Environmental Health and Safety

Construction Safety Requirements

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I. Definitions

General Contractor: The party named in the contract agreement who will execute the Work and who shall be responsible for the proper completion of the Project.

Document: University of Michigan-Dearborn (UM-Dearborn) Construction Safety Requirements.

Hazardous Materials: Any pollutant, hazardous or toxic substance, waste or material, including oil products, mold, asbestos, asbestos-containing materials, lead, lead-containing materials, urea formaldehyde foam insulation, transformers or other equipment which contains dielectric fluid-containing polychlorinated biphenyls, flammable explosives, radioactive materials or other material or substance designated or regulated as hazardous or as a toxic substance or waste, pollutant or contaminant under Regulations.

Job Hazard Analysis (JHA): A safety analysis to be submitted by subcontractors/trade contractors prior to the commencement of work on a Project. Also known as a Job Safety Analysis or Pre-task Analysis.

MIOSHA: Michigan Occupational Safety and Health Administration.

EHS: The University of Michigan-Dearborn Environmental Health & Safety Department.

Owner: The Regents of The University of Michigan, a Constitutional Corporation having its principal offices in Ann Arbor, Michigan, represented on the Project by the Owner's Representative.

Owner's Representative: The individual designated in writing by the Owner to receive all communication under the Contract Documents and with the authority to bind the Owner with respect to decisions made and actions taken pursuant to the Contract Documents.

Plan/Contractor's Project-Specific Safety Plan: The Plan created by the Contractor pursuant to the requirements of its Contract with UM-Dearborn outlining how the Contractor intends to address safety on the Project, and meet the Contractor's responsibilities to provide a safe work environment and to aid in developing a program to eliminate accidents, injuries and property damage. It is the Contractor's responsibility to ensure compliance with all applicable MIOSHA standards.

Project: The building or facility, improvement, alteration, addition or repair, the construction for which is contemplated under the Contract Documents.

Project Site: Those areas indicated in the Contract Documents where the Work is to be performed. This includes premises owned by UM-Dearborn as described in the Contract between UM-Dearborn and Contractor and/or areas contiguous thereto, including any Project Site set up by UM-Dearborn for use exclusively for storage of material or equipment or for on-Project Site fabrication of material to be used on the Project Site, including temporary locations.

Project Team: The Owner's Representative, Architect and Contractor, together with such other persons or entities selected by the Project Team and whose management, responsibility and collaboration are required for the Project's success.

Qualified Safety Person: One who, by knowledge, training, and experience, has successfully demonstrated to the employer his or her ability to solve or resolve problems relating to the subject matter, the work, or the project.

Subcontractor: Where "subcontractor" is referenced, include all subcontractors and lower tier subcontractors engaged to perform work on the Project.

University of Michigan-Dearborn: References in this Document to "University of Michigan-Dearborn", include the entire Dearborn Campus, and other properties owned or controlled by University of Michigan-Dearborn.

Work: The construction required by the Contract Documents whether completed or partially completed, performed by the General Contractor, Subcontractor, or other lower tiered subcontractors. Work refers to the furnishing of labor, furnishing and incorporating materials and equipment into the construction and providing any service required by the Contract Documents to fulfill the General Contractor's obligation to complete the Project.

II. Introduction

The University of Michigan-Dearborn endeavors to maintain safe working conditions for its staff and a safe and healthy environment for its students and visitors. This also includes our construction contractors and their respective workforces. Safety is an essential component of construction work at the University of Michigan-Dearborn. It is a key contractual responsibility

for those managing and performing such work and an important determinant of overall Project success. The University of Michigan-Dearborn believes that effective contractor safety programs enhance projects by assisting contractors to systematically identify and evaluate anticipated hazards and establish controls in advance of actual work. While the obvious purpose of a contractor safety program is to reduce on-the-job injuries and illnesses to the greatest extent possible and to ensure compliance with all workplace safety standards, the interactions developed through these programs can also bring collateral benefits in the form of improved communication, documentation, and cost savings.

University of Michigan-Dearborn Construction Safety Goal

University of Michigan-Dearborn's immediate goal is for contractors to work injury and illness free on each of the projects they perform at UM-Dearborn. Our goal is zero accidents on construction projects.

