# Contractor Safety Guidebook

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1.0 Purpose

The University at Buffalo (UB) recognizes that many hazards are inherent in construction and other contract work. Compliance with safety regulations can prevent virtually all serious injuries. This guide serves as notification of campus safety requirements to contractors, including subcontractors, who perform work at UB and any other facilities operated by the University. Contractors should not assume that this guide covers all applicable safety and health laws as it does not. Instead, it provides contractors with site-specific health, safety, and environmental rules and policies that the University expects will be followed on all University property. The rules, regulations and guidance contained herein represent program areas that have been problematic in the past or require special care and consideration due to the nature of the working environment at the University.

Additionally, contractors are required to follow applicable federal, state, and local safety and health regulations.

2.0 Scope

This policy shall apply to all contract and contractor personnel performing work on University at Buffalo property regardless of the manner in which the contracts were let. Typically, contracts are let by the SUCF, DASNY, and University at Buffalo Facilities for work on the North, South, Downtown campuses along with other non-traditional off-campus properties such as RIA at 1021 Main St and the Anderson Gallery.

3.0 Document Revisions

Contractors should obtain the latest revision of this document with their bid submission and ensure that their field supervisors have a copy available at their worksite or job trailer. EH&S intends to update or amend this guide annually.

4.0 Stop Work Orders

The contractor is responsible and accountable for the safety of their employees. However, the University reserves the right to order the contractor to stop work any time the following conditions exist.

4.1 The contractor’s personnel are working in manner that poses an immediate danger to life or health of their employees or the campus population.

4.2 Work is being conducted in manner that is exposing non-contractor individuals to an unsafe situation.

4.3 Environmental requirements or regulations are not being met.
5.0 Emergencies, Alarms, and Police Notifications

Contractors must abide by all alarms and evacuation procedures as established by UB. This information must be included in the contractor’s emergency plan and training. The contractor shall have pre-planned emergency evacuation areas for all worksites and all personnel shall be directed to check into this area in the event of an emergency. Personnel accountability is critical to emergency responders.

Contractor personnel shall call UB Police at 716-645-2222 to report any of the following:

- Alarms triggered by the contractor
- Emergencies such as accidents or natural disasters
- Fires (in addition contract personnel should pull nearest fire alarm if possible)
- Requests for emergency medical services
- Police issues such as theft of property or damage to contractor equipment

Contractor personnel should program the University Police number into their cell phones to ensure prompt reporting of emergencies.

Important UB Telephone Numbers:

<table>
<thead>
<tr>
<th>All Emergencies (FIRE, EMS, POLICE)</th>
<th>716-645-2222</th>
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<tbody>
<tr>
<td>Blue Light Emergency Phones</td>
<td>Pick up and speak</td>
</tr>
<tr>
<td>Environment, Health &amp; Safety (EH&amp;S)</td>
<td>716-829-3301</td>
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<tr>
<td>Facilities Planning and Design</td>
<td>716-645-2612</td>
</tr>
<tr>
<td>Facilities Customer Service</td>
<td>716-645-2025</td>
</tr>
<tr>
<td>Dig Safely New York</td>
<td>811</td>
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6.0 Reporting Injuries

Lost time injuries sustained by employees of a general contractor or its sub-contractors shall be reported to UB Environment, Health and Safety as soon as possible. Additionally, within 72 hours of an incident, the contractor shall furnish EH&S with a copy of any accident/incident reports. Such reports must include a medical description of the injury (if applicable) and action taken to prevent recurrence. Personal information covered by HIPA should be redacted.

7.0 Contractor Employee Conduct

The contractor shall ensure that their employees and sub-contractor employees conduct themselves in a proper manner while on the university campus. Gestures, remarks, cat calls, whistling, or anything of a derogatory nature will not be tolerated. The University makes every effort to remove personnel engaging in these activities.
8.0 Safety Data Sheets

Safety Data Sheets (formerly material safety data sheets or MSDS) for all material used on the project must be submitted to EH&S for review prior to the start of the project. Products containing carcinogens, asbestos and lead are not allowed onsite without prior approval from EH&S.

The contractor shall maintain copies of all material safety data sheets on site for review by their employees, the University, regulators, and emergency services personnel.

