



a place of mind
THE UNIVERSITY OF BRITISH COLUMBIA
Okanagan Campus

Contractor Safety & Orientation Manual

February 2019 Revision

Approved: June 9, 2009

Amended: February 27, 2019

Department of Health, Safety and Environment

UBC, Okanagan Campus

Protocols and processes change with time. The University of British Columbia does not guarantee the accuracy of, nor assume liability for, the information presented here. For up to date information, please contact the relevant agency.

UBC OKANAGAN CONTRACTORS' SAFETY AND ORIENTATION MANUAL

TABLE OF CONTENTS

UBC OKANAGAN CONTRACTORS' SAFETY AND ORIENTATION MANUAL	4
INTRODUCTION	6
UBC POLICY STATEMENT ON SAFETY	7
GENERAL UNIVERSITY SITE RULES	7
UBC OKANAGAN EMERGENCY PROCEDURES	8
CAMPUS SECURITY.....	11
BUILDING ACCESS	12
HOURS OF WORK.....	12
TRAFFIC CONTROL	13
PROJECT APPROVAL / PROJECT IMPACT ASSESSMENT (PIA).....	13
CONTRACTORS' SAFETY PROGRAMS.....	14
HOARDING & PROTECTION AT EXCAVATIONS.....	15
PROJECT MANAGEMENT	16
NOTICE OF PROJECT	
REPORTING	
FIRST AID	
INDOOR ENVIRONMENTAL QUALITY	
STAGING AREAS	
FIRE SYSTEMS AND FALSE ALARMS	
DAMAGE TO INFRASTRUCTURE OR EQUIPMENT	
SERVICES SHUTDOWNS/CONNECTIONS	
OVERHEAD POWER LINES	
PERMITS AND INSPECTIONS	
EXCAVATION AND BACKFILL PERMITS	
FUME HOOD AND BIOLOGICAL SAFETY CABINETS	
GENERAL HAZARD REQUIREMENTS	19
LOCKOUT	
PERSONAL PROTECTIVE EQUIPMENT	
ROOFTOP ACCESS	
ROAD AND EXIT CLOSURES	
HOT WORK AND DUST	
CONFINED SPACE ENTRY	
LOCATING UNDERGROUND UTILITIES	

ENVIRONMENTAL PROTECTION
HAZARDOUS MATERIALS MANAGEMENT
SPILL REPORTING
HAZARDOUS MATERIALS DISPOSAL
POLYCHLORINATED BIPHENYLS (PCBs)
ASBESTOS MANAGEMENT
CONSTRUCTION IN LABORATORIES
RADIOISOTOPES
X-RAY OR GAMMA RADIATION (NON-DESTRUCTIVE TESTING)
BIO-SAFETY AND OTHER HAZARDS

Appendix 1- PROJECT NOTIFICATION AND APPROVAL..... 26
Appendix 2 - PROJECT IMPACT ASSESSMENT (PIA) 27

INTRODUCTION

Welcome to the University of British Columbia, Okanagan campus. It is the intent of UBC O to provide a safe, healthy and secure environment for all members of its faculty, staff, students and visitors.

It is your responsibility to ensure that project work is performed in a safe manner, and that it is in compliance with British Columbia Occupational Health and Safety Regulations, any other applicable provincial and/or federal laws and/or regulations, and any UBC policies, procedures and other requirements that may apply.

The University expectations are that contractors will train, supervise, and direct their employees to be mindful of the safety of UBC O's students, faculty, employees, neighbours and property, when performing work on UBC O's premises. This manual does not address, and is not intended to abrogate or assume responsibility for, the contractor's duty to its employees. Nor does this manual provide an exhaustive outline of laws, ordinances or regulations governing environmental, health and safety compliance. Rather it is provided to identify specific responsibilities, communicate the availability of hazard information for university properties and to outline UBC O safety and environmental procedures.

Each contractor must be familiar with all current legislation pertaining to the work and will be responsible to follow and enforce such legislation.

Work being performed in an unsafe or hazardous manner is unacceptable. Each person, regardless of their position, must accept his or her responsibilities and be held directly responsible and accountable for accidents, injuries, and near misses.

Violations may result in temporary or permanent removal of the contractor from the University.

Please read this guide carefully. If you have any questions, safety suggestions or concerns, please contact UBC O Owner Representative for clarification or for additional information.

Note that throughout this document, Student Housing and Hospitality Services will be referred to as "SHHS", Information Technology will be referred to as "IT", Campus Planning and Development will be referred to as "CPD", Project Services will be referred to as "PS", Facilities Management will be referred to as "FM" and Health, Safety and Environment will be referred to as "HSE".

Contractors should also refer to the UBC Technical Guidelines (<http://www.technicalguidelines.ubc.ca>) for additional information and/or clarification of the information provided within this guide.

UBC POLICY STATEMENT ON SAFETY

UBC aims to eliminate unnecessary risks, injuries, and occupational diseases from UBC's workplace, teaching, and research environments.

Visit <http://universitycounsel.ubc.ca/policies/health-safety-environment/> for a complete list of UBC Policies relating to health, safety and the environment.

GENERAL UNIVERSITY SITE RULES

Any contractor violating the following rules may be subject to a breach of contract.