Scope of Document

The contractor is responsible for the safety of its employees, and the University of Michigan-Dearborn is committed to helping the Contractor meet its goals of a safe, healthy and productive work site. The University provides this document to help contractors provide a safe environment for their employees and everyone else who visits the project site. The applicability of this document is for all construction projects administered by the **Owner's representative**. The contractor nevertheless remains solely responsible for the safety of all persons and property, and must take whatever steps may be necessary or appropriate to assure that safety. The contractor is solely responsible for the development and implementation of their own safety program. This document provides contractors with UM-Dearborn's specific requirements for incorporation into their safety programs implemented pursuant to their contracts for work to be performed at UM-Dearborn. This document is not designed to address every possible environmental, safety, or health issue. No specific requirements given herein are intended to limit, replace or supersede applicable provisions of federal, state, and municipal safety laws. The requirements in this document apply to all new construction, renovation, alteration, and demolition projects conducted by general contractors, subcontractor and their respective employees.

The contractor shall comply with applicable provisions of federal, state, and municipal safety laws and building codes. This document outlines contractual requirements as well as suggests the roles and responsibilities various parties have for construction safety, identifies key facility resources, outlines minimum safe work requirements, and provides guidelines for responding to potential emergencies. This document, however, does not relieve any contractor of its obligations to

(1) control the means and methods by which it and its employees, subcontractor and agents perform work or services at UM-Dearborn; (2) independently ascertain what health and safety practices are appropriate and necessary for the performance of such Work; and (3) develop, implement and enforce a comprehensive health and safety program appropriate for the Work or services performed that complies with all rules, regulations and industry standards, including permits, governing the contractor and the Project.

In various places, this document requires contractors to develop and administer plans for safety, fire prevention and other environmental, health and safety issues on a Project. The UM-Dearborn shall have the right, but not the obligation, to review and comment on any such plan and any amendments to it. The contractor shall carefully consider all UM-Dearborn comments on the Plan, but the contractor bears final responsibility for scope, detail, implementation, enforcement and administration of all such plans. Neither any comments offered by UM-Dearborn nor the failure of UM-Dearborn to offer any comments shall in any way reduce the contractor's responsibility for safety.

The provisions set forth in this document are intended to either be in addition to or clarify the requirements of the contract documents. This document shall never be interpreted as lessening or superseding any requirement set forth in the contract documents. Additional site-specific safety requirements may be mandated under the contract "Special Conditions".

III. Safety Management System

Each project shall have a safety management system in place that outlines the policies, processes, instruction, and documentation that will serve to establish the culture of safety and understanding for all tiers involved on the project. The following components shall be part of the systematic approach:

A. Contractor Prequalification

UM-Dearbon has established requirements pertaining to contractor safety. UM-Dearborn seeks an EMR of 1.0 or less of contractors and subcontractors/trades contractors and will evaluate other safety performance criteria. EMR will be provided upon the request of a University representative. The contractor is responsible to prequalify all subcontractors/trade contractors engaged on a project per their own written prequalification process.

B. Contractor Safety Representative

For all projects, a designated ***qualified safety representative*** shall be on site at all times while work is being performed. The minimum qualifications for the *qualified safety representative* are as follows:

Qualified Safety Representative

The designated qualified safety representative shall have completed an authorized **30 hour OSHA Construction Safety Course or equivalent education or work experience** and have current CPR/First Aid Training from a nationally recognized program. This employee may also function as a superintendent, foreman or crew leader on the Project. **A copy of the qualification will be submitted with the Site Specific Safety Plan**.

The general contractor must identify their onsite qualified safety representative prior to the commencement of any work and provide evidence to UM-Dearborn that this employee meets the minimum requirement listed above. No work is to be performed on site when a qualified safety representative is not present. The general contractor shall provide notification to UM-Dearborn of any changes in the designation of a qualified safety representative.

A detailed job description that outlines the responsibilities and authority for the *qualified safety representative* shall be made available upon request. The job description should include the following items, as applicable: Enforce compliance with project-specific safety plan, project-specific orientation, job hazard analyses (JHA's), accident investigation, attendance at progress meetings, documented safety inspections. The University of Michigan-Dearborn reserves the right to request that the general contractor replace *any* safety representative at any time during the project.

C. Communication

Orientation

The general contractor is required to develop a project-specific safety orientation for all workers, including subcontractors and other individuals performing work at the site. Orientation training shall address all components identified in the project-specific plan. The orientation must be completed prior to allowing workers to start on-site. UM-Dearborn employees who have a direct role in the execution of the project or need access to the project area to perform work incidental to the project, must wear required PPE and receive a limited orientation covering only information that they need to know specific to the project.

