CONTRACTOR SAFETY PROGRAM

Prepared By:

ENVIRONMENTAL HEALTH AND SAFETY OFFICE

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Table of Contents

Purpose Statement: 3
Objectives: 3
Scope: 3
1.0 Contractor Responsibilities: 3
2.0 Barricades and Fencing: 3
3.0 Training: 4
4.0 Housekeeping and Egress: 4
5.0 Fire Protection Equipment: 4
6.0 Hazardous Materials and Hazard Communication: 4
6.1 Hazard Communication: 4
7.0 Confined Space Entry: 4
8.0 Lockout / Tagout: 7
9.0 Electrical Safety Requirements: 7
10.0 High (Medium) Voltage Power System Safety: 8
11.0 Fall Protection: 9
12.0 Compressed Gas Cylinders: 9
13.0 Window Washing: 10
14.0 Powder-Actuated Tools: 10
15.0 Hot Work -- Welding, Cutting, and Brazing: 10
16.0 Cranes and Rigging: 11
17.0 Excavation: 11
18.0 Asbestos Containing Materials (ACM) Management: 12
19.0 Lead Paint: 12
20.0 Control of Universal Waste (Used Light Bulbs and Ballasts) and Hazardous Waste 12
22.0 Spill Prevention 13
23.0 Miscellaneous Additional Safety Rules for the Protection of UNC Charlotte Students, Faculty, Employees, Neighbors and Property: 14
Appendix – A Lead Paint Removal Sign i
Appendix – B Contractor Safety Handout ii

Purpose Statement:

This document provides Contractors with a clear and concise understanding of the safety requirements while working on UNC Charlotte property and facilities. Contractor understanding of safety requirements reduces risk taking behaviors that cause personal injury, property damage, and liability losses due to construction, renovation, and demolition of UNC Charlotte owned or leased buildings and facilities.

Objectives:

The major objectives of the Contractor Safety Program are listed below:

- Inform Contractors of their responsibilities when working on UNC Charlotte property.
- Protect employees, students, visitors, property and the environment from potential hazards.
- Comply with all federal, state and local safety and environmental regulations.

Scope:

This program applies to any Contractors working for UNC Charlotte. Contractors include, but are not limited to the following:

- General Contractors
- Laboratory Testing Contractors
- Remediation Contractors
- Service Contractors
- Sub-Contractors

In this document, the term "Contractor" shall mean those entities that have contracted either directly or indirectly (i.e, subcontractors) with UNC Charlotte in order to perform services related to the property, facilities, or buildings owned or leased by UNC Charlotte.

1.0 Contractor Responsibilities:

- The Contractor shall have Environmental Health and Safety programs in place. Contractors are solely responsible for ensuring that such programs comply with federal, state, and local regulations.
- The Contractor shall ensure proper environmental health and safety precautions are followed in accordance with the Occupational Safety and Health Administration (OSHA), Environmental Protection Agency (EPA) Code of Federal Regulations (CFR), and any other applicable regulatory agency.
- The Contractor shall ensure individuals working at the site are trained and are aware of potential hazards. Contractors shall also ensure that these individuals are provided with proper safety equipment to prevent accidental injury in accordance with OSHA 1910 and OSHA 1926.
- The Contractor shall ensure all personnel follow all local, state, and federal regulations as well as all UNC Charlotte requirements.

2.0 Barricades and Fencing:

Barricades act as warning devices that alert others of the hazards created by construction activities and shall be used to control traffic, both vehicular and pedestrian, safely through or around the work site. Contractors shall use barricades as required in **29 CFR 1926 Subpart G – Signs, Signals, and Barricades and the US DOT Manual on Uniform Traffic Control Devices (MUTCD)** wherever necessary to provide for the physical protection of faculty, staff, students, public, or property. Temporary cyclone fencing, plastic safety fencing, and portable manhole barricades are examples of acceptable exterior barricading. Yellow caution tape and/or cones are considered acceptable barricades for internal use or in an emergency until more suitable barricades can be erected. Signage and illumination should be used where appropriate.

3.0 Training:

Contractors shall train their employees so that they can complete work on campus in a safe and OSHA compliant manner. In some instances, UNC Charlotte site specific training may be required due to facility specific risks, hazards or processes.

4.0 Housekeeping and Egress:

The Contractor shall keep all corridors and exit doors clear at all times. In addition, all external exit ways, walks, and drives shall be kept free from debris, material, tools, and vehicles.

5.0 Fire Protection Equipment:

The Contractor shall NOT disable any fire protection equipment unless given prior authorization by UNC Charlotte Project/Construction Manager (PM/CM). If authorization is granted, a temporary system shall be provided to ensure the safety of building occupants.

6.0 Hazardous Materials and Hazard Communication:

- Contractors shall have Material Safety Data Sheets (MSDS's) and/or Safety Data Sheets (SDS) at the jobsite for all hazardous chemical/s that they will be using / handling on UNC Charlotte property.
- No solvents, paints, or similar flammable, toxic, or irritating materials shall be used in areas occupied by UNC Charlotte employees, faculty, or students unless specifically approved by UNC Charlotte.
- The Contractor shall maintain adequate ventilation when paints or solvents are used to keep vapor/fume exposure levels below applicable OSHA permissible exposure levels. The Contractor shall use flammable solvents and materials with extreme caution.
- The Contractor shall store flammable paints and solvents in UL /Factory Mutual approved flammable liquid storage containers. Flammable materials shall not be stored in UNC Charlotte facilities without prior approval by UNC Charlotte personnel.

6.1 Hazard Communication:

The Contractor shall develop or have their own Hazard Communication Plan that complies with 29 CFR 1910.1200. The Contractor shall have copies of Material Safety Data Sheets (MSDS's) and/or Safety Data Sheets (SDS) on-site and available for review for all hazardous materials that are on UNC Charlotte property.

The Contractor shall also ensure that all containers that are brought on site for the storage of hazardous materials (e.g., gas, paint, etc.) are labeled and inspected as required by applicable regulations. The Contractor shall remove all hazardous materials and EPA "hazardous wastes" that it generates on-site while completing work with specific hazardous chemical/s unless prior arrangements are made with UNC Charlotte personnel.

The Contractor may request and review Material Safety Data Sheets and/or Safety Data Sheets (SDS) for any materials that they may encountered on UNC Charlotte property during the performance of its work. Requests should be made to the UNC Charlotte Project/Construction Manager (PM/CM).

7.0 Confined Space Entry:

UNC Charlotte has developed and implemented a Confined Space Entry Program for the safety of all persons required to enter confined spaces on UNC Charlotte property. This program defines a "Confined Space" in accordance with 29 CFR §§ 1910.146, 1910.268, and 1910.269, respectively.

As part of the Confined Space Entry Program, UNC Charlotte has completed hazard assessments, developed inventories and has posted confined space signage at the points of entry. These postings include information on the classification of the space in wording such as "Danger-Permit Required Confined Space". **(Note: All manholes on campus are considered to be "Permit Required Confined Spaces".)**

Before entering any University identified confined space, the Contractor shall develop, implement and maintain its own Confined Space Entry Program, including provisions for emergency rescue, in accordance with all safety regulations. Applicable regulations include, but may not be limited to, 29 CFR 1910.146, 1910.268, and 1910.269.

Additionally, the following requirements shall be adhered to by the Contractor:

- If during the course of its work, a Contractor encounters a confined space that has not been previously identified by UNC Charlotte, they must bring the space to the attention of the UNC Charlotte PM/CM and delay entry until the appropriate UNC Charlotte PM/CM has contacted the Environmental Health and Safety office to examine the space to determine the course of action.
- Contractors are required to provide their own rescue equipment, air monitors, ventilation fans, personal protective equipment, communication equipment, adequate lighting equipment, barriers and shields and/or equipment for safe egress, etc. to safely complete confined space entries.
- Contractors are required to use their own confined space entry permits when completing confined space entries.
- When both UNC Charlotte personnel and Contractor personnel are working in or near confined spaces, the Contractor must coordinate all operations with the affected UNC Charlotte personnel/Departments before entry.