1. Contractors shall comply with all Federal, Provincial, Regional, Municipal and WorkSafeBC requirements.
2. All work, including building equipment and system shutdown, may not begin until the necessary authorization and/or work permits have been obtained.
3. Smoking is restricted to outdoor gazebos (UBC Policy #15: <http://universitycounsel.ubc.ca/policies/policy15.pdf>).
4. UBC Okanagan has implemented a voluntary Scent Free Program. Scented personal products may contain chemicals that cause symptoms for members of the campus community, especially those with asthma, allergies or environmental illnesses. Visit <http://riskmanagement.ok.ubc.ca/health/scentfree.html> for more information.
5. Firearms, illegal drugs, alcohol, violence, unlawful acts or wilful damage are not permitted.
6. UBC actively promotes a safe and secure campus environment and has a "Policy on Discrimination and Harassment" that covers all members of the University community including contractors (UBC Policy #3: <http://universitycounsel.ubc.ca/policies/policy3.pdf>). The University does not tolerate violations of the policy or human rights legislation, including all forms of actual, attempted or threatened physical harm directed at any person, harassment, or any form of sexual harassment such as:
 - a. Whistling or catcalls
 - b. Unwanted or unsolicited calls or comments, particularly calls or comments having sexual connotations
 - c. Staring
 - d. Throwing items in the direction of passers-by to gain their attention
7. All contractor equipment brought on site must be maintained in safe operating condition. To comply with provincial electrical regulations, all electrical equipment must be CSA approved. UBC reserves the right to remove or prohibit the use of faulty and unsafe equipment, or equipment not complying with the regulatory requirements. When contractor equipment must be left in a publicly accessible location, it must be left in a locked-out and/or de-energized state such that a passerby could not inadvertently or intentionally activate the equipment and cause themselves or others harm.
8. Illegal dumping, handling, or disposal of hazardous materials is strictly prohibited.
9. Destruction or removal, without written permission, of any property belonging to UBC, the property owner, employees or other contractors is prohibited.
10. Unauthorized removal or destruction of a safety barricade, handrail, guardrail or warning sign is prohibited. Fall protection warning devices, or any other warning devices intended to protect

UBC students, faculty, employees, residents, neighbours or property, must not be moved without authorization from HSE.

UBC OKANAGAN EMERGENCY PROCEDURES

Visit <http://emergency.ok.ubc.ca/procedures.html> for a complete list of emergency procedures. Contractors must understand and follow all relevant University emergency procedures.

The UBC Owner Representative or designate will ensure that a communication system is in place such that all affected contractors are notified in a timely manner of actions to be taken in the event of a significant campus emergency.

UBC Okanagan uses <http://ok.ubc.ca/> to publish emergency information that is critical to protecting faculty, staff, students and contractors as well as providing information to the community. Depending on the nature of the emergency, bulletins may also be posted at <http://emergency.ok.ubc.ca/>.

General Emergency Procedures

Ambulance, Fire, Police and Hazardous Materials Incidents

- a) Dial 911.
- b) Specify whether you require Ambulance, Fire, Police and/or Hazardous Materials Response.
- c) Have the following information available:
 - Building name.
 - Building address.
 - Floor and Room number.
 - Specify best entrance if applicable.
- d) If possible, meet the emergency service requested at the building entrance.
- e) Contact Campus Security at 250-807-8111 and provide details of the situation. Campus Security will provide assistance and support emergency services to arrive at the correct location.

Fire and/or Explosion

- In case of fire:
 - a) Activate the Fire Alarm.
 - b) If possible, and without placing yourself or others in danger, control the fire with the appropriate fire extinguisher.
 - c) Follow the Emergency/Fire Plan and evacuate the building, closing doors as you leave. Meet at gathering site.
 - d) Call 911 and report the location of, and details relating to, the fire/explosion.
 - e) Contact Campus Security at 250-807-8111 and provide details of the situation.
 - f) Wait for emergency personnel outside of the building, and provide them with information regarding location of fire/explosion, hazardous materials present, MSDS, etc.
 - g) Do not re-enter the building until the fire department gives permission to do so.

- If you hear a fire alarm:
 - a) Evacuate the building immediately and proceed to your emergency meeting location. Do not use elevators.
 - b) Do not re-enter the building until the fire department gives permission to do so.

Chemical/Radiation Emergencies

- Any uncontrolled release of hazardous materials is considered a spill and the following procedures should be followed:
 - a) Shut down equipment if it is safe to do so.
 - b) Evacuate the immediate area.
 - c) Isolate area and prevent re-entry.
 - d) Contact Campus Security at 250-807-8111 and provide details on the situation.
 - e) Inform UBC Owner Representative.
 - f) Wait for emergency personnel outside of the building and provide them with information regarding location, hazardous materials involved, Safety Data Sheets (SDS), etc.
 - g) Report the spill. See Spill Reporting (page 23).

Bomb Threats

- Bomb threats can be received by telephone, note, letter, email or via social media. Most bomb threats are made by persons who want to create an atmosphere of general anxiety and panic. All such threats must be taken seriously.
- If you receive a bomb threat, gather as much information as possible. If the threat comes by phone, ask a lot of questions but allow the caller to say as much as possible without interruption.
 - a) Questions:
 - Where is the bomb?
 - When is it going to go off?
 - What kind is it?
 - What does it look like?
 - b) Take notes on everything said, observations about the caller, voice characteristics, language, background noise, the time, etc.
 - c) Contact RCMP (911) immediately. You will be advised if evacuation is necessary. If possible, get a colleague to contact RCMP while you continue to talk to the caller.