9.0 Noise

The contractor shall endeavor to keep the work area as quiet as possible when the work is in proximity to buildings with classrooms. If heavy machinery, powder activated tools, screw guns, or other such devices must be used to accomplish the work, the contractor shall notify the UB project manager (UB PM) and advise him/her of the type of equipment to be used and the duration of the work. At times it will become necessary for the contractor to stop work immediately when advised by the UB PM or EH&S that the work is adversely affecting classrooms activities.

10.0 Air Quality

10.1 Indoor Air Quality

Contractors shall plan work in conjunction with their UB PM to minimize the effects of fugitive emissions, dust, welding fumes, VOC vapors, and other emissions which can adversely affect the University community. In particular, the following methods are considered good practice:

- Establish a communications strategy that will inform nearby occupants of upcoming activities and allow for timely response to occupant complaints.
- Work areas adjacent to occupied University at Buffalo space should be separated by hard walls to prevent IAQ issues. Caution tape is not acceptable.
- During high emission periods, protect workers and occupants with increased ventilation.
- Accelerate emissions of volatile products with high ventilation rates.
- Protect HVAC ductwork from construction dust and debris. This may require close coordination with the UB PM.
- Delay installation of absorbent materials like carpeting and wall coverings until emissions from other activities have subsided.
- Indoor use of fossil-fueled equipment is only allowed after a review of the work plan by a UB PM and EH&S. The contractor may be responsible for carbon monoxide monitoring during the project.
10.2 Masonry Operations

Visible dust clouds from masonry cutting operations are strictly prohibited. All cutting shall be performed in a manner that minimized silica and dust exposure to contractor employees and the campus community. Water suppression and vacuums with HEPA filters shall be used for all operations. Extra care is needed when working near building air intakes to ensure that dust does not contaminate the building HVAC system.

UB expects contractors to be in full compliance with OSHA’s Silica rule by June 23, 2017. https://www.osha.gov/silica/

10.3 Carbon Monoxide (CO)

Operation of fossil-fueled combustion equipment within or adjacent to openings and intakes at University buildings is strictly prohibited without necessary controls and approvals. Equipment that requires special work planning includes, but is not limited to, Bobcat-type loaders, Target and K12 saws, powered augers, portable and trailer mounted generators and compressors.

The following rules apply:

1. The contractor shall provide a Job Safety Analysis that clearly defines how CO will be mitigated through engineering controls or other means. This JSA shall be reviewed and approved by the UB PM and a representative from EH&S.
2. The contractor shall provide alarming CO detection in all potentially affected areas of the occupied building(s). Detection equipment shall be in calibration and bump tested per the manufacturers requirements. Residential style CO detectors will not be acceptable for these measurements.
3. CO monitoring shall also be provided in the work area to ensure workers are not being exposed beyond the current ACGIH recommendations.

When setting up this type of equipment outdoors, consideration must be given for wind direction and infiltration into potentially occupied spaces.

11.0 Personal Protective Equipment (PPE)

All required personal protective equipment (PPE) shall be provided by the contractor. Its use is mandatory and enforcement is the responsibility of the contractor. The contractor’s supervisor shall ensure that their employees wear appropriate clothing that would provide adequate protection from normal hazards associated with the job. Examples of PPE are head, eye, hearing, hand, respiratory and fall protection equipment. All PPE used must meet appropriate ANSI standards.

Electricians are expected to be in compliance with NFPA 70E-2015. Proper use of Arc-rated clothing that meets Arc Flash PPE category will be strictly enforced.
12.0 Electrical Safety / Lockout-Tagout (LOTO)

12.1 A contractor performing electrical work shall provide a copy of their electrical safety and lock out/tag out programs to the University prior the start of work.

12.2 Any time a contractor needs to provide lock out for University equipment, they shall contact their UB PM to ensure coordination with UB Facilities electricians. Conflicts between the University LOTO program and the contractor LOTO program shall be resolved prior to any system being locked or tagged out.

12.3 If uncovered live panels, circuits or conductors exist in a space, the contractor shall limit access to electrically trained personnel. Cardboard is not an acceptable means of covering a live panel.

12.4 When work is performed on live circuits, the contractor shall ensure compliance with NFPA 70E. This means that:

12.4.1 The University PM and electricians are aware of the live work and agree that it meets the requirements of 70E for critical circuits.

12.4.2 The contractor shall submit an energized electrical work permit that is equivalent to Appendix J of NFPA 70E.

12.4.3 Contractor personnel shall wear PPE/Arc-rated clothing per their company safety policy.

12.4.4 The approach boundary must be erected with tape, barricades, or other means to ensure that non-qualified personnel do not get close to the live parts.