For listing of campus confined spaces see Table 1.

Table 1 – Confined Space Summary Sheet –Printer friendly version

http://safety.uncc.edu/sites/safety.uncc.edu/files/media/forms/UNC_Charlotte_Confined_Space_Summary_Sheet.pdf

UNC - Charlotte - - Permit Required Confined Spaces - - Campus Analysis Summary Sheet - 07/2014 Revision					Environmental Health and Safety Office	
Building	**Description**	**Hazard**	**Permit Required Confined Space**	**Hazard Control Procedure**	**Atmospheric Monitoring**	**Comments**
Entire Campus	Sanitary Sewer Manholes	Toxic Gases - Hydrogen Sulfide, Sewer Gas, Methane, Insufficient Oxygen, Bacteria Potential	Y	Forced air ventilation is required before entry unless the space is proven to be free of atmoshperic hazards or no atmospheric changes will occur due to work operations or manhole conditions. Full Tyvek suit and gloves before entry, body harness and retraction device required.	Continuous 4 Gas Monitoring with 4 gas meter, check atmosphere in space by using stratifed method before allowing entry.	Manholes are located around campus. Depths of manholes may vary greatly. Always check atmosphere from top to bottom before entering. Full Permit Completion Required.
Entire Campus	Sanitary and Storm Sewer Pump Lift Stations	Toxic Gases - Hydrogen Sulfide, Sewer Gas, Methane, Insufficient Oxygen, Bacteria Potential	Y	Lift station pump system must be fully de-energized (LO/TO) according to the applicable procedure. Forced air ventilation is required before entry unless the space is proven to be free of atmoshperic hazards or no atmospheric changes will occur due to work operations or lift station conditions. Full Tyvek suit and gloves before entry, body harness and retraction device required.	Continuous 4 Gas Monitoring with 4 gas meter, check atmosphere in space by using stratifed method before allowing entry.	Always check atmosphere from top to bottom before entering a sanitary sewer lift station. Full Permit Completion Required.
Entire Campus	Storm Sewer/Greywater Manholes	Toxic Gases - Hydrogen Sulfide, Sewer Gas, Methane, Insufficient Oxygen, Bacteria Potential	Y	Forced air ventilation is required before entry unless the space is proven to be free of atmoshperic hazards or no atmospheric changes will occur due to work operations or manhole conditions. Full Tyvek suit, gloves, body harness and retraction device required. If at all possible, do not enter manhole if there is any possibility of precipitation occurring during the manhole entry period.	Continuous 4 Gas Monitoring with 4 gas meter, check atmosphere in space by using stratifed method before allowing entry.	Manholes are located around campus. Depths of manholes may vary greatly. Always check atmosphere from top to bottom before entering. Full Permit Completion Required.
Entire Campus	Telecommunication Manholes	Electrical Hazards, Potential for Insufficient Oxygen, carbon monoxide from engines running	Y	Cordon/barricade area to prevent pedestrian traffic/entry. Ventilation may be required before entry depending on atmosphere test. Ventilate space fully if hazardous atmosphere is present. Full harness and retraction device required. Any Electrical / Energy Hazards must be eliminated or controlled (LO/TO) before entry.	Continuous 4 Gas Monitoring with 4 gas meter, check atmosphere in space by using stratifed method before allowing entry.	High Voltage hazard controls may be required additionally if manhole contains high voltage circuits & feeds. Full Permit Completion Required.
Entire Campus	Steam & Hot Water Supply Manholes	Heat, Burn Hazards, Potential for Insufficient Oxygen, carbon monoxide from vehicles and equipment usage	Y	Cordon/barricade area to prevent pedestrian traffic/entry. Ventilation may be required before entry depending on atmosphere test. Body harness and retraction device required, Steam service must be off in the manhole (LO/TO) before entry or special precautions must be taken for hot tap/work. All person/s and public must be back safe distance from work location when re-energization occurs.	Continuous 4 Gas Monitoring with 4 gas meter, check atmosphere in space by using stratifed method (top to bottom) before allowing entry.	Manholes are located around campus. Depths of manholes may vary greatly. Always check atmosphere from top to bottom before entering. Full Permit Completion Required.
Entire Campus	Electrical Manholes & Vaults (Depending on Configuration)	Electrical Hazards, Potential for Insufficient Oxygen, carbon monoxide from engines running	Y	Cordon/barricade area to prevent pedestrian traffic/entry. Check manhole lid for elevated temp before removing, crack lid slightly to relieve pressure, if any. Full Ventilation may be required before entry depending on atmosphere test. Full harness and retraction device required. Electrical Hazard must be eliminated or controlled (LO/TO) before entry. All watches, rings and other jewelry must be removed. Follow all high voltage and NFPA arc flash control procedures. All person/s and public must be back safe distance from work location when re-energization occurs.	Continous 4 Gas Monitoring with 4 gas meter, check atmosphere in space by using stratifed method before allowing entry.	Manholes are located around campus. Depths of manholes may vary greatly. Always check atmosphere from top to bottom before entering. Full Permit Completion Required.
Entire Campus	Air Handlers (Fans and Motor Compartments) Housings that allow for personnel entry	Mechanical Parts - Rotating Fans and associated equipment, electrical hazards	N	Air Handlers are non-permit required confined spaces for normal entries if the equipment is fully de-energized (LO/TO) per the applicable procedure. **The air handler becomes permit required if any kind of welding, cutting or burning is completed or chemicals are used that release fumes or vapors within the air handler enclosure.** Ventilate with portable fans as necessary to remove any fumes or vapors from work processes.	4 Gas Meter and continuous air monitoring required if any kind of atmospheric hazard is present or created (burning, cutting, welding, solvent, combustible, flammables) within the space.	All access doors should be opened whenever possible to allow for air circulation within smaller air handling units. **An air Handler becomes a Permit Required Confined Space when welding, brazing or cutting or chemical usage produces the potential for change in the atmosphere within the area where work is being completed.**
Burson	Roof Monitors (Dog Houses)	Mechanical Parts - Rotating Fans and associated equipment, electrical hazards, heat (during summer), very confined, congested work area.	Y	Notify lab/s of ventilation service interruption. Electrical energy to the equipment being serviced must be de-energized and controlled (LO/TO) initially upon entry. At least two people are required to be present at all times while working inside a roof monitor or associated enclosures, Loose fitting clothing or hair should be removed or controlled due to rotating equipment hazards. Personnel are required to have two way radios. Protective gloves should be worn whenever exposure to ductwork interior surfaces or chemical residue can occur.	4 Gas Meter and continuous air monitoring required if any kind of atmospheric hazard is present or created (burning, cutting, welding, solvent, combustible, flammables) within the space.	This confined space is considered to be permit required due to the rotational hazards present with the operation of the exhaust fan units. Guards on Fan units must remain in place except for the units that are de-energized and being serviced.
Entire Campus	Cooling Towers	Mechanical Parts - Rotating Fans and associated equipment, electrical hazards, Heat (during summer), water hazard within sump, pressurized water hazard.	N	Cooling Towers are non-permit required confined spaces for normal entries if the equipment is fully de-energized (LO/TO) per the applicable procedure. All electrical energy, make up supply water (if applicable) and chemical pumps (if applicable) to associated cooling tower equipment must be de-energized and controlled before entry. **The cooling tower becomes permit required if any kind of welding, cutting or burning is completed or chemicals are used that release fumes or vapors within the cooling tower enclosure.** Ventilate with portable fans as necessary to remove any fumes or vapors from work processes.	4 Gas Meter and continuous air monitoring required if any kind of atmospheric hazard is present or created (burning, cutting, welding, solvent, combustible, flammables) within the space.	All access doors should be opened whenever possible to allow for air circulation within the cooling tower. **A Cooling Tower becomes a Permit Required Confined Space when welding, brazing or cutting or chemical usage produces the potential for change in the atmosphere within the area where work is being completed.**
Main Campus Boiler Plant, RUP #1, RUP #2	Boilers (any entry inside the cavity of a boiler unit)	Extremely tight space for entry and work, potential for oxygen deficient atmosphere, electrical hazards, heat and burn hazards if boiler has not fully cooled prior to entry	Y	Allow Boiler to cool at least 72 hours before entry. Electrical, mechanical and fuel energy source to the equipment must be de-energized and controlled (LO/TO) before entry, ventilation to be used if any kind of welding, cutting or burning completed within the enclosure. **Non-permit confined space ONLY when the entire boiler housing end cap is removed for full boiler access. Boiler interior access through hatchway or manway opening is a permit required confined space entry.**	Continuous 4 Gas Monitoring with 4 gas meter, check atmosphere in space by using stratifed method before allowing entry. Use ventilation if conditions warrant or welding, cutting, brazing or solvent usage is undertaken	All hatchways/manways should be opened whenever possible to allow for air circulation within the boiler. Full Permit Completion Required for entry into a boiler unit through a hatchway or manway. Full boiler end cap removal is a non-permit required confined space entry.
Entire Campus	Mechanical Room Steam line Sumps/pits	slip / electrical / illumination / water	Y	Electrical energy to the equipment must be de-energized and controlled (LO/TO) before entry, ventilation must be used if any kind of welding, cutting or burning completed within the enclosure. Wear body harness and use retraction device in the event that entrant must be removed from space in emergency.	Continuous 4 Gas Monitoring with 4 gas meter, check atmosphere in space by using stratifed method before allowing entry. Use ventilation if conditions warrant or welding, cutting, brazing or solvent usage is	Hot work permit needed for any cutting, welding or brazing within the sump if any materials in the sump are combustible/flammable. Full Permit Completion Required for entry into a mechanical room sump
Facilities Mgmt (main boiler, RUP #1 & RUP #2)	Fuel Tanks (Heating and Diesel Fuel)	Lack of easy entry due to access through manways/hatchways, potential for hazardous atmosphere and fire due to	Y	Electrical pumping equipment must be de-energized and controlled (LO/TO). Fully drain all fuel from tank to be entered, open all hatches if possible to allow ventilation, space must have forced ventilation before entry. Entrant must have body harness with rope held by attendant at hatch opening for emergency retrieval.	Continuous 4 Gas Monitoring with 4 gas meter, check atmosphere in space by using stratifed method before allowing entry.	Hot work permit needed for any cutting, welding or brazing on the interior of the tank. Tank interior must protected from sparks if residual petroleum remains. Full Permit Completion Required for entry into a tank.
Entire Campus	Dust Collectors & Cyclones	Converging walls / engulfment, electrical hazards, dust hazards	Y	Electrical energy and compressed air must be de-energized and controlled (LO/TO). If hopper or dust collector/cyclone housing is large enough to be entered all electrical and mechanical equipment must be de-energized. 1/2 face respirators with HEPA filters must be worn to make entry.	Continuous 4 Gas Monitoring with 4 gas meter, check atmosphere in space by using stratifed method before allowing entry.	Hot work permit needed for any cutting, welding or brazing on the hopper or collection unit if material is combustible / flammable. Full Permit Completion Required for entry into a dust collector / cyclone.
CAB Dining Hall	Crawl Space	Tight entry to all areas of the space. Potential for hazardous atmosphere if a sewer leak occurs. Potential for bacteria exposure if sewer leak occurs.	Y	Ventilation may be required before entry depending on atmosphere test. Full Tyvek suit, gloves and goggles required before entry. Due to tight, crawling access required, attendant/s need to keep in contact with entrants. Flashlights or other portable lighting will be needed. Polyethylene plastic sheeting is helpful to have to place on crawl space floor in work area.	Continuous 4 Gas Monitoring with 4 gas meter, check atmosphere before entering through crawl space vent (if available in area where work is to be done) check air on the way in to the work area upon initial entry.	This confined space has narrow passages from one area of the building to the next. Always keep an adequate open path behind you so that emergency removal can be conducted as easily as possible.
Belk Tower	Belk Tower	Very tight entry, potential for high heat during summer, potential insect (bees, etc.)	Y	Space must be fumigated or treated before entry to displace any bees or other insects that may cause stings to the entrant/attendant. Allow at least a couple of hours for the treatment to work on the insects. Entrant must wear harness and be attached to the fall protection device when going up or coming down the ladders.	4 Gas Meter and continuous air monitoring required if any kind of atmospheric hazard is present or created (burning, cutting, welding, solvent, combustible, flammables) within the space.	Attendant may stay at the bottom of the ladder but must stay in direct contact with the entrant at all times. Attendant may also watch entrant from outside the tower if entrant can be seen in plain view. Additionally, radio contact must be used.