Project Safety Communication

The general contractor is required to implement a policy for ongoing safety communication during the Project. It is essential to keep safety in the forefront by communicating the importance of safety on a regular basis. This may be accomplished though the use of daily safety huddles, toolbox meetings, and/or other such initiatives.

All personnel shall be informed of the UM-Dearborn Construction Safety Tipline as an avenue to anonymously report non-emergency safety related issues. The number for the Tipline is (866) 990-0111. Issues will be followed up by the UM-Dearborn EHS department during normal business hours.

D. Project-Specific Safety Plan Overview

General contractors must develop, communicate, and implement a written project-specific safety plan ("Plan"). The goal of the Plan is to assist general contractors in meeting their responsibilities to provide a safe work environment and to aid in developing a program to eliminate accidents, injuries, and property damage.

Although the specific elements of each Plan will vary by the Work or services to be provided and project size, complexity, and location, at a minimum, **the Plan must adequately address the requirements in Section IV of this Document**, if applicable to the general contractor's work. The Plan must also identify foreseeable project-specific hazards and list the general contractor's mitigation and control of such hazards. As the Plan is meant to be a living document, general

contractors are to amend the Plan to address any new hazards that were not addressed in the initial Plan but are later identified during the course of performing work at the UM-Dearborn. This Plan is required to be followed by all subcontractor as well.

IV. UNIVERSITY ADDITIONS FOR PROJECT-SPECIFIC SAFETY PLAN

A. Accountability Plan

An accountability plan shall be developed, communicated, and implemented for the project. This plan shall include disciplinary procedures to be utilized for noncompliance with safety requirements. Violations may result in work stoppage and progressive enforcement action pursuant to the terms of the contactor's contract with UM-Dearborn. If violations are severe or repetitive, the general contractor or subcontractor may be prohibited from working at UM-Dearborn in the future.

B. Audits/Inspections

The general contractor shall conduct and document regular safety inspections (minimum of informal daily and formal weekly) of their work areas and practices, and those of their subcontractors.

Documentation of inspections shall be readily available for review on the project site. The general contractor will immediately correct any hazardous or otherwise noncompliant conditions identified and maintain documentation of the corrective action.

C. Cell Phone Usage

The general contractor shall have a cell phone policy with an objective of prohibiting jobsite cell phone usage except as necessary for the performance of work tasks. At a minimum, the policy shall address the following:

- Designated "safe zones" for general use of cell phones by workers
- A "No Walking While Talking" policy for work task related cell phone usage
- When a cell phone is part of an operation requiring a Job Hazard Analysis, the use of the cell phone shall be specifically detailed in the analysis.

D. Crane Safety and Rigging

The general contractor is responsible for identifying anticipated crane use in its Plan and reviewing planned work in advance with the owner's representative. The general contractor shall maintain documentation of equipment inspection on the project site and make it available upon request. All repairs and adjustments noted on inspections shall be corrected prior to equipment use. This applies to all power-operated equipment used in construction for hoisting, lowering, and/or horizontally moving suspended loads. If the crane or its associated rigging has sustained any damage, the crane and its associated rigging shall be fully re-inspected, and proof of the inspection and its results shall be maintained on the project site.

Daily and pre-shift inspections shall be performed and documented by the crane operator or other properly trained representative designated by the general contractor in accordance with the manufacturer's recommendations. All cranes must have load charts in cabs.

All crane operators must possess certification from the National Commission for Certification of Crane Operators (NCCCO). Operators must be certified for the specific crane they are operating, in accordance with NCCCO. No employees will be under a suspended load or inside the angle of a hoist line. No employees will stand or work near a cable, chain, or rope under tension unless the nature of the work requires it. Underground utilities at the location shall be identified and considered as well as ground compaction.

Clear communication between the operator of the crane and the signal person shall be maintained at all times during hoisting operations. The method of communication should be detailed in the JHA for the hoisting operation. Only one signal person shall signal a crane at a time.

A properly trained representative appointed by the general contractor shall inspect and document all rigging equipment prior to each work shift. Any rigging equipment found to be defective or damaged shall be immediately removed from use and the project site. Chain slings shall not be used for lifting operations unless specifically designed for a unique application and approved by a properly trained inspector or rigging specialist. Tag lines should be used on all hoisted loads to control the load, unless it is determined that the tag lines would pose a greater

risk to the safety of the load.