12.4.5 The work procedures of NFPA 70E shall be followed.

12.5 All portable power tools used both outdoors and indoors shall be used with a GFCI.

12.6 Extension cords:

12.6.1 Shall be protected from being pinched by doors and window.

12.6.2 Shall be protected from vehicular and pedestrian traffic when crossing roads or walkways.

12.6.3 Shall be of appropriate gauge wiring based on the load being served.

12.7 Temporary Lighting

12.7.1 Light strings made of old-style open conductors will not be allowed.

12.7.2 Bulbs must have guards.

12.7.3 Lighting strings should be suspended at a height that does not pose a hazard in the area.

12.7.4 Lighting strings may not be suspended by sprinkler piping.
12.7.5 If campus lighting must be disabled to complete a project, the contractor shall provide alternate lighting to illuminate the affected area. This is particularly important when the purpose of that lighting is for security.

13.0 Dig Safely New York

13.1 The University is a utility member of Dig Safely New York. As such, **ALL** excavations shall be coordinated using the procedures of Dig Safely New York and EH&S document SA-024-A titled *Excavation Marking and Dig Safely NY Procedure*.

13.2 If you are not trained in the Dig Safely system, obtain an Excavator’s Manual from one of UB’s designated underground facilities coordinators.

13.3 Excavations include but are not limited to:
- Demolition of structures
- Cable or pipe plowing or driving
- Setting poles
- Driving survey pins
- Installing sign poles
- Ditching
- Auguring
- Moving earth
- Drilling
- Grading
- Trenching
- Scraping
- Razing
- Dredging
- Tunneling
- Wrecking

13.4 The number for Dig Safely New York is **811**.

13.5 The general procedure for excavations is outlined on the inside back cover of the Excavator’s Manual and summarized here.

13.5.1 The excavator shall mark all proposed work areas with white paint, flags or stakes per the Excavator’s Manual.

13.5.2 The excavator fills out the Stake-Out Information Sheet and then calls 811.

13.5.3 Within 2 business days, UB and/or its contractor will mark all utilities within the Extent of Excavation using standard marking procedures.

13.5.4 Some utilities will be marked by other operators. They include natural gas, cable TV, and petroleum pipelines.

13.5.5 The UB underground facilities coordinator and/or its contractor will notify the excavator that locating is completed and the excavator shall complete their stakeout request.

13.5.6 Work may begin on the date and time noted on the Dig Safely New York ticket.

13.5.7 Do not proceed with excavation unless these steps are followed.
14.0 Excavation and Trenching

14.1 All excavation and trench work at UB shall be in compliance with OSHA 1926.650 including Subpart P. Every worksite shall have a designated competent person who shall be available to make required determinations of conditions on an as needed basis as dictated by weather, etc.

14.2 All soils on both campuses shall be assumed to be Type C and treated as such unless the contractor’s competent person performs and documents necessary testing to prove otherwise.

14.3 If there is a possibility of an atmospheric hazard in an excavation, the contractor shall provide proper air monitoring. This may be the case if chemicals are used in the excavation or the site is near a busy roadway.

14.4 All excavation and trench work areas shall be completely fenced to exclude the general campus population. The amount of time the fencing is open should be limited that which is required for equipment movement, deliveries, etc. Fencing shall be 6’ steel mesh as specified in the State University Construction Fund directive 1D-4. Less secure fencing such as orange snow fence may be used in very low traffic areas if specifically authorized by EH&S.

14.5 If excavation fencing is adjacent to a walkway, it must comply with fall protection rules.

14.6 Pre-excavation utility locating requests are the responsibility of the contractor under NYS Code 753.

14.7 If a contractor performs an emergency excavation without complete locating services, the contractor is fully responsible for any and all damages. EH&S recommends the use of vacuum excavation for emergency dig tickets where a stake out cannot be completed.

15.0 Underground Communications and Power Vaults/Manholes

The specific standards for working in underground or enclosed spaces are specified in OSHA 1926.268-Telecommunications and 1926.269-Electric power generation, transmission and distribution.

UB has these spaces on all of its campuses. Many spaces have combined communications and power that may require workers to be trained to handle the greater hazard. In all cases, the following requirements shall be followed in addition to those specified in 1926.26x.

15.1 Entry to underground or unvented spaces shall only be made following atmospheric testing.

15.2 A competent person on the contractor’s entry crew shall determine if work will be performed under permit or non-permit confined space rules, or the rules contained in 1926.26X.