8.0 Lockout / Tagout:

UNC Charlotte protects its students, faculty, employees, neighbors and property in part by complying with 29 CFR 1910.147 – Control of Hazardous Energy Sources (Lockout/Tagout) and 29 CFR 1910.269 Electric Power Transmission and Distribution Standard. As part of UNC Charlotte's Lockout/Tagout (LO/TO) Program, standard locks and tags are used to control the start-up of equipment that is being serviced or maintained by its employees. At no time shall a Contractor or its employees override any locks or tags that they encounter during the performance of its work.

The Contractor shall develop, implement and maintain a Lockout/Tagout program in accordance with OSHA regulations as it applies to the work within their contract. The Contractor shall have a copy of its Lockout/Tagout Program on-site and readily available for examination by UNC Charlotte officials before the start of any work where 29 CFR 1910.147 is applicable.

- UNC Charlotte Facilities Management personnel will shut down and start up utility systems, unless otherwise specifically directed by the University.
- The Contractor shall maintain a log of all machines and equipment that are locked out and/or tagged out during the performance of the work while under contract. The Contractor's log shall identify the equipment that was affected, the date(s) that work was performed, and the name of the individual performing the work. The Contractor shall keep this log at the worksite for examination by UNC Charlotte officials.
- Whenever the Contractor and UNC Charlotte Facility Management personnel must perform a group LO/TO, both LO/TO programs must be coordinated to comply with 29CFR 1910.147 and the UNC Charlotte LO/TO program.

9.0 Electrical Safety Requirements:

- The Contractors shall ensure that only qualified Electricians are permitted to work on electrical systems and equipment that uses or controls electrical power.
- The Contractor shall demonstrate to UNC Charlotte Medium Voltage Supervisor or his/her designee that the new or modified components have been installed in accordance with design specifications BEFORE energizing equipment related to the following systems:
    - UNC Charlotte High Voltage System
    - Steam Plant
    - Emergency Power Generation Systems
    - Fire Alarm System
- UNC Charlotte Facilities Management personnel will shut down and start up utility systems in coordination with Contractors performing work on such systems, unless otherwise specifically directed by UNC Charlotte.
- All work shall be conducted in accordance with all applicable OSHA regulations and the National Fire Protection Association (NFPA) 70E Standard for Electrical Safety in the Workplace.
- The Contractor shall not operate electrical tools or equipment in wet areas or areas where potentially flammable dusts, vapors, or liquids are present, unless specifically approved for the location.