It is important to check the weather conditions in your area several times a day. Establish a wind speed at which elevated work or crane operations are suspended; twenty-five mph is a commonly suggested limit.

A plan addressing the hazards of the operation should be in place for all crane lifts. This should be accomplished through the use of the JHA. In addition to the JHA, a critical lift plan (Crane - Job Safety Analysis Form) will be required when any of the following conditions exist:

- The lift is in proximity of a high voltage line.
- The equipment being hoisted has a long-lead time, which would cause business interruption if damage occurred.
- Two cranes are to be used.

If a lift is to be performed over an occupied building, either the building areas that would be affected shall be evacuated during the lift, or the lift shall be scheduled when there will be no personnel in those areas of the building. The decision between evacuating the building or scheduling the lift for off-hours will be made by the owner's representative.

E. Electric – Temporary

The general contractor can reduce the safety risks associated with the performance of electrical work by developing, implementing, and enforcing an effective safety program that requires electrical work to be performed in accordance with the pertinent provisions of the National Electrical Code (most current version), ANSI and MIOSHA Standards, and all other rules, regulations and includes the following:

- With the exception of temporary lighting, all 120 volt, single phase, 15 & 20 amp temporary power circuits shall have ground fault circuit interrupters.
- Portable electric lighting used in moist or other hazardous locations such as drums, tanks, vessels, bins, bunkers, meet rules, regulations and industry standards to qualify as non-explosive. Ordinary shop lighting and portable task lighting should have covers and guards installed.
- Extension cords should be heavy-duty 3-wire type, but shall not be flat. Whenever

possible, extension cords should be fastened or suspended above the finished floor or work platform in accordance with best practices, industry standards, rules and regulations.

- Determine in advance if any energized equipment or electrical circuits in the work area pose a safety risk to those in the area. Electrical shutdowns with the potential to affect adjacent occupants, adjacent buildings or the UM-Dearborn community must be reviewed and coordinated in advance with the owner's representative in order to make appropriate notifications and precautions. Equipment and conductor de-energization shall occur under Lockout/Tagout controls. If Lockout/Tagout cannot be implemented, work practices that conform to NFPA 70E should be followed.
- Any electrical tools, equipment, or extension cords found defective (e.g., missing or broken ground pins, exposed internal conductors) shall immediately be rendered inoperative by cutting off the plug end or be immediately removed from the project site.

F. Emergency Action Plan

The general contractor shall develop reasonable preparations and contingencies for the various potential emergencies that can occur on the project site, including:

- Project site accidents and injuries;
- Smoke and fire conditions;
- Spills and releases of chemicals or other hazardous materials;
- Structural or equipment failure or collapse;
- Security threats, including public demonstrations, bomb threats, or the discovery of suspicious materials; and
- Severe weather conditions, including high winds.

Since many larger emergencies have potential impacts well beyond their immediate location, it is important for general contractors to understand basic emergency response and evacuation procedures, local emergency resources, and follow-up actions. General contractor are expected to devote significant efforts to ensuring that adequate preparations have been made for the range of foreseeable emergencies that might occur during their work at UM-Dearborn.

The primary means to summon emergency response is by calling 911 on any University telephone or (313) 593-5333 from a non-University phone. Instruct callers to identify that they are on the UM-Dearborn campus, and then give the building/project location. Based upon the incident description, the 911 operator will dispatch police, fire, medical, or other assistance to the scene of the emergency.

The first notification should always be made to 911 (or from a non-University phone, (313) 593-5333) to avoid any delays in response. Establish a communication plan in the event of an emergency situation to allow for immediate communication of the incident to the owner's representative after 911 has been notified.

G. Environmental Health and Safety

Building-Related Hazardous Materials

Several kinds of hazardous materials may be present in older existing buildings, including, but not limited to, asbestos-containing materials, lead-based paint, and mercury containing items or PCB-containing transformers and lamp ballasts. All fluorescent bulbs and ballasts are collected for recycling. Contact owner's representative for recycling containers.

To reduce the safety risks associated with such hazardous materials, the general contractor shall assure that only appropriately trained and licensed contractors are permitted to abate, remediate, or otherwise handle or dispose of hazardous materials. In the event that any suspicious materials are identified during the course of work, the general contractor must comply with the requirements of its contract with UM-Dearborn that address the discovery of suspected hazardous materials and shall immediately stop work in the affected area and arrange for additional inspection or analysis by the EHS Department. The general contractor shall immediately stop work and notify the owner's representative.