- d) Call Campus Security's emergency number (250-807-8111). If possible, get a colleague to contact Campus Security while you continue to talk to the caller.

Visit <http://emergency.ok.ubc.ca/> for more information.

Other Emergency and Non-Emergency Numbers:

EMERGENCY NUMBERS	
BC GAS LEAKS AND ODOURS	1-800-663-9911
EMERGENCY / FIRST AID / CAMPUS SECURITY	250-80(7-8111)
HEALTH , SAFETY AND ENVIRONMENT	250-80(7-8111)
HAZARDOUS MATERIALS RESPONSE	911
POISON CONTROL CENTRE	1-800-567-8911
EMERGENCY MANAGEMENT BC	1-800-663-3456
BC WILDFIRE REPORTING	1-800-663-5555 OR *5555 (CELL)
NON-EMERGENCY NUMBERS	
CAMPUS SECURITY (NON-EMERGENCY)	250-80(7-9236)
HEALTH, SAFETY AND ENVIRONMENT	250-80(7-8859)
FACILITIES MANAGEMENT	250-80(7-9272)
EMERGENCY MANAGEMENT BC (HEADQUARTERS)	1-250-952-4913
RCMP (NON-EMERGENCY)	250-762-3300
FIRE DEPARTMENT (NON-EMERGENCY)	250-469-8801
KELOWNA GENERAL HOSPITAL EMERGENCY	250-862-4485

CAMPUS SECURITY

Campus Security serves the UBC O community by enforcing regulations (including but not limited to parking regulations), preserving lawful and peaceful activities, and promoting a safe and secure environment.

Campus Security operates on a 24 hours/day, 365-days/year basis. Security conducts regular patrols of the campus in an effort to deter crime and enhance personal safety. Campus Security personnel are authorized to request identification from any persons on UBC O property and to require any person to leave UBC O property. Campus Security works closely with the RCMP as needed. **For emergencies, Campus Security dispatch may be reached 24 hours/day, 7 days/week at 250-807-8111.** From any UBC telephone security can be reached at local 78111.

Campus Security provides centralized First Aid services to faculty, staff, students and visitors.

For administrative matters, during regular business hours please call Campus Security at 250-807-9236.

Notification of Contractor Emergency Numbers

Every contractor must submit two (2) reliable emergency contact names and phone numbers to Campus Security before the project commences.

General Security for Contractors

Contractors must assume all responsibility for the security of the area within the hoarding of a construction project or the area being renovated.

The contractor must ensure that all windows, doors and gates are secure at the end of the day. The contractor must also safeguard the rest of the building from access through possible open construction areas. This applies to all sub-trades as well.

The contractor is responsible for any costs arising when UBC O Campus Security is required to attend a construction site for security matters.

Campus Blue/Emergency Phones

To call for security assistance, there are two types of outdoor phones strategically placed throughout the UBC O campus. These units are either Blue Phones which are blue in colour, or Emergency Phones that are powered by solar energy. All of these phones have a direct and immediate connection to Campus Security 24 hours a day.

BUILDING ACCESS

Renovation Projects – the responsibility for authorizing the issuance of access keys for contractors rests with the UBC O Owner Representative or Project Manager.

New buildings will initially have a construction lock or locking mechanisms installed in doors prior to the building being accepted. Following acceptance, the UBC O locksmith will install permanent lock cylinders.

Note: A refundable deposit must cover all keys issued to a contractor. Rates and refund policy information is available at Campus Security.

HOURS OF WORK

Regular construction hours at UBC O are 8:00 a.m. to 4:00 p.m.

Contact the Owner Representative to request extended working hours, keeping in mind that Kelowna city bylaws prohibit any construction before 7:00 a.m. or after 10:00 p.m.

PARKING

UBC Parking Services provides parking services for faculty, staff, students and visitors to the University.

Campus Security works with Parking Services to enforce parking regulation infractions on campus after regular business hours.

Contractor Parking

All contractors, their employees and sub-contractors must abide by the UBC Parking Rules (http://universitycounsel.ubc.ca/files/2014/12/UBC_Traffic_Parking_Rules.pdf). No parking is allowed in emergency access lanes, on grass areas, boulevards, sidewalks, or any area not designated for parking.

THERE IS NO FREE PARKING ON CAMPUS. Parking must be paid. A roaming monthly Contractor Parking Pass can be purchased at the Parking Services office, a daily pass can be purchased at an automated ticket dispenser (dispensers are available in parking lots H M, and W all day; dispensers are available in parking lots B, G and J after 12 pm; dispensers are available in parking lots E and F after 1 pm) or a metered stall can be used (metered stalls are located in lots E and F; there is a 2 hour time limit for metered stalls). You can access a campus map to view parking lots here: <http://maps.ok.ubc.ca/map/>.