- In the event of a circuit breaker or other protective device "tripping," the Contractor shall ensure that a qualified Electrician checks the circuit and equipment and corrects problems before resetting the breaker.
- The Contractor shall erect barriers and post warning signs to ensure non-authorized personnel stay clear of all work areas.
- The Contractor shall report hazards (lack of protective guards or covers, damaged equipment, etc.) to the UNC Charlotte PM/CM immediately.
- The Contractor shall not leave electrical boxes, switch gear, cabinets, or electrical rooms open when Contractor personnel are not present at the work site. Energized parts shall be insulated when covers have been removed or doors are ajar. Cardboard, plywood, or other combustible materials shall not be used to cover energized circuits.

10.0 High (Medium) Voltage Power System Safety:

For the purposes of this Procedure any current exceeding 600 volts meets the definition of High Voltage. In these procedures High Voltage and Medium Voltage are used interchangeably.

The Contractor shall develop, implement, and maintain an Electrical Power Transmission, and Distribution safety program in accordance with OSHA regulations as it applies to the work of their contract.

The Contractor shall have a copy of its high voltage safety program at the work site before the start of any work where 29 CFR 1910.269 (OSHA Electric Power Transmission and Distribution Standard) is applicable to contract work. The Contractors High Voltage safety procedures must be consistent with restrictions and prohibitions of UNC Charlotte's Medium Voltage Electrical Distribution safety program to ensure the safety of UNC Charlotte students, faculty, employees, public or property.

All applications shall conform to OSHA Standard 1910.269 Electric Power Transmission and Distribution Standard, NFPA 70E Safety Related Work Practices and **UNC Charlotte Safe Operating Procedures for Medium Voltage Electrical Distribution Equipment.** Note: Supplementary electric generating equipment that is used to supply the workplace for emergency, standby, or similar purposes must be compliant with OSHA 1910 Subpart S.

The Contractor shall demonstrate to the UNC Charlotte High Voltage Supervisor or his/her designee that the new or modified components have been installed in accordance with design specifications BEFORE energizing equipment related to the following systems:

- UNC Charlotte High Voltage System

UNC Charlotte Facilities Management personnel will shut down and start up utility systems, unless otherwise specifically directed by UNC Charlotte

11.0 Fall Protection:

The OSHA Standard "29 CFR 1926 Subpart M – Fall Protection" identifies areas or activities where fall protection is required for construction work. These include, but are not limited to, ramps, runways, and other walkways; excavations; hoist areas; holes; formwork and reinforcing steel; leading edge work; unprotected sides and edges; overhand bricklaying and related work; roofing work; precast concrete erection; wall openings; residential construction; and other walking/working surfaces.

The rule sets a uniform threshold height of **6 feet** (1.8 meters), thereby providing consistent protection. Contractors must protect their employees from fall hazards and falling objects whenever an affected employee is **6 feet** (1.8 meters) or more above a lower level. Protection shall be provided for construction workers who are exposed to the hazard of falling into dangerous equipment.

Note: Any opening from which there is a drop of more than **4 feet** from which UNC Charlotte faculty, staff, students, or the public may fall shall be guarded in accordance with "29 CFR 1910 Subpart D – Walking Surfaces".

The Contractor must perform its work in compliance with the OSHA standards, which included, but are not limited to, the following:

- Maintain guardrails, mid rails, and toe boards located in UNC Charlotte buildings or on UNC Charlotte property unless removal is approved by the UNC Charlotte PM/CM as part of the work of a contract.
- Cover all open holes, skylights, trenches, or excavations into which UNC Charlotte's employees may fall and/or have guardrails, mid rails, and toe boards installed around them.
- Provide Contractor employees with personal fall protection equipment or other hazard control measures listed within the fall protection standard and ensure proper usage of equipment.
- Ensure that all Contractor personnel are trained in accordance with the requirements listed in 29 CFR 1926 Subpart M.
- Ensure that falling hazards are thoroughly communicated to Contractor employees and Sub-Contractors.
- Secure and tether all tools and equipment to prevent objects from falling to the ground below.

12.0 Compressed Gas Cylinders:

Compressed gases can pose a severe hazard to UNC Charlotte's students, faculty, staff, public, and property. Contractors shall take the following measures for their protection and the protection of others:

- Valve protection caps must be in place when compressed gas cylinders are transported, moved, or stored. Close cylinder valves and replace valve covers when work is complete and when cylinders are empty or moved.
- Secure compressed gas cylinders in an upright position in a welding cart or to a solid object (using chains, straps, or a rigid retaining bar). Secure compressed gas cylinders on an approved carrier while being transported.
- Keep cylinders at a safe distance or shielded from welding or cutting operations. Do not place cylinders where they can contact an electrical circuit.

- Keep oxygen and flammable gas regulators in proper working order and a wrench in position on the acetylene valve when in use. If not manifolded together, separate oxygen and flammable gas cylinders by 20 feet or a 5 foot high fireproof barrier.
- If a leak develops in a cylinder and it cannot be immediately corrected, move the cylinder to a safe location outside the building. Contact UNC Charlotte Police and Public Safety immediately at (704) 687-2200 and tell them the campus location of the leaking cylinder.
- Use only approved spark igniters to light torches.
- Cylinders must not be taken into or stored in confined spaces, including gang boxes and office/storage trailers.
- Do not store hoses and regulators in unventilated or closed containers or areas.
- All cylinders belonging to Contractors must be removed from UNC Charlotte property when work is complete.

13.0 Window Washing:

Window washing must be conducted using a suspended scaffold (single or two point), a boatswain's chair, or another OSHA compliant method. Scaffolding apparatus must comply with the safety requirements outlined in 29 CFR 1910.28. Window washing anchors located on any UNC Charlotte building shall be verified by the Window Washing Contractor to be in good condition and suitable for use as an anchor point. Reports or inspections of anchor points must be provided to UNC Charlotte when there is an issue/problem with an anchor point or when requested by UNC Charlotte personnel.

14.0 Powder-Actuated Tools:

Powder-actuated tools can pose hazards to UNC Charlotte students, faculty, employees, neighbors and property. These tools shall not be used in occupied UNC Charlotte buildings without prior approval by UNC Charlotte. The following bullets detail tool usage requirements:

- Contractors who operate powder-actuated tools shall be properly trained on their use and carry a valid operator's card provided by the equipment manufacturer.
- Each powder-actuated tool shall be stored in its own locked container when not being used.
- A sign at least 7 inches by 10 inches with bold face type reading "POWDER-ACTUATED TOOL IN USE" shall be conspicuously posted when the tool is being used.
- Powder-actuated tools shall be left unloaded until they are actually ready to be used.
- Powder-actuated tools shall be inspected for obstructions or defects before use on each workday.
- All Powder-actuated tool operators shall have and use appropriate personal protective equipment such as hard hats, safety goggles, safety shoes, and ear protection.

15.0 Hot Work -- Welding, Cutting, and Brazing:

Hot work (welding, cutting and brazing) activities must be authorized by a UNC Charlotte Project/Construction Manager (PM/CM).

Before beginning any hot work the Contractor shall develop, implement and maintain its own Hot Work Program in accordance with OSHA regulations. The Contractor shall use a hot work permit for each separate work activity and shall ensure that the conditions of the permit are met at all times. The request for a fire system to be shut down or modified must be made to the Project/Construction Manager.

16.0 Cranes and Rigging:

Each crane, rigging, or hoist brought onto UNC Charlotte property must have an annual inspection performed by a certified testing agency. Before operations begin on site, documentation, including a logbook, must be provided to the UNC Charlotte PM/CM or their designee.

All operators must possess a valid North Carolina Certified Crane Operators License. Documentation of this license shall be kept at the work site. At no time shall loads be hoisted by a non-licensed operator. The operator is responsible for the proper placement of the crane in relationship to the load to be handled and the landing area so as to obtain the best rated lift capacity. Additionally, the operator is responsible for the installation and maintenance of crane swing radius protection. No lifts shall be made over faculty, staff, students, and the public. Lifts over occupied facilities may only be made after consultation with and approval by the UNC Charlotte PM/CM and the Environmental Health and Safety Office.