15.3 If the manhole or vault is in, or adjacent to a roadway, all controls specified in the Cornell Local Roads Program shall be followed. See Section 22 of this document.
16.0 Fall Protection

UB follows the OSHA 1926.500 standard for fall protection with some exceptions where local standards are more stringent than Federal Law.

Whenever work surfaces are 6’ or greater above a lower surface, some means of fall protection is mandatory. Fall protection may take the form of guardrails, railings, scaffolds, safety nets or safety lines. In most cases, engineering controls are preferred to active fall restraint.

16.1 Full body harnesses are the only allowable devices for body wear. **Belt**s are not **to be used in any application.** Lanyards shall be selected based on the specifics of each job and location, and anchorage points shall be selected to resist a force of 5000 lb. per employee or be designed by a professional engineer to meet the OSHA standard. The contractor’s competent person is responsible for specification and use of fall protection equipment.

16.2 No additional height allowance will be authorized for steel erection. The recognized height at which fall protection must be provided is SIX feet.

16.3 Where a change to a fall height is adjacent to a route of travel for University students, faculty or staff, protection shall be provided regardless of that height. EXAMPLE: The contractor removes ONE foot of soil along the edge of a sidewalk. A fence or barricade shall be provided that meets OSHA1926.

17.0 Fire Safety

17.1 Each project on University property shall be subject to a plan titled *Fire Safety During Construction and Demolition* that meets the NYS Fire Prevention and Building Code, Section 14. This plan will be established by the University PM in conjunction with the general contractor and EH&S Fire and Life Safety Manager or their designee. A template for this plan is shown on the EH&S website at [ehs.buffalo.edu](http://ehs.buffalo.edu). Contractors are expected to make their own personnel and all subcontractors aware of this plan and include it in their routine training and toolbox talk packages.

17.2 The University maintains a hot work permit program that includes regular inspections by EH&S Fire and Life Safety personnel. Hot work includes welding, torching, soldering, and grinding.

17.3 Permits for hot work are available on the EH&S website at [ehs.buffalo.edu](http://ehs.buffalo.edu). **DO NOT BEGIN ANY HOT WORK WITHOUT A VALID PERMIT.**

17.4 All worksites shall have fire extinguishers available in type and quantity to meet OSHA 1910.150.
18.0 Hazardous Waste (excluding asbestos or lead)

Contractors are tasked with the proper handling and disposal of universal waste and hazardous materials used on their projects. In all cases, materials transported for disposal shall have manifests signed by DOT trained EH&S personnel.

There are three general classes of these materials and each has a different disposal path.

18.1 Universal Waste (Fluorescent lamps, Batteries, Mercury devices)

18.1.1 If these items are removed as part of a project, they shall be packaged and labeled to meet University disposal requirements and the University PM will advise on the storage and disposal method.

18.2 Hazardous Pre-Existing Waste

18.2.1 Materials such as hydraulic fluid in elevators or glycol in HVAC coils shall be removed by the contractor and packaged and labeled for disposal by the University. The University PM shall arrange for disposal through EH&S.

18.3 Hazardous Waste Used/Created by Contractor

18.3.1 The contractor is responsible for legal disposal of all waste that is created, generated or abandoned on their jobsite. Examples if this waste include unused two part epoxy, some cleaning chemicals, and concrete modifiers. In general, containers of unused chemicals are hazardous waste.

19.0 Asbestos

Asbestos-containing materials (ACM) are present on both the North and South campuses of UB. The UB PM is responsible for notifying the contractor of the presence of known ACM. All handling of ACM must be by NYS licensed asbestos handlers under the direct and continuous site supervision of a NYS licensed Asbestos Supervisor.

If job conditions change such that presumed asbestos containing materials (PACM) are discovered on the job site, the area in question shall be secured, the job stopped, and the UB PM notified along with EH&S Asbestos Program Coordinator.

Working around friable ACM may cause problems due to vibration from tools, and air movement from air-cooled tools or ventilation. Job site supervisors should work with their University PM to conduct a 360° inspection of each such site to ensure minimal impact outside of the immediate work area. Spaces above and below the work area may be as problematic as those on the same floor. Discovering potential areas of asbestos disturbance prior to a job may save many days or weeks of downtime due to accidental and unintended releases of asbestos fibers.
20.0 Lead

Prior to the start of work, the University attempts to discover the locations and concentrations of lead in order provide contractors with the best information possible to protect their employees. Despite this, lead is routinely discovered during construction activities.

