipment, or near the equipment (or load) where the crew member could be injured by movement of the equipment (or load), the crew member must inform the operator that he/she is going to that location. Where the operator knows that a crew member went to a location, the operator must not move any part of the equipment (or load) until the operator is informed in accordance with a pre-arranged system of communication that the crew member is in a safe position.

The Contractor must coordinate with a power line owner/operator prior to use of a crane/derrick near a power line. The power line owner/operator's registered professional engineer, who is a qualified person with respect to electrical power transmission and distribution, shall determine the minimum clearance distance that must be maintained to prevent electrical contact in light of the on-site conditions. The factors that must be considered in making this determination include, but are not limited to: Conditions affecting atmospheric conductivity; time necessary to bring the equipment, load line, and load (including rigging and lifting accessories) to a complete stop; wind conditions; degree of sway in the power line; lighting conditions, and other conditions affecting the ability to prevent electrical contact.

1.4 CONTRACTOR SAFETY RESPONSIBILITIES FOR EMERGENCIES

The Contractor must display a list of "Emergency Telephone Numbers" at visible locations of project site including, as a minimum, outside of the Contractor's trailer or office; a minimum list of Emergency

Telephone Numbers is shown at the end of this section. In the event of an emergency or unsafe site condition, site personnel must be instructed to immediately notify the Safety Supervisor. In case of a critical injury or a fatality, site personnel must be instructed to immediately call 911 and to immediately notify the safety supervisor. The safety supervisor must immediately call 911 (if others have not already done so) and then notify MOSH, the Owner's On-Site Representative, and the County Project Manager within one hour of the incident.

The Contractor must train site personnel to know how to evacuate the Project Site in the event of an emergency. The Contractor must train site personnel to be aware of all the possible obstructions to entry and exit routes, to know an escape path, and to note the location of fire extinguishers before starting work.

Contractors must keep a current list of names of all site personnel including all employees of the Contractor, the Subcontractors and Sub-subcontractors at all time to be able to account for everyone in the event of an emergency.

EMERGENCY TELEPHONE NUMBERS

911 General Emergencies (Ambulance, Fire and Police)

SAFETY SUPERVISOR (office and cell phone number)

MOSH

PROJECT MANAGER

OWNER'S REPRESENTATIVE

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 35 23