17.0 Excavation:

The OSHA standard for trenching and excavation (1926.650-652 Subpart P) sets forth the requirements for shoring and sloping of excavations that are to be followed at UNC Charlotte. The following hazards may be encountered during excavation: underground utilities, egress and fall risks, hazardous atmospheres, water accumulation, chemical or biological hazards, stability of adjacent structures, and cave-ins.

- UNC Charlotte Facilities Management must be notified prior to any excavation work, driving of spikes/stakes into the ground, and drilling so that utility locations can be determined and demarcated. Additionally, excavation shall not begin until Facilities Management approval is given and all utility companies have marked existing utilities in the field.
- All excavations 5 feet or more in depth must be shored, sloped, or have a protective system in use.
- When excavation activities approach a utility, state law requires that the excavator use non-mechanical means (hand-digging) when digging within 18 inches of a marked underground facility. Utilities must be supported within an excavation to prevent collapse.
- The area around the trench/excavation must be kept clear of surface encumbrances. Adjacent structures must be shored and/or protected in accordance with the design documents to prevent collapse.
- Ladders must be provided for access and egress to/from the excavation where excavations exceed depths more than 4 feet.
- The atmosphere shall be tested before entry in excavations where hazardous atmospheres have the potential to exist, such as near roadways or fuel combustion exhaust sources. The excavation must be treated as a permit required confined space if a hazardous atmosphere is found, see Section 7.0 for more information.
- Guardrails or some other means of protecting people from falling into the trench/excavation shall be installed around the perimeter of the excavation.
- The spoil pile removed from a trench must remain a minimum of 2 feet away from the edge of the trench at all times.

18.0 Asbestos Containing Materials (ACM) Management:

Unless otherwise noted, UNC Charlotte will have determined, before work is begun, the presence, location, and quantity of asbestos containing materials (ACM) or potential ACM that will be specifically impacted by your contract. The Contractor will be provided with a report that identifies ACM locations for the areas that they will be performing work.

The Contractor shall not disturb asbestos-containing materials unless such activities are part of their contracted work. Disturbance of ACM requires that the Contractor is specifically trained and licensed by the State of NC and Mecklenburg County to complete ACM abatement work.

The Contractor shall not sweep, dust, vacuum, or mop dust and/or debris that is believed to be ACM. The Contractor shall also not pick up or throw away any suspect ACM waste or trash. The Contractor shall immediately notify the UNC Charlotte PM/CM, the EHS Office at 704-687- 1111 or UNC Charlotte Police if suspected ACM materials is damaged.

Stripping of floor finishes on ACM or potential ACM floor surfaces shall only be done by using low abrasion pads at speeds lower than 300 rpm. Only wet stripping methods shall be used. The Contractor shall take care not to over-strip floors and shall stop stripping immediately upon removal of the old surface coat. Sanding of flooring material shall not be completed unless it is part of your contracted work and you are specifically trained to do so.

Any suspect asbestos containing material that is observed by the Contractor to be crushed, ripped, broken, or in any way damaged should be reported to the UNC Charlotte PM/CM immediately. Within 24 hours, Contractors must convey to the UNC Charlotte PM/CM and to the UNC Charlotte EHS office any information they discover concerning the presence, location, and quantity of asbestos-containing or potentially asbestos-containing materials.

19.0 Lead Paint:

Contractors are to assume that any painted surface they come in contact with is coated with lead-based paint unless UNC Charlotte provides a specific non-lead paint notice. Contractors must not perform any intrusive, dust-generating work on painted surfaces (e.g., drilling, cutting, brazing, scraping, demolition), unless the surface is confirmed to be non-lead or unless the work is part of your contracted project and you are specifically trained to do so. Any painted surfaces that have loose, flaking, chipped or otherwise non-intact paint shall not be disturbed by the Contractor and should be reported to the UNC Charlotte PM/CM immediately. **See Appendix A for a copy of the UNC Charlotte "Lead Paint Removal Notice".**

20.0 Control of Universal Waste (Used Light Bulbs and Ballasts) and Hazardous Waste

Fluorescent Tubes (all types), High Pressure Sodium Metal Halide and Mercury Vapor Bulbs

All types of fluorescent bulbs, high pressure sodium vapor, and mercury vapor bulbs are considered "Universal Wastes" in North Carolina if they are properly handled and not broken during replacement and packaging. UNC Charlotte and EPA designate broken fluorescent tubes and high pressure metal halide / mercury vapor bulbs as "Hazardous Wastes" when they are broken. Disposal of these bulbs in regular construction waste is NOT PERMITTED under any circumstances. Contact your UNC Charlotte PM/CM or the Environmental Health and Safety Office if you generate broken bulbs.

It is the policy of UNC Charlotte that all spent fluorescent tubes and high pressure metal halide / mercury vapor bulbs generated on-site are ultimately recycled. Please refer to your UNC Charlotte PM/CM and/or your standard renovation contract to determine how you will dispose of the universal waste bulbs that you

will be generating. If it is determined that the University will be handling your waste bulbs, they must be stored in cardboard boxes obtainable from either by the contractor or by UNC Charlotte Facilities Management.

Boxes of tubes and bulbs must be stored indoors, and the contractor must repackage boxes damaged by the weather before the University will accept them. Boxes containing universal waste bulbs must be closed at all times except when waste is being added to the container and labeled as "Universal Waste -- Used Bulbs". Bulbs are not permitted to stick out of the boxes.

Ballasts

Older (pre 1980) light ballasts are regulated waste in North Carolina under the EPA Toxic Substances Control Act (TSCA) due to presence of polychlorinated biphenyls (PCB's). Ballasts manufactured after 1980 do not contain PCBs, however, it is the policy of UNC Charlotte to collect ballasts and send them off-site for recycling. Ballasts cannot be disposed of with the general trash. Ballasts that do not contain PCBs will state "No PCBs" on the ballast label. If there is no information on the label regarding PCBs it is considered to be a PCB containing ballast. It is more expensive to dispose of PCB ballasts. As a result, PCB and non-PCB ballasts must be segregated as they are removed from the fixtures. Separate containers should be established for each type of ballast and labeled appropriately.

Hazardous Wastes

All chemicals (liquids, solids, gases, etc.) used by Contractors that are characteristic or listed EPA Hazardous Wastes shall be safely managed and stored on campus. Hazardous wastes shall be removed from University property promptly and shall be properly disposed of by licensed hazardous waste disposal firms off-site when they are no longer usable and have been designated as a waste product. Hazardous Wastes are not permitted to be drained, spilled, leaked, deposited or otherwise placed on University grounds and property in any way.

21.0 Personal Protective Equipment

All contractors shall ensure their employees have been trained, issued and are wearing the appropriate Personal Protective Equipment (PPE) for the work being completed. It is the contractor's responsibility to ensure the correct use of PPE per OSHA standards.

22.0 Spill Prevention

- Contractors shall be responsible for any costs (direct or indirect) associated with damage and/or cleanup of a hazardous substance and/or oil spill caused by the Contractor or their sub-contractors. This responsibility shall extend to freight carriers who were hired by the Contractor to deliver the commodity or service to the end user. While on the university campus, the Contractor shall comply with all local, State and Federal requirement for the proper handling of hazardous substances and/or oil.
- For the purpose of this section, hazardous substances shall be defined as any substance, other than oil, which when discharged in any quantity may present an imminent and substantial danger to the public health, welfare and/or environment. Oil shall be defined as any oil of any kind and in any form, including but specifically not limited to petroleum, crude oil, diesel oil, fuel oil, gasoline, lubrication oil, oil refuse, oil mixed with other waste, oil sludge, petroleum related products or by-products, and all other liquid hydrocarbons, regardless of specific gravity, whether singly or in combination with other substances.