Contractors may load/unload tools, equipment, supplies, etc. at the closest access point to their worksite as long as fire lanes and building egress routes (including exits) are not blocked. The vehicle's 4-way hazard flashers must remain activated for the entirety of the load/unload, and then the vehicle must be moved and parked in an appropriate lot.

Exceptions to allow contractors to park for an extended period of time around a building or work area may be granted in certain circumstances ONLY if approval has been granted by pre-arranged agreement with Parking Services. Requests must be made to the parking services office at 250-807-8854 (<https://parking.ok.ubc.ca/contractors/>).

On larger projects, all parking within the contractor's hoarding must first be registered with the Parking Services office and a permit obtained.

Parking Facilities used as Laydown/Heavy equipment parking

Projects that require the use of UBC O parking facilities or prevent access to parking facilities require approval by Parking Services and/or Campus Security. A minimum of three weeks' notice is required to allow for alternative parking arrangements.

Heavy equipment parked overnight on roadway space requires special permission from Parking Services and/or Campus Security.

TRAFFIC CONTROL

There is constant pedestrian and vehicular traffic on campus. The following traffic rules must be followed at all times:

- Pedestrians have the right-of-way at all times on all walkways, within parking areas and when crossing roads via crosswalks.
- The posted speed limit for almost all roads on UBC O Campus is 30 km/h
 - Note that the posted speed limit for Research Road is 20 km/h.
- Drive with caution, especially in the vicinity of crosswalks, parking areas and speed bumps.

PROJECT APPROVAL / PROJECT IMPACT ASSESSMENT (PIA)

All new construction and renovation projects must be approved in advance by FM or Project Services.

All projects must be assessed to determine potential health, safety and environmental impacts. A Project Impact Assessment (PIA) must be completed, and all identified impacts must be reviewed prior to the commencement of the project.

These approvals must be obtained prior to the commencement of the project to ensure proper action has been taken. All projects will be assessed on an individual basis. It is the responsibility of the Project Manager or Owner Representative (i.e. Properties Trust, CPD, SHHS, IT, FM, PS) to ensure the assessment is accurately completed and that appropriate action is taken to minimize disruption and protect the campus community and environment.

Once the impacts identified by the PIA are approved, FM or PS (for projects managed by PS) will circulate the information to those impacted by the project. Please submit the Project Notification and Approval request two (2) weeks prior to the anticipated project start date to ensure adequate time for project review and integration of potential impacts into the Contractor Site Safety Plan (NOTE: for laydown/heavy equipment parking requests, please submit assessments three weeks prior to anticipated project commencement date; for Biohazard Safety Cabinet work, please submit assessments one month prior to anticipated project commencement date). See Appendices for more details.

CONTRACTORS' SAFETY PROGRAMS

The Prime Contractor shall have in place a safety program acceptable to the WorkSafe BC (<http://www2.worksafebc.com/publications/OHSRegulation/Part3.asp>).

CONTRACTOR SITE SAFETY PLAN (UBC O Specific)

General:

- The responsibility for site safety and sub contractor work coordination shall rest with the Prime Contractor.
- The requirements of the WorkSafeBC Occupational Health and Safety regulations, the British Columbia Building Code and the British Columbia Fire Code apply as a minimum.
- All contractors and sub-contractors must be registered employers with the WorkSafeBC.
- The owner will provide the Prime Contractor with any information known to the owner that is necessary to identify and eliminate or control hazards to the health or safety of persons at the workplace.
- The Project Manager or Owner Representative will deal with issues of non-compliance and apply any consequences directly to the contractor or Prime Contractor.
- As a minimum, contractors must:
 - Provide any safety documentation necessary to meet University requirements.
 - Be experienced in all phases of work to be done.
 - Ensure their workers on the project are adequately trained in the work procedures to be used.
 - Exercise good site safety management.

Specifics:

- Each contractor will complete a hazard identification and risk assessment of the project and work requirements prior to the start of work. The results of this assessment must be communicated to all project workers and posted at the work site.
- Each contractor must submit a written plan prior to the commencement of work, which will:
 - Identify the Prime Contractor.
 - Describe how safety will be managed throughout the project.
 - Identify the designated contact person from the prime contractor who will be on site at all times to coordinate safety between the sub-contractors.
 - Control hazards identified in the hazard identification and risk assessment.
- A Site Safety Plan (SSP) is required for all additions, renovations and all new buildings regulated under Part 3 of the British Columbia Building Code or when required by WorkSafeBC.
- The SSP will be presented to the UBC Project Manager or Owner Representative at the first Project Meeting.
- The SSP will address any potential impacts identified in the PIA (see Appendix for PIA).
- The SSP will include the names and emergency telephone numbers of:
 - the Prime Contractor,
 - the UBC O Project Manager or Owner Representative,
 - the Consultant,
 - the Construction Safety Officer,
 - all sub-trades,