Contaminated Soil, Stockpiles,and Debris

Anyone encountering any suspicious soil or buried debris (unusual odors, sheen, and discoloration) during excavation or grounds clearing must immediately notify their supervisor and owner's representative. These materials must not be removed unless or until approved by

the EHS Department. EHS staff will specify procedure including the proper containers to use, proper labeling, preparation for transportation, and proper disposal or recycling requirements. If soil piles exist on site, they shall be covered with tarps to prevent runoff to the storm drains.

Environmental Releases

The general contractor's responsibility for project site materials and operations extends to emergency response services and medical assistance for any project-related accidents, spills, releases, or over-exposures to chemical products. Regulations and University policies strictly prohibit the disposal of chemical products to the ground or into sink or floor drains, storm drains, or regular trash receptacles. The improper disposal of waste material by a worker or other personnel constitutes grounds for immediate and permanent dismissal of those persons from the project.

An environmental contingency spill plan that includes a spill kit on-site shall be developed to address any spills/leaks that may arise on the site. Furthermore, the responsible general contractor will be billed for the costs of abatement or remediation of any environmental release. In the event of a release to the environment, the general contractor must immediately notify the owner's representative and EHS Dearborn. If possible, without endangering individuals, the general contractor must take steps to contain spills or releases and protect any storm drains.

Paint wastes must be properly disposed. Wash water from latex paint can be disposed to the sanitary sewer. Excess latex paint shall be salvaged for reuse or solidified (dried or mixed with kitty litter) for disposal in regular trash. Empty oil based paints can be dried and disposed in regular trash. All oil based paints and solvents must be collected for proper disposal.

All wash water from any chemical or detergent cleaning application must be properly disposed. For exterior cleaning, the general contractor must obtain approval from the Michigan Department of Environmental Quality (MDEQ) to discharge to the ground by 'authorization by notification' if appropriate, or collect all wash water and sample to determine proper disposal. Contact EHS for more information on these requirements.

General contractor must collect all liquid wastes from draining or flushing of chiller systems. Contact EHS for waste sampling. EHS or an EHS approved waste disposal contractor must be used for disposal of wastes.

Contractors working on refrigeration systems, air-cooling units or any other CFC containing equipment (including scrapped equipment) will not vent CFCs to the atmosphere. If CFCs must be removed from the system during work, the contractor will follow the Project's specifications for recovering CFC gases for recycling in a proper CFC recovery unit and follow all pertinent state and federal requirements. Facilities Management should be notified, at (313) 593-5270, prior to work on any refrigeration systems, air-cooling units or other CFC containing equipment.

Safe Use of Chemical Products

The general contractor is responsible for the safe and lawful receipt, handling, storage, transport, use, and disposal of all materials used in their work, including chemical products or hazardous wastes generated from the work. The general contractor can reduce the safety risks associated with working with chemicals or chemical products by developing, implementing, and enforcing an effective safety program that complies with rules and regulations, including MIOSHA standards. Users shall provide copies of product material safety data sheets to the general contractor/construction manager for chemical products brought onto the project site and keep them immediately available for general contractor's employees, workers, subcontractor, the owner's representative, other UM-Dearborn officials, government inspectors, and emergency response personnel. The general contractor and subcontractors responsible for these materials shall also ensure that they are appropriately and safely packaged, labeled, stored, and used. The general contractor shall ensure that employees have training, personal protective equipment, and emergency response supplies appropriate to the materials and their use on site. The owner will in turn provide a list of hazardous chemicals/products and their locations within the construction area to the project manager upon request. Safety data sheets will be available for review and inspection in a central location upon request.

Use of less hazardous chemicals should always be evaluated. All solvent-based products are prohibited from use on UM-Dearborn projects unless specifically listed in the project's

specifications or the general contractor receives approval from **Owner's Representative** and EHS to use a solvent-based product. In the event that such a product is allowed, ensure that proper safeguards or controls legally required or otherwise needed to protect those on the site as well as adjacent university occupants from injury are in place.

Storage of Chemicals and Oil

-Small Containers

Containers for oil and chemical storage (such as bottles, jugs, drums, vials, boxes) must be:

- In good condition (no cracks, leaks, rust)
- Placed in secondary containment
- Compatible with the chemical
- Labeled with the "Chemical Name" and hazard associated.
- Kept CLOSED unless actively removing chemicals. Funnels must be removed immediately after use and the container lid must be closed and sealed.
- Incompatible chemicals shall be segregated.
- All containers shall be protected from the elements.
- All containers shall be secured to prevent theft or vandalism.