- In addition, the Contractor agrees to indemnify and hold the UNC Charlotte harmless against all claims, liabilities and costs, including attorney's fees, incurred in the defense of any claim brought against the end user resulting from such as spill.

23.0 Miscellaneous Additional Safety Rules for the Protection of UNC Charlotte Students, Faculty, Employees, Neighbors and Property:

- The Contractor must not perform work over the heads of people or leave tools or equipment overhead. The Contractor must isolate the work area with appropriate barriers and use UNC Charlotte Police or Parking Services details when pedestrian and/or vehicular traffic is impeded.
- The Contractor must abide by all posted signage (i.e. radiation hazard, authorized personnel only, no smoking, chemical hazard, caution, danger, biohazard).
- All portable ladders, including but not limited to extension ladders, step ladders, and job made ladders are the Contractor's sole responsibility to maintain and use according to 29 CFR 1910.27.
- Immediately report unsafe acts or conditions affecting the work site or UNC Charlotte to your Supervisor,

  UNC Charlotte PM/CM, UNC Charlotte EHS Office at 687-1111 or UNC Charlotte Police.

Appendix – A Lead Paint Removal Sign

UNC CHARLOTTE

LEAD PAINT REMOVAL PROJECT

DO NOT ENTER!

If you have questions or concerns please contact:

Environmental Health & Safety Office

(704) 687-1111

(Off hours: Campus Police)

Appendix – B Contractor Safety Handout

Contractor Safety Program Handout

Emergency Procedures

In case of an emergency please call Campus Police (from a cell phone) 704-687-2200, or 911 (from a campus phone).

Barricades and Fencing

Construction chain link fencing must be erected around construction job sites. Temporary cyclone fencing, plastic safety fencing, and portable manhole barricades are examples of acceptable exterior barricading. Yellow caution tape and/or cones are considered acceptable barricades for internal use.

Training

Contractors shall train their employees so that they can complete work on campus in a safe and OSHA compliant manner. In some instances, UNC Charlotte site specific training may be required due to facility specific issues, hazards, or processes.

Housekeeping and Egress

- The Contractor must keep all corridors and exit doors clear at all times. In addition, all external exit ways, walks, and drives shall be kept free from debris, material, tools, and vehicles.
- Jobsite must stay clean, orderly, and debris must be disposed of regularly.
- Fire prevention methods such as fire watch, additional fire extinguishers, and material storage must be used when required.

Fire Protection Equipment

The Contractor shall NOT disable any fire protection system without receiving prior authorization from UNC Charlotte Project/Construction Manager (PM/CM).

- All fire protection equipment impairments must be coordinated with UNC Charlotte PM/CM to ensure proper notifications to building occupants and regulatory agencies.
- A temporary system must always be in place during fire protection equipment impairments.

Hazardous Communication

Contractors shall have Material Safety Data Sheets (MSDS's) and/or Safety Data Sheets (SDS) at the jobsite for all hazardous chemical/s that they will be using / handling on UNC Charlotte property.

The Contractor may request and review MSDS/SDS for any materials that are encountered on UNC Charlotte property during the performance of their work.

Confined Space Program

Before entering any University-identified Confined Space, the Contractor shall develop, implement, and maintain its own Confined Space Entry Program, including provisions for emergency rescue, in accordance with all safety regulations. **Note:** All manholes on campus are considered permit-required confined spaces.

The Contractor shall complete a Confined Space Permit before initial entry to any Permit Required Confined Space on campus.

- Contractors are required to provide their own equipment and permits when conducting confined space entries. When simultaneous work is to be conducted by the Contractor and UNC Charlotte personnel, a procedure will be developed by the Contractor to coordinate entry.
- Contractor has reviewed Confined Space Summary Sheet indicating permit spaces and requirements for entry. Contractor has notified UNC Charlotte of Permit Space Program it will follow while on campus. Contractor is apprised of precautions and procedures UNC Charlotte has in effect concerning the specified Confined Space.
- Contractor is advised of procedures to coordinate entry of their employees with UNC Charlotte employees.
- Debrief the contractor after entry operations were concluded regarding Permit Space program followed, any hazards confronted or hazards created.

Table 1 – Confined Space Summary Sheet –Printer friendly version

http://safety.uncc.edu/sites/safety.uncc.edu/files/media/forms/UNC_Charlotte_Confined_Space_Summary_Sheet.pdf