- UBC O Campus Security, and
- other relevant UBC O contacts.
- The SSP shall also show the details of the construction procedures relating to:
 - Location of all fencing/hoarding around the construction site, site access, barricades, site exits, street and sidewalk closings.
 - Maintenance of any required exits.
 - All contractor temporary buildings, construction shacks, sidewalk sheds and material storage sheds.
 - Barricades, excavation guardrails, snow fences.
 - Covered ways, temporary walkways, footbridges, and vehicle ramps.
 - Traffic control.
 - Scaffolding and swing stages.
 - Material and personnel hoists, loading areas, waste material chutes and containers, temporary elevators.
 - Hoisting equipment and their loading areas.
 - Fire protection facilities.
 - Location of fire protection systems, standpipes, Siamese connections, fire extinguishers.
 - Emergency shut-off locations for power, natural gas and water.
 - Material storage.
 - Waste material.
 - Control of dust and debris.
 - Safety measures for perimeter guard rails on open floors.
 - Location of first aid room, SDS station, combustible storage area, smoking restrictions.
 - Any other items required by the Chief Building Inspector.
- The SSP shall be adjusted regularly to reflect the current stage of construction activities.
- The SSP shall be posted on the job site on a 600mm by 600mm piece of plywood protected from the weather and staked into the ground so as to be visible from the street. Alternatively it may be posted and protected from the weather on the principal construction site entrance or shelter provided for workers or equipment.
- A separate Fire Safety Plan for the construction site shall also be submitted to the UBC O Project Manager or Owner Representative in accordance with the BC Fire Code and will include relevant UBC policies and procedures.

The UBC O Project Manager or Owner Representative will respond to issues of non-compliance directly with the Prime Contractor.

HOARDING & PROTECTION AT EXCAVATIONS

All barricades and barriers on construction sites shall conform to all safety practices required by regulations and best practices.

Barriers for work outside the construction site must be visible both day and night.

All walkways in close proximity to job sites shall be built with overhead protection where overhead work is being performed.

In pedestrian areas, adequate warning must be provided for visually impaired pedestrians. Chain link fencing or hoarding is preferred as it allows blind persons to feel the base of the barricades with their canes. Audible or tactile warning devices may also be required.

Before setting up barricades in pedestrian areas, the Owner Representative shall be notified at least 48 hours in advance in order that HSE and the Disability Resource Centre can be notified so they can pass the information on to appropriate individuals.

In vehicular areas, barriers shall conform to the requirements of Part 8 of the B.C. Building Code.

PROJECT MANAGEMENT

Construction activity is to be restricted to the following time periods:

- Weekdays - from 8:00 a.m. to 4:00 p.m.
- Saturdays - from 8:00 a.m. to 4:00 p.m.
- Sundays/Statutory Holidays - no construction activity.

These arrangements are subject to the Owner Representative giving specific relief, upon specific application, for time-critical construction situations. Institutional projects where the noise would not impact residents may be allowed outside of the listed periods - permission is to be obtained through FM.

Notice of Project

Where required by regulations, the Prime Contractor shall submit a notice of project to WorkSafeBC (http://worksafebc.com/insurance/managing_your_account/notice_of_project/default.asp) at the start of a job with copies submitted to the UBC O Project Manager or Owner Representative.

Reporting

The following does not alter the Contractor's legislated reporting requirements.

Accidents / Incidents

The contractor shall report incidents or near misses that resulted in, or could have resulted in injuries requiring medical care to the UBC O Owner Representative or Project Manager as soon as possible. If the site allows public access or is a multiple employer worksite that includes the University as an employer, the UBC O Owner Representative will ensure that UBC O Campus Security and UBC Health, Safety and Environment are immediately notified of such incidents.

Regulatory Inspections/Enforcement

The contractor shall report all inspections and/or orders by regulatory enforcement agencies to the UBC O Owner Representative or Project Manager immediately. The contractor shall provide copies of any inspection and/or enforcement notices to the UBC O Owner representative or Project Manager upon receipt.

Environmental Impacts

Spills or releases of chemical, biohazardous, radioactive material or otherwise deleterious substances shall be reported to Campus Security and the Project Manager or Owner Representative immediately. This includes spills or releases to the sewer, storm sewer, environment, air or interior of buildings.

Accident/incident reporting procedures can be viewed at:

<http://riskmanagement.ok.ubc.ca/safety/accidents.html>.

First Aid

It is the responsibility of the Contractor to establish provisions for First Aid services for their employees. These provisions must comply with WorkSafeBC OH&S Regulations.

- If an injured person requires care beyond the limitations of contractor First Aid, contact Campus Security (250-807-8111) for additional support.
- **In the event of a serious or life-threatening injury, call 911 for emergency response and then contact Campus Security's emergency line (250-807-8111) as soon as it is safe to do so.**

Under exceptional circumstances, a specific agreement may be made with the Project Manager or Owner Representative such that the contractor may use UBC First Aid services for primary first aid response.

All medical aid emergencies must be reported to Campus Security as soon as is practicable.

Indoor Environmental Quality

UBC guidelines apply to indoor or enclosed areas when occupied by faculty, staff and/or students except when clearly impracticable, such as during some construction or renovation projects. WorkSafeBC regulations also apply to indoor or enclosed areas when occupied by faculty and/or staff.

For multiple employer worksites that include UBC O, projects that will not follow UBC O indoor environmental quality criteria must be assessed on an individual basis by FM and HSE. The purpose of the assessment by UBC O representatives is to ensure that occupant health and safety is not compromised during the course of the project. UBC O may choose to relocate occupants or require additional provisions (i.e. addition of local exhaust fans) as a stipulation of the project.

UBC Okanagan has implemented a voluntary Scent Free program on campus and contractors are asked to ensure that their employees adhere to the program.