-Bulk Containers

University follows the Spill Prevention Control and Countermeasure (SPCC) Plan and Michigan Part 5 Rules – Spillage of Oil and Polluting Materials to control chemical bulk storage. The general contractor must follow these regulations.

Secondary containment is required for all oil and chemical bulk storage containers and the containment system must hold 100% of the largest container or 10% of the total volume of all the containers in the system, whichever is larger. Catchment must be in place while unloading and loading from a tanker truck to an aboveground or underground storage tank. The catchment must hold the capacity of the largest inner single compartment of the delivery truck.

All oil containers 55 gallons or greater must be inspected monthly for leaks or spills.

H. Equipment Safety

Equipment Operator Certification

The general contractor shall have a process in place for validating training and certification, if required, for all workers using construction equipment such as cranes, hoists, aerial lifts, mass climbing devices, scaffolding, mobile equipment and specialty equipment.

Tagging System

Establish the use of a tagging system for equipment required to be inspected on a daily basis (such as scaffolding, or cranes) to allow workers to verify that the equipment has been inspected and is approved or not approved for use.

I. Fall Protection

Protection against falls shall be implemented. Fall arresting systems including lifelines, body harnesses, and other like equipment can be used when fall hazards cannot be addressed by employing railings, temporary floors, nets, and other means. The general contractor can reduce the safety risks associated with performance of elevated work by developing, implementing, and enforcing an effective fall protection safety program that complies with rules, regulations and industry standards addressing fall protection, and includes establishing a fall protection rule not to exceed six (6) feet for the project that includes roofing operations, scaffolding, and steel erection. Monitors are not acceptable in lieu of fall protection.

J. Fire Prevention and Protection

The general contractor shall address all emergency fire issues in the emergency action plan. The following shall also be addressed in order to prevent a fire situation:

Project Site Fire Safety

- All flammable liquids shall be stored in FM Global Insurance approved containers/cabinets and all storage and labeling shall comply with rules and industry standards.
- Fuel may be stored indoors only if specific project approval by U-M fire marshal has been granted.

- All oily rags and oily cloths shall be taken off site at the end of each shift for proper disposal.
- Temporary membrane construction enclosures and partitions, which are susceptible to burning, shall be protected from fire and shall be made of fire retardant material.
- Smoking is prohibited in all U-M facilities. See smoking section for more detail.

Fire Protection/Fire Alarm Systems

- A water line shall be extended as required by code to supplement 5 lb. abc fire extinguishers on site.
- A temporary fire department standpipe shall be installed as required by code.
- Fire alarm detection devices (smoke/heater detectors) and/or fire suppression equipment shall not be covered, removed, or otherwise impaired without prior approval and coordination from the appropriate department identified below:

Campus	Contacts	Phone Number
Dearborn	Facilities Management	313-593-5270
Dearborn	Public Safety	313-593-5333
Dearborn	EHS	313-583-6679

- Special consideration must be given when work activities generate excessive dust, particles, etc that could affect the reliability of existing systems and/or result in unnecessary system activations.

Hot Work

"Hot work" is defined as a process or procedure that could result in a fire if not properly controlled. Common examples of hot work include welding, burning, cutting, brazing, grinding, and soldering. Hot work equipment may produce high voltages or utilize compressed gases and requires special awareness training to be used safely. The general contractor shall control the hazards associated with hot work by developing, implementing, and enforcing an effective safety program that follows rules, regulations and industry standards and follows and uses the Hot

Work permit that addresses all requirements. Permits are available from the owner's representative.

All planned hot work shall be fully described during the permitting process, which shall be completed before hot work begins. The general contractor shall keep a copy of that permit on the project site at all times. Dedicated fire extinguishers for hot work operations must be at the location of the hot work. These must be in addition to the required project site extinguishers.

Temporary Heat

- Temporary heating system plans and procedures should be submitted, in advance and in writing, to the owner's representative noting duration of planned use, fuel handling procedures, safety procedures, type of heating system, and other essential or critical aspects of the plans and procedures. EHS MUST approve the plan prior to implementation.
- Except during actual use, LPG cylinders shall not be stored within a University building.
- All fuel storage tanks must be kept at least 20 feet from any building or property line. All above ground fuel tanks shall be properly secured, grounded and labeled with contents. The tank shall also be placed in some type of containment which is capable of handling the liquid in the tank.
- Open fires and warming fires are prohibited on all University property.
- Temporary weather-tight enclosures shall be made of fire retarding materials.