UNC - Charlotte - - Permit Required Confined Spaces - - Campus Analysis Summary Sheet - 07/2014 Revision					Environmental Health and Safety Office	
Building	**Description**	**Hazard**	**Permit Required Confined Space**	**Hazard Control Procedure**	**Atmospheric Monitoring**	**Comments**
Entire Campus	Sanitary Sewer Manholes	Toxic Gases - Hydrogen Sulfide, Sewer Gas, Methane, Insufficient Oxygen, Bacteria Potential	Y	Forced air ventilation is required before entry unless the space is proven to be free of atmosphperic hazards or no atmospheric changes will occur due to work operations or manhole conditions. Full Tyvek suit and gloves before entry, body harness and retraction device required.	Continuous 4 Gas Monitoring with 4 gas meter, check atmosphere in space by using stratifed method before allowing entry.	Manholes are located around campus. Depths of manholes may vary greatly. Always check atmosphere from top to bottom before entering. Full Permit Completion Required.
Entire Campus	Sanitary and Storm Sewer Pump Lift Stations	Toxic Gases - Hydrogen Sulfide, Sewer Gas, Methane, Insufficient Oxygen, Bacteria Potential	Y	Lift station pump system must be fully de-energized (LO/TO) according to the applicable procedure. Forced air ventilation is required before entry unless the space is proven to be free of atmoshperic hazards or no atmospheric changes will occur due to work operations or lift station conditions. Full Tyvek suit and gloves before entry, body harness and retraction device required.	Continuous 4 Gas Monitoring with 4 gas meter, check atmosphere in space by using stratifed method before allowing entry.	Always check atmosphere from top to bottom before entering a sanitary sewer lift station. Full Permit Completion Required.
Entire Campus	Storm Sewer/Greywater Manholes	Toxic Gases - Hydrogen Sulfide, Sewer Gas, Methane, Insufficient Oxygen, Bacteria Potential	Y	Forced air ventilation is required before entry unless the space is proven to be free of atmosphperic hazards or no atmospheric changes will occur due to work operations or manhole conditions. Full Tyvek suit, gloves, body harness and retraction device required. If at all possible, do not enter manhole if there is any possibility of precipitation occurring during the manhole entry period.	Continuous 4 Gas Monitoring with 4 gas meter, check atmosphere in space by using stratifed method before allowing entry.	Manholes are located around campus. Depths of manholes may vary greatly. Always check atmosphere from top to bottom before entering. Full Permit Completion Required.
Entire Campus	Telecommunication Manholes	Electrical Hazards, Potential for Insufficient Oxygen, carbon monoxide from engines running	Y	Cordon/barricade area to prevent pedestrian traffic/entry. Ventilation may be required before entry depending on atmosphere test. Ventilate space fully if hazardous atmosphere is present. Full harness and retraction device required. Any Electrical / Energy Hazards must be eliminated or controlled (LO/TO) before entry.	Continuous 4 Gas Monitoring with 4 gas meter, check atmosphere in space by using stratifed method before allowing entry.	High Voltage hazard controls may be required additionally if manhole contains high voltage circuits & feeds. Full Permit Completion Required.
Entire Campus	Steam & Hot Water Supply Manholes	Heat, Burn Hazards, Potential for Insufficient Oxygen, carbon monoxide from vehicles and equipment usage	Y	Cordon/barricade area to prevent pedestrian traffic/entry. Ventilation may be required before entry depending on atmosphere test. Body harness and retraction device required, Steam service must be off in the manhole (LO/TO) before entry or special precautions must be taken for hot tap/work. All person/s and public must be back safe distance from work location when re-energization occurs.	Continuous 4 Gas Monitoring with 4 gas meter, check atmosphere in space by using stratifed method (top to bottom) before allowing entry.	Manholes are located around campus. Depths of manholes may vary greatly. Always check atmosphere from top to bottom before entering. Full Permit Completion Required.
Entire Campus	Electrical Manholes & Vaults (Depending on Configuration)	Electrical Hazards, Potential for Insufficient Oxygen, carbon monoxide from engines running	Y	Cordon/barricade area to prevent pedestrian traffic/entry. Check manhole lid for elevated temp before removing, crack lid slightly to relieve pressure, if any. Full Ventilation may be required before entry depending on atmosphere test. Full harness and retraction device required. Electrical Hazard must be eliminated or controlled (LO/TO) before entry. All watches, rings and other jewelry must be removed. Follow all high voltage and NFPA arc flash control procedures. All person/s and public must be back safe distance from work location when re-energization occurs.	Continous 4 Gas Monitoring with 4 gas meter, check atmosphere in space by using stratifed method before allowing entry.	Manholes are located around campus. Depths of manholes may vary greatly. Always check atmosphere from top to bottom before entering. Full Permit Completion Required.
Entire Campus	Air Handlers (Fans and Motor Compartments) Housings that allow for personnel entry	Mechanical Parts - Rotating Fans and associated equipment, electrical hazards	N	Air Handlers are non-permit required confined spaces for normal entries if the equipment is fully de-energized (LO/TO) per the applicable procedure. **The air handler becomes permit required if any kind of welding, cutting or burning is completed or chemicals are used that release fumes or vapors within the air handler enclosure.** Ventilate with portable fans as necessary to remove any fumes or vapors from work processes.	4 Gas Meter and continuous air monitoring required if any kind of atmospheric hazard is present or created (burning, cutting, welding, solvent, combustible, flammables) within the space.	All access doors should be opened whenever possible to allow for air circulation within smaller air handling units. **An air Handler becomes a Permit Required Confined Space when welding, brazing or cutting or chemical usage produces the potential for change in the atmosphere within the area where work is being completed.**
Burson	Roof Monitors (Dog Houses)	Mechanical Parts - Rotating Fans and associated equipment, electrical hazards, heat (during summer), very confined, congested work area.	Y	Notify lab/s of ventilation service interruption. Electrical energy to the equipment being serviced must be de-energized and controlled (LO/TO) initially upon entry. At least two people are required to be present at all times while working inside a roof monitor or associated enclosures, Loose fitting clothing or hair should be removed or controlled due to rotating equipment hazards. Personnel are required to have two way radios. Protective gloves should be worn whenever exposure to ductwork interior surfaces or chemical residue can occur.	4 Gas Meter and continuous air monitoring required if any kind of atmospheric hazard is present or created (burning, cutting, welding, solvent, combustible, flammables) within the space.	This confined space is considered to be permit required due to the rotational hazards present with the operation of the exhaust fan units. Guards on Fan units must remain in place except for the units that are de-energized and being serviced.
Entire Campus	Cooling Towers	Mechanical Parts - Rotating Fans and associated equipment, electrical hazards, Heat (during summer), water hazard within sump, pressurized water hazard.	N	Cooling Towers are non-permit required confined spaces for normal entries if the equipment is fully de-energized (LO/TO) per the applicable procedure. All electrical energy, make up supply water (if applicable) and chemical pumps (if applicable) to associated cooling tower equipment must be de-energized and controlled before entry. **The cooling tower becomes permit required if any kind of welding, cutting or burning is completed or chemicals are used that release fumes or vapors within the cooling tower enclosure.** Ventilate with portable fans as necessary to remove any fumes or vapors from work processes.	4 Gas Meter and continuous air monitoring required if any kind of atmospheric hazard is present or created (burning, cutting, welding, solvent, combustible, flammables) within the space.	All access doors should be opened whenever possible to allow for air circulation within the cooling tower. **A Cooling Tower becomes a Permit Required Confined Space when welding, brazing or cutting or chemical usage produces the potential for change in the atmosphere within the area where work is being completed.**
Main Campus Boiler Plant, RUP #1, RUP #2	Boilers (any entry inside the cavity of a boiler unit)	Extremely tight space for entry and work, potential for oxygen deficient atmosphere, electrical hazards, heat and burn hazards if boiler has not fully cooled prior to entry.	Y	Allow Boiler to cool at least 72 hours before entry. Electrical, mechanical and fuel energy source to the equipment must be de-energized and controlled (LO/TO) before entry, ventilation to be used if any kind of welding, cutting or burning completed within the enclosure. **Non-permit confined space ONLY when the entire boiler housing end cap is removed for full boiler access. Boiler interior access through hatchway or manway opening is a permit required confined space entry.**	Continuous 4 Gas Monitoring with 4 gas meter, check atmosphere in space by using stratifed method before allowing entry. Use ventilation if conditions warrant or welding, cutting, brazing or solvent usage is undertaken	All hatchways/manways should be opened whenever possible to allow for air circulation within the boiler. Full Permit Completion Required for entry into a boiler unit through a hatchway or manway. Full boiler end cap removal is a non-permit required confined space entry.
Entire Campus	Mechanical Room Steam line Sumps/pits	slip / electrical / illumination / water	Y	Electrical energy to the equipment must be de-energized and controlled (LO/TO) before entry, ventilation must be used if any kind of welding, cutting or burning completed within the enclosure. Wear body harness and use retraction device in the event that entrant must be removed from space in emergency.	Continuous 4 Gas Monitoring with 4 gas meter, check atmosphere in space by using stratifed method before allowing entry. Use ventilation if conditions warrant or welding, cutting, brazing or solvent usage is	Hot work permit needed for any cutting, welding or brazing within the sump if any materials in the sump are combustible/flammable. Full Permit Completion Required for entry into a mechanical room sump
Facilities Mgmt (main boiler, RUP #1 & RUP #2)	Fuel Tanks (Heating and Diesel Fuel)	Lack of easy entry due to access through manways/hatchways, potential for hazardous atmosphere and fire due to	Y	Electrical pumping equipment must be de-energized and controlled (LO/TO). Fully drain all fuel from tank to be entered, open all hatches if possible to allow ventilation, space must have forced ventilation before entry. Entrant must have body harness with rope held by attendant at hatch opening for emergency retrieval.	Continuous 4 Gas Monitoring with 4 gas meter, check atmosphere in space by using stratifed method before allowing entry.	Hot work permit needed for any cutting, welding or brazing on the interior of the tank. Tank interior must protected from sparks if residual petroleum remains. Full Permit Completion Required for entry into a tank.
Entire Campus	Dust Collectors & Cyclones	Converging walls / engulfment, electrical hazards, dust hazards	Y	Electrical energy and compressed air must be de-energized and controlled (LO/TO). If hopper or dust collector/cyclone housing is large enough to be entered all electrical and mechanical equipment must be de-energized. 1/2 face respirators with HEPA filters must be worn to make entry.	Continuous 4 Gas Monitoring with 4 gas meter, check atmosphere in space by using stratifed method before allowing entry.	Hot work permit needed for any cutting, welding or brazing on the hopper or collection unit if material is combustible / flammable. Full Permit Completion Required for entry into a dust collector / cyclone.
CAB Dining Hall	Crawl Space	Tight entry to all areas of the space. Potential for hazardous atmosphere if a sewer leak occurs. Potential for bacteria exposure if sewer leak occurs.	Y	Ventilation may be required before entry depending on atmosphere test. Full Tyvek suit, gloves and goggles required before entry. Due to tight, crawling access required, attendant/s need to keep in contact with entrants. Flashlights or other portable lighting will be needed. Polyethylene plastic sheeting is helpful to have to place on crawl space floor in work area.	Continuous 4 Gas Monitoring with 4 gas meter, check atmosphere before entering through crawl space vent (if available in area where work is to be done) check air on the way in to the work area upon initial entry.	This confined space has narrow passages from one area of the building to the next. Always keep an adequate open path behind you so that emergency removal can be conducted as easily as possible.
Belk Tower	Belk Tower	Very tight entry, potential for high heat during summer, potential insect (bees, etc.)	Y	Space must be fumigated or treated before entry to displace any bees or other insects that may cause stings to the entrant/attendant. Allow at least a couple of hours for the treatment to work on the insects. Entrant must wear harness and be attached to the fall protection device when going up or coming down the ladders.	4 Gas Meter and continuous air monitoring required if any kind of atmospheric hazard is present or created (burning, cutting, welding, solvent, combustible, flammables) within the space.	Attendant may stay at the bottom of the ladder but must stay in direct contact with the entrant at all times. Attendant may also watch entrant from outside the tower if entrant can be seen in plain view. Additionally, radio contact must be used.