UBC O Indoor Environmental Quality Guidelines are available here:

<http://riskmanagement.ok.ubc.ca/health/indoorenvqual.html>

Staging Areas

Any area on UBC O property that will be utilized for the purposes of mobilization or storage (i.e. addition of storage containers) must have the approval of FM. The UBC Owner Representative must submit a plan including layout to FM, a minimum of five (5) working days before acquiring space/land for the purposes of the project.

Fire Systems and False Alarms

Projects that require impacts to fire systems must have the written approval of FM. Application must be made to FM a minimum of 24 hours in advance of the project. The application must include the details

and duration of the interruption, outline of the project fire watch procedures, and details regarding restoration of the system. Additional costs will be borne by the project for any work where the fire system cannot be brought back into service by 4:00 p.m. the same day. Once approved, FM will coordinate any impacts to the system and system communication and verify with the contractor that the project can proceed.

UBC O staff and Kelowna Fire Services responds to all fire alarms. Projects that result in after hours “false” fire alarms due to construction will have the cost for response charged back to the responsible contractor through the UBC O Project Manager or Owner Representative. The rate of chargeback will be the rate specified by union contracts and/or billing by Kelowna Fire Services

Damage to Infrastructure or Equipment

Any University infrastructure or equipment damaged as a result of contractor activity will be charged back to the responsible contractor for payment through the UBC Owner Representative.

Service Shutdowns/Connections

A Service Shutdown is defined as a total stoppage of the distributed service to a particular area. These shutdowns can be impactful and may need to be scheduled outside of normal business hours to avoid impacting University business. Note that a minimum of 10 working days advance notice is required in order to arrange a service shutdown.

Send request for shutdown to FM (facilities.ok@ubc.ca, 250-807-9272). Include details such as:

- type of service interruption
- requested start date and time
- duration of interruption

Expect a minimum of 2 days for a response indicating whether the proposed shutdown has been approved.

Overhead Power Lines

Overhead power lines are under the management of FM. Work that is conducted in close proximity to overhead power lines must be carried out in accordance with Part 19 of the BC Occupational Health and Safety Regulations (<http://www2.worksafebc.com/publications/OHSRegulation/Part19.asp>).

If the limits of approach cannot be maintained because of the circumstances of work, Fortis must be contacted. Fortis may choose to disconnect the power to the overhead line while work is conducted.

Permits and Inspections

The owner shall obtain and pay for development approvals, building permits, permanent easements, rights of servitude, and all other necessary approvals and permits, except for permits to be obtained by the contractor as noted below.

The contractor shall be responsible for the procurement of permits, licences, inspections and certificates, which are necessary for the performance of the work and customarily obtained by contractors in the

jurisdiction of the Place of Work after the issuance of the building permit. This includes any relevant releases into the sanitary sewer as per the Kelowna Sewer Use Bylaw.

All contractor-supplied permits shall be emailed to Facilities Management (facilities.ok@ubc.ca) and the Owner Representative before the commencement of related works.

No construction, demolition or excavation works may be started without a Building Permit and the applicable Trade Permits.

Excavation and Backfill Permits

The most up-to-date version of the Excavation Work Procedure can be found on the HSE website: <http://riskmanagement.ok.ubc.ca/safety/general.html#excavations>. Excavation permits are required:

- For any machine excavation, no matter how deep.
- For any excavation deeper than 500mm.
- For any penetration of earth with drill, piles, augers, spikes, etc.
- For any penetration of concrete deeper than 50mm.
- For projects where fill is coming from off campus, the contractor is required to demonstrate that the fill materials are not contaminated.

Fume Hood and Biological Safety Cabinets

When fume hood or biological safety cabinet ventilation systems are to be worked on, or shut down to facilitate other work, laboratory personnel responsible for the system shall receive 10 days prior notice. Written confirmation, from the UBC O Project Manager or Owner Representative, that the fume hood or biological safety cabinet is safe to work on must be received prior to any work occurring.

New fume hood and biological safety cabinet specifications and location of installation must meet UBC technical guidelines. Upon installation, a copy of the fume hood certification must be provided to HSE, who will then perform the final inspection and approval before the hood can be placed in service.

- HSE: hse.ok@ubc.ca / 250-807-8859

GENERAL HAZARD REQUIREMENTS

Lockout

Lockout procedures will apply to any work being carried out on machinery or systems, including items that are powered, pressured or energized, or to all situations where a device is required to be put in place so that work can be carried out safely. Lockout procedures are mandatory and will be strictly enforced. Non-compliance with the procedures will be considered a breach of contract.

Contractors' Equipment Isolation and Lockout procedures will conform to the BC Occupational Health and Safety Regulations (<http://www2.worksafebc.com/publications/OHSRegulation/Part10.asp>). They must also meet the minimum requirements of the UBCO Isolation and Lockout Procedure (<http://riskmanagement.ok.ubc.ca/safety/general.html#Isolation>).

All contractors will supply their own locks.

Examples of systems that require the use of Lockout procedures include but may not be limited to:

- machinery and equipment requiring repair,
- all electrical devices that will be worked on,
- boilers or pressure vessels prior to entry,
- any confined space where there may be an electrical hazard.