K. Housekeeping

The general contractor and all his subcontractors at all times shall keep the premises free from accumulation of waste materials or rubbish caused by their operations, keep the premises clean and free from fire hazards, and maintain the work and materials stockpiles neat and orderly throughout the construction period to permit safe and convenient access and movement of workers and materials throughout the building and site and to prevent the spread of debris, dust or other contaminants into the air or surrounding areas at all times.

The general contractor shall conduct operations in such a manner which will control blowing dust. The amount of dust resulting from the general contractor's operations shall be controlled

to prevent the spread of dust to adjacent public and private properties and to avoid creation of a nuisance in the surrounding area. Temporary methods consisting of sprinkling or similar methods will be permitted to control dust. Use of water will not be permitted when it will result in, or create, hazardous or objectionable conditions such as ice, flooding and pollution. Dust control shall be performed as the work proceeds and whenever a dust or nuisance or hazard occurs.

Construction debris and rubbish as generated by the general contractor's activity shall be removed by the general contractor from the point of origin daily and not allowed to accumulate. It shall be deposited in a trash container provided by the general contractor/construction manager on the site until hauled away. Scrap materials for reuse in temporary work shall be segregated and properly stored, protected and covered as for new materials. The result of the above shall be the maintenance of a clean project, in keeping with the proximity of a University facility and with a minimum of fire hazards. The owner’s representative shall have the right to establish a clean-up routine with the full participation of the general contractor(s).

Construction debris removed from the upper levels of the site shall be deposited directly into a dumpster via an enclosed chute constructed and provided by the general contractor.

If the general contractor fails to keep the premises clean and orderly, to the satisfaction of the

Owner’s representative, the owner’s representative may, after 24 hours written notice to the general contractor, cause the premises to be cleaned and organized. In such case, the general contractor will be charged 130 percent of the owner’s cost expended in the clean-up.

The general contractor and all subcontractors shall cooperate with each other and shall use reasonable diligence and shall make every effort, in connection with their work, to avoid excessive dirt, rubbish and general refuse and to minimize the extent of cleaning and removal thereof required hereunder of the general contractor.

The general contractor shall remove from the premises and site, all project signs, tools, scaffolding, surplus materials and temporary work and structures upon completion of the work and shall leave the work and the premises clean and acceptable to the owner.

All carts, buggies or containers containing debris shall be covered when leaving the project site or the building.

L. Job Hazard Analysis (JHA)

For Work that is potentially hazardous in nature, such as work from heights, scaffold use, hot-work, trenching operations, steel erection, electrical, crane operations; the general contractor shall review and approve each JHA before permitting the work to begin. The JHA shall be a comprehensive evaluation of the work activity broken down into basic job steps, hazards identified for each step and contain hazard controls measures for each hazard identified. The general contractor shall keep all JHAs in a bound notebook in an easily accessible location for the length of the Project. JHA's shall be updated as necessary as the Work progresses throughout the project and conditions change. JHA's must be reviewed with applicable employees prior to the start of work at each occurrence and when updates are made and this training shall be documented.

M. Personal Protective Equipment (PPE)

Personal protective equipment (PPE) increases safety for individuals performing potentially hazardous tasks. All workers and other personnel entering the project site shall be appropriately attired for work. The minimum required PPE on a project site is hard hat, safety glasses with side-shields meeting ANSI Z87.1 standards and the use of sturdy work shoes or boots with steel toes, as necessary. No short pants, skirts, sleeveless shirts, open toe shoes, nor tennis shoes shall be allowed.

The general contractor shall ensure that the proper types of PPE (i.e., safety glasses, hard hats, gloves, respirators, hearing protection, or any equipment or clothing used to protect against injury or illness) are available for use by its workers and shall prohibit Subcontractors, their workers or other personnel including UM-Dearborn personnel and visitors from entering the project site unless they are wearing appropriate PPE.

N. Potentially hazardous exhaust systems

The owner's representative and building contact will coordinate to determine if the work involves the interior of a potentially hazardous exhaust system using the same process as

described under Rooftop Access in this section. Specific site investigations for most potentially hazardous exhaust systems are not necessary unless unusual circumstances exist. All personnel working on any potentially hazardous exhaust system shall wear personal protective equipment. The **Owner's representative** shall arrange with EHS to perform a site investigation under the following conditions: radioactive materials are used in the affected fume hoods or exhaust system, perchloric acid fume hood systems are involved, unusual circumstances or hazards were identified.