Lockout/Tagout Program: Control of Hazardous Energy

The Contractor shall have a Lockout/Tagout program in accordance with OSHA regulations (29 CFR 1910.147) as it applies to the work of their contract. The Contractor shall have a copy of its Lockout/Tagout Program on-site and readily available for examination by University officials before the start of any work. At no time shall the Contractor or its employees override any locks or tags that they encounter during the performance of its work unless otherwise specifically directed by the University. UNC Charlotte Facilities Management personnel will shut down and start up utility systems.

- The Contractor shall maintain a log of all machines and equipment that are locked out and/or tagged out during the performance of the work of while under contract. The Contractor's log shall identify the equipment that was affected, the date(s) that work was performed, and the name of the individual performing the work. The Contractor shall keep this log at the worksite for examination by University officials.
- Whenever the Contractor and UNC Charlotte Facility Management personnel must perform a group LO/TO, both LO/TO programs must be coordinated to comply with 29CFR 1910.147 and the UNC Charlotte LO/TO program.
- On energized systems, The Contractor shall notify the University PM/CM before the application of LO/TO devices **AND** when the Contractor's LO/TO has been canceled and the affected process/es are to be brought on-line.

Electrical Safety Program

- Contractors shall ensure that only qualified electricians are permitted to work on electrical systems and equipment that uses or controls electrical power.
- UNC Charlotte Facilities Management personnel will shut down and start up utility systems in coordination with Contractor performing work on such systems, unless otherwise specifically directed by UNC Charlotte.
- All work shall be conducted in accordance with all applicable OSHA regulations and the National Fire Protection Association (NFPA) 70E Standard for Electrical Safety in the Workplace.
- The Contractor shall not leave electrical boxes, switch gear, cabinets, or electrical rooms open when Contractor personnel are not present at the worksite.

Medium Voltage Program

- For the purposes of this procedure any current exceeding 600 volts meets the definition of Medium/High Voltage. In UNC Charlotte procedures Medium Voltage and High Voltage are used interchangeably.
- The Contractor shall have a copy of its high voltage safety program at the work site before the start of any work where 29 CFR 1910.269, Electric Power Transmission and Distribution Standard are applicable to contract work.
- Unless otherwise specifically directed by UNC Charlotte, UNC Charlotte Facilities Management personnel will shut down and start up utility systems.

Fall Protection and Elevated Work Program

- Fall protection must be used above the uniform threshold height of 6 feet from a lower level.
- Reduce fall potential by using Engineering Methods, Administrative Methods, and Personal Protective Equipment

- Any opening from which there is a drop of more than 4 feet from which UNC Charlotte faculty, staff, students or the public may fall shall be guarded in accordance with "29 CFR 1910 Subpart D – Walking Surfaces".
- The Contractor must not perform work over the heads of people or leave tools or equipment overhead.

Compressed Gas Cylinder Safety Program

- Separate oxygen and flammable gas cylinders by 20 feet or a 5 foot high fireproof barrier.
- Secure compressed gas cylinders in an upright position in a welding cart or to a solid object (using chains, straps, or a rigid retaining bar).
- Valve protection caps must be in place when compressed gas cylinders are transported, moved, or stored.

Powder Actuated Tools Safety Program

- Contractors who operate powder-actuated tools shall be properly trained on their use. Documentation should be readily available.
- Powder-actuated tools shall be left unloaded until they are actually ready to be used.

Hot Work Program: Welding, Cutting and Brazing

The Contractor engaged in hot work must be authorized to do so by UNC Charlotte PM/CM. The Contractor shall develop, implement, and maintain its own hot work program and any permits associated with their program.

- The Contractor shall use a hot work permit for each separate work activity and shall ensure that the conditions of the permit are met at all times.
- Request for a fire system inspection to determine if the system needs to be shut down or modified, must be made to the PM/CM at least 24 hours before starting any hot work.

Cranes and Rigging Program

- Each crane, rigging, or hoist brought onto UNC Charlotte property must have an annual inspection performed by a certified testing agency.
- All operators must possess a valid North Carolina Certified Crane Operators (CCO) License.
- No lifts shall be made over faculty, staff, students and the public. Lifts over occupied facilities may only be made after consultation with and approval by the UNC Charlotte PM/CM and the Environmental Health and Safety Office.

Excavation and Trenching Program

- UNC Charlotte Facilities Management must be notified prior to any excavation work, driving of spikes/stakes into the ground, and drilling so that utility locations can be determined and demarcated.
- The spoil pile removed from a trench must remain a minimum of 2 feet away from the edge of the trench at all times.
- Ladders must be provided for access and egress to/from the excavation where excavations exceed depths more than 4 feet.
- All excavations 5-feet or more in depth must be shored or sloped unless certified by a Registered Professional Engineer.

- Excavations must be barricaded.

Asbestos Containing Materials (ACM) Management

- Unless otherwise noted, UNC Charlotte will have determined the presence, location, and quantity of ACM or potential ACM that would be specifically impacted by the work of your contract.
- The Contractor shall not disturb asbestos-containing materials unless such activities are part of your contracted work and you are specifically trained and licensed by the State of NC and Mecklenburg County to undertake ACM abatement work.
- Any suspect asbestos containing material that is observed by the Contractor to be crushed, ripped, broken or in any way damaged should be reported to the UNC Charlotte PM/CM immediately.

Lead Program

- Unless UNC Charlotte provides a specific lead-paint notice, Contractor is to assume that any painted surface they come in contact with is coated with lead-based paint.
- Any painted surfaces that have loose, flaking, and chipping or otherwise non-intact paint shall not be disturbed by the Contractor and should be reported to the UNC Charlotte PM/CM immediately.

Control of Hazardous Chemicals / Waste

- All chemicals (liquids, solids, gases, etc.) used by Contractors that are characteristic or listed EPA Hazardous Wastes shall be safely managed and stored on campus. Hazardous wastes shall be removed from University property promptly and shall be properly disposed of by licensed hazardous waste disposal firms off-site when they are no longer usable and have been designated as a waste product.
- Hazardous Wastes are not permitted to be drained, spilled, leaked, deposited or otherwise placed on University grounds or property in any way.

Personal Protective Equipment, PPE

- All contractors must issue their employees with appropriate PPE for the work being undertaken.
- It is the contractor's responsibility to ensure the correct use of PPE.

Spill Prevention

- Contractors shall be responsible for any costs (direct or indirect) associated with damage and/or cleanup of a hazardous substance and/or oil spill caused by the Contractor or their agent.

Miscellaneous Additional Safety Rules

- Contractor must abide by all posted signage.
- All ladders are the contractor's sole responsibility.
- Immediately report unsafe acts or conditions affecting UNC Charlotte to your supervisor, UNC Charlotte PM/CM, EHS or Campus Police