Note that whenever there is lockout of equipment or systems that impact UBC facilities or members of the UBC community, UBC FM locks out on a First On, Last Off basis.

Personal Protective Equipment

The use of personal protective equipment (PPE) must conform to the BC Occupational Health and Safety Regulations (<http://www2.worksafebc.com/publications/OHSRegulation/Part8.asp>).

All consultants and contractors must provide their own protective clothing and equipment when required for access to any restricted location on the UBC O campus.

Specialized PPE may be required for certain activities and/or when using specific equipment and/or materials. It is the responsibility of the contractor to ensure the required equipment is supplied and used in compliance with WorkSafe BC requirements.

Rooftop Access

Access to all rooftops of UBC buildings is restricted and is controlled by FM.

- The Rooftop Access Procedures & application form are located here: <http://riskmanagement.ok.ubc.ca/safety/general.html#rooftops>

There is also a Salto / door key access application form that can be obtained from the UBC Owner Representative. All applications must be made to FM (facilities.ok@ubc.ca / 250-807-9272) a minimum of two (2) days prior to the commencement of the project.

It is expected that all working-at-heights regulations and procedures will be strictly adhered to. All contractors will provide and use their own fall protection safety equipment.

Road and Exit Closures

Information regarding work that requires partial or complete closure of a roadway, secondary road, access route, or building exit must be provided and approved by FM (facilities.ok@ubc.ca / 250-807-9272), and HSE (hse.ok@ubc.ca / 250-807-8859) a minimum of seven (7) days in advance of the project.

The length of the disruption, alternate routes, and brief project description must be provided as part of the application. This allows the University to ensure that critical emergency routes and/or locations including but not limited to emergency services routes, emergency egresses, and muster stations are not compromised during the course of the project.

Partial or complete road closures on the Okanagan Campus are to be conducted in accordance with UBC's Traffic Management Plan (<https://finance-operations.cms.ok.ubc.ca/wp->

[content/uploads/sites/79/2018/05/tmp-application59291.pdf](#)). Completed forms must be submitted to the office of Campus Operations and Risk Management (natalie.ingram@ubc.ca) for processing.

Hot Work and Dust

The purpose of the Hot Work and Dust Program is to protect personnel and property at UBC O from a fire caused by hot work or dust production. Hot work refers to work that involves open flames or work that produces heat, sparks or dust that may affect the fire alarm system. Such operations include but are not limited to welding, soldering, brazing, cutting, coring, grinding, adhesive bonding, thermal spraying, riveting, chipping and thawing pipes.

The procedure defines the responsibilities and requirements for performing hot work and establishes controls through the use of a hot work permit and checklist which must be submitted a minimum of two (2) days prior to the commencement of work to FM (facilities.ok@ubc.ca / 250-807-9272), and HSE (hse.ok@ubc.ca / 250-807-8859). It establishes the means to assess the work area and the planned hot work activity to ensure sufficient and necessary controls are in place to prevent a fire and/or impacts to the Fire Alarm System. Hot work will only be performed in areas that are or have been made fire-safe.

- The procedures, permit, and checklist are located here:
<http://riskmanagement.ok.ubc.ca/safety/general.html#hotwork>

Confined Space Entry

All contractors and consultants must conform to the BC Occupational Health and Safety Regulations (<http://www2.worksafebc.com/publications/OHSRegulation/Part9.asp>) as well as receive proper approvals from FM and HSE with respect to entering confined spaces.

Confined spaces on the UBC O site include, but are not restricted to, areas such as manholes and service tunnels. Contractors and consultants will coordinate all work involving confined spaces with the UBC O Project Manager or Owner Representative, FM and HSE. UBC O maintains a Confined Space Inventory through HSE that will be used to assist in the work planning process; this can be obtained from the Owner Representative.

Locating Underground Utilities

Excavating outside of new building projects (sites not under the direct control of the Prime Contractor) must have pre-approval of FM and HSE. Detailed requirements are located in the Excavation Work Procedure (<http://riskmanagement.ok.ubc.ca/safety/general.html#excavations>).

Once the applicable permits are approved and record drawings obtained, the Contractor performing construction is responsible to locate all underground services as per B.C. Master Municipal Construction Documents (MMCD) standards, section 4.3.4. Before excavating or drilling with powered tools and equipment, the location of all underground utility services in the area must be accurately determined, and any danger to workers from the services must be controlled as required in the BC Occupational Health and Safety Regulations (Part 20, Section 20.79: <http://www2.worksafebc.com/Publications/OHSRegulation/Part20.asp#SectionNumber:20.79>). As-built drawings are not adequate determinants of utility location. Contractors shall employ direct surveying, metering and hand digging.

Environmental Protection

All contractors must be aware of their environmental responsibilities. All contractor activities must comply with all applicable Federal, Provincial, Regional and Municipal environmental legislation and UBC O environmental procedures, to ensure that the impacts of their activities are assessed, mitigated and minimized to the greatest extent possible.

HSE reserves the right to conduct an environmental audit of the contractor's UBC campus worksite at any time to ensure that work activities are meeting regulatory requirements and to ensure that the environmental impacts of a contractor's activities are being managed appropriately.

The contractor shall immediately notify HSE (250-807-8859) of any activity, occurrence, or incident that may have a potential to damage the environment and that is beyond the effective control of the contractor.