O. Protection of the Public

The general contractor should take all necessary precautions to prevent injury to the UM-Dearborn community and the general public. For example, the entire project site should be secured against unauthorized access and provided with appropriate warning signage. Where roadways or walkways must be encroached or closed due to work, adequate barriers shall be installed to safely redirect the flow of vehicles and pedestrians and protect them from construction activities.

Whenever it is necessary to maintain public use of work areas (such as sidewalks, ramps, entrances to buildings, lobbies, corridors, or stairways), the public shall be protected with appropriate guardrails, barricades, temporary fences, overhead protection, or temporary partitions. The public must also be adequately protected from any work created hazards, such as excavation. Appropriate warnings, signs, warning lights and instructional safety signs shall be conspicuously posted and placed where necessary.

The public must also be protected from falling debris and objects from the project site. Overhead protection shall be provided that will fully protect the public and be capable of withstanding the maximum forces that could be applied from potential falling objects. Special attention shall also be given to developing adequate means to protect against wind-blown debris and construction-related materials. A common problem in this area involves masonry cutting and repointing, which generates large amounts of fine dust that must be controlled at their source through the application of local exhaust ventilation capture, use of appropriate

work methods, or other controls, with a special emphasis on protecting occupants, pedestrians, and workers from the hazards of silica and other fine dusts.

P. Recordkeeping and Incident Reporting

If emergency assistance is summoned to the project site, the general contractor is responsible for immediately notifying the Owner's Representative and Department of Public Safety. The same immediate notification is also required for any fire, medical, environmental, and other emergencies. The General Contractor is responsible for directly notifying any regulatory agencies as required as well as arranging for any necessary follow-up repairs, abatement, or other corrective actions.

Q. Rooftop Access

Prior to doing work on roofs, steps shall be taken per the EHS Guideline Accessing & Servicing Buildings with Potentially Hazardous Exhaust to ensure that personnel are not exposed to chemical, biological or radiological materials. Workers are advised to remain a fixed distance (20 feet) from any Solid Red labeled exhaust or exhaust that is not labeled. Notify the Owner's Representative and building contact to determine if the project site has a potentially hazardous exhaust system. If the project site is listed as having potentially hazardous exhaust, the **Owner's representative** shall work with Facilities Management, to determine if the project site is in an area of the roof which will require fume hoods or other potentially hazardous exhaust systems to be shutdown. Work that is not within 20 feet of a Solid Red Labeled or an unlabeled exhaust system and does not require workers to pass through a 20 foot radius of one may proceed with proper notification of the Building or Department Contact. If work is required within 20 feet of a Solid Red labeled exhaust or if workers must pass through a 20 foot radius of a Solid Red labeled or unlabeled exhaust as shown on the Roof Safety Plan, the Project Manager shall notify the Facilities Management and the Building Manager to coordinate a scheduled shutdown.

R. Smoking

Smoking is prohibited on all construction sites and UM-Dearborn buildings including all University grounds.

S. Substance Abuse Policy

Provide evidence of participation in a drug and alcohol screening program for testing of all workers engaged in work on Owner's project site with post-accident testing.

T. Visitors

"Visitors" are individuals who do not have a direct role in the execution of the project work. Visitors require pre-approval from the Owner's representative for entry into the project site, and this entry will be defined as a "tour." Anyone without a direct role in the execution of the project work that does not have preapproval shall be denied access to the project site.

Tour participants must be limited to those deemed to have a strategic purpose for entering the project site. Tour times will generally be limited to periods of no or low construction activity. Preplanning is required to identify and mitigate site hazards and designated tour areas. The qualified safety representative will brief all tour participants on required PPE. Visitors need to abide by all project-specific requirements and must stay with the designated tour leader.

Safety Plan Certification

The individuals listed below certify that the attached site specific safety plan submitted for this project complies with all safety requirements as detailed in the University of Michigan - Dearborn Construction Safety Requirements.

Additionally, the site specific safety plan will be implemented on the job site as indicated in the plan.

Project Name: _____

Corporate Safety Officer

Name of Organization: _____

Title: _____

Name: _____

Signature: _____

Date: _____

Site Safety Representative

Name of Organization: _____

Title: _____

Name: _____

Signature: _____

Date: _____