Lead is much less regulated but still potentially hazardous. If quantities of lead are discovered, please notify the UB PM for safe handling, removal, or disposal instructions. The primary expected locations of lead are for X-Ray room shielding, surface coatings on steel, high voltage electrical cable sheathing, and lead anchors. LEAD MUST NOT BE THROWN IN THE REGULAR TRASH.

21.0 Work Zone Safety

All work zones in roadways and rights-of-way must be properly laid out in accordance with the UB Work Zone Policy, SA-026-A. This is available on the web at ehs.buffalo.edu or by calling EH&S. The policy is based on the Cornell Local Roads Program.

All personnel working on roadways, adjacent to roadways, in a right-of-way, in a parking lot, or a temporary access way for vehicular traffic shall wear high visibility clothing that meets the current MUTCD requirements.

The most common problems encountered with roadway work zone safety are:

- lack of reflective clothing for personnel,
- not providing flagging by trained persons, and
- lack of signage and cones to delineate work zones.

Additionally, some work on campus may actually be on a State road in the right-of-way. Millersport Highway on the North Campus along with its cross streets and access roads fall into this category. Work on these portions of roadway/rights-of-way requires a highway work permit from State DOT (linked here). UB does not issue these permits.

22.0 Work Site Safety and Security

Where powder actuated tools such as Hitli™ guns, or tools that can cause flying debris are used (jackhammers or cutoff saws) in public access areas such as roadways, hallways, or sidewalks, temporary barricades shall be erected to protect the University community and the public. When welding and cutting is performed in areas that present a danger to the general public, welding curtains will be deployed.

Maintaining site safety during off times is very important. Locks, fencing, barricades, and other means shall be deployed to ensure that campus community is not at risk from contractor work areas. One frequent concern is fencing construction as we find many fences that do no survive normal winds on campus.
Contractor activities that reduce campus walkway lighting levels will result in a less secure environment for the campus community. The contractor must work with the UB PM to ensure that alternate lighting is provided.

23.0 Radioactive Materials

Contractors shall notify EH&S any time radioactive materials are brought onto campus. These materials are typically used in instruments that gauge thickness, test for lead, and X-ray welds. The contractor’s Radiation Safety Officer (RSO) should contact Jeffery Slawson, CHP, the UB RSO with the proposed dates and times of material usage along with the areas or buildings in which the device(s) will be used.

Subcontractors are frequently the entities that use radioactive materials in a testing capacity. It will be the GC’s responsibility to ensure that UB is properly notified by the RSO in charge of the material.

24.0 Pre-Construction Orientation (SUCF Projects)

Section 12 of the SUCF document “Management of Construction Projects” mandates a pre-construction orientation meeting. This meeting will contain safety orientation for each contractor who works at the University. Specific safety information contained herein will be presented and discussed.

25.0 Applicable Guidelines

25.2 Work Zone Safety, Guidelines for Construction, September 2008, Cornell Roads Program

26.0 Associated UB Documents

1. Campus Commitment to Safety, University at Buffalo, Office of the Provost, Office of the Senior Vice President, April 3, 2001.
2. Excavation Marking and Dig Safely New York Procedure SA-024-A

27.0 Definitions

- University Project Manager (UB PM): Person assigned by FP&D or DASNY to manage activities relating to a project.
28.0 Important Contact Information

University Police 716-645-2222
Facilities Planning and Design 716-645-2612
Environment, Health and Safety 716-829-3301
Dig Safely New York 811

29.0 Document Revision History

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<th>Revision</th>
<th>Section(s) Changed</th>
<th>Change(s) Made:</th>
<th>Date</th>
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<td>7/1/09</td>
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<tr>
<td>01</td>
<td>13, 14, 20</td>
<td>Minor procedural modifications.</td>
<td>6/18/12</td>
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<tr>
<td>02</td>
<td>5, 29</td>
<td>Changed EH&amp;S number to 829-3301</td>
<td>6/5/13</td>
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<tr>
<td>03</td>
<td>10.2</td>
<td>Masonry dust</td>
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<td>10.3</td>
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<tr>
<td>03</td>
<td>11.0</td>
<td>PPE for electrical work</td>
<td>4/6/15</td>
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<td>03</td>
<td>12.5</td>
<td>GFCI required for all portable tools</td>
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Document Author: Mark S. Adams, PE