Hazardous Materials Management

All hazardous materials brought onto the University site must be handled in accordance with all Federal and Provincial Regulations. Contractors must ensure:

1. No spills or leaks occur which could expose anyone to any airborne contaminants and/or have an impact the environment (environment, storm or sanitary sewer, air).
2. Work procedures are developed to ensure contaminant exposure to building occupants, and any disruption of routine work, is minimized through supplementary ventilation, coordination of work activities and worksite isolation.
3. Safety Data Sheets (SDS) are available for all controlled products on site.
4. All containers are labelled in accordance with applicable regulations.
5. All employees are provided the necessary training and provisions to ensure they are fully qualified and properly equipped to handle all hazardous materials being delivered to, as well as used on, the site.
6. All shipments of dangerous goods include proper documentation as required by the Transportation of Dangerous Goods (TDG) Regulations.
7. All materials are safely stored following good rules for safe storage and segregation.

Hazardous materials must not be left unattended in any areas accessible by faculty, staff, students and visitors.

Note that UBC storm water is retained on-site and falls under BC Ministry of the Environment regulations. As such, all releases to the storm water system shall be approved by HSE in advance.

Hazardous materials stored in buildings that are occupied by University faculty, staff or students must have the approval of HSE (hse.ok@ubc.ca / 250-807-8859) **prior to storage**. Hazardous materials are to be kept in a secure, marked location following rules and best practices for safe storage. Incompatible materials must not be stored together.

Spill Reporting

Contractors are responsible for all materials spilled by their employees, and sub-contractors. Depending on the situation, the contractor may be responsible to clean-up the material or pay for the cost associated with clean-up and restoration.

Contractors are responsible for reporting spills that result from activities performed on UBC O premises. Reportable levels for certain substances are listed in the applicable schedule in the BC Waste Management Spill Reporting Regulation (http://www.bclaws.ca/Recon/document/ID/freeside/46_263_90). Contractors should also refer to HSE Spill Reporting Procedures (<http://riskmanagement.ok.ubc.ca/environment/spills.html>) for UBC procedures and forms that may be required.

For all spills or releases (the sewer, storm sewer, environment, air or interior of buildings) an immediate notification to Campus Security (250-807-9236) and the UBC O Project Manager or Owner Representative is required. A UBC Spill Reporting Form must also be completed and a copy emailed to HSE (hse.ok@ubc.ca) as soon as reasonably possible with a copy being forwarded to the Project Manager or UBC O Owners Representative.

Contact Authorities:

- Emergency Management BC (EMBC): 1-250-952-4913 or 1-800-663-3456
- Kelowna Fire Department: 911
- Health, Safety and Environment: 250-807-8859 (after hours: 250-807-9236)

Hazardous Materials Disposal

Hazardous waste materials are substances covered by Transportation of Dangerous Goods (TDG) Legislation and/or Kelowna Sewer Use Bylaw that are intended for recycling, treatment or disposal. All hazardous waste materials shall be temporarily stored, transported and/or disposed off-site according to the handling labelling, record keeping and documentation requirements (i.e. waste manifests) of the British Columbia Waste Management Act, Special Waste Regulations, the British Columbia Occupational Health and Safety Regulations and the Federal TDG Regulations.

- Contractors are responsible for the safe and correct disposal of all hazardous materials (including paints, coatings, oils and others) in compliance with all regulations.
- All hazardous material shall be removed from site on a regular basis; there shall be no undue delay in having waste materials removed from the university site.
- Hazardous materials must not be left on site after a contractor has left. Contractors will be charged a surcharge for disposal of any hazardous materials abandoned on site.
- Hazardous waste materials which are in temporary storage shall be stored in a secured area provided with secondary containment. The area shall be secured, and labels and placards identifying the hazards will be placed in strategic locations.
- Waste materials contaminated with solvents, oils, grease, paints, or flammable materials shall be placed in covered metal containers and properly labelled.
- If hazardous waste materials are being held in temporary storage areas, fire extinguishers shall be strategically located near the temporary storage area and clearly identified.
- All shipments of dangerous goods must include proper documentation as required by the Transportation of Dangerous Goods Regulations.

Polychlorinated Biphenyls (PCBs)

UBC Okanagan is a PCB-free campus.

Asbestos Management

UBC Okanagan is an asbestos-free campus. Given the age of the campus, it is unlikely that there is any asbestos in construction materials. If any person has reason to suspect the presence of asbestos, work should stop immediately and HSE should be engaged for further guidance.

Designated Substances (i.e. Silica, Lead, Wood Dust)

Any disturbance (grinding, cutting, sanding) of designated substance containing materials must be subject of controls that keep exposures to contractors and members of the UBC community as low as reasonably achievable. Source control measures such as local ventilation and/or wetting should be implemented.

Construction in Laboratories

Contractors must not handle or interact with hazardous materials (including chemicals, biologicals, or radioisotopes) or research equipment in laboratories unless the work is specifically included in the contract and confirmation has been provided by UBC that any related hazards have been controlled. All hazards must be removed from the specific work area prior to work commencement to ensure that exposure does not occur. There are 3 types / levels of work that can be performed in laboratories:

1. Regular access (ex: fire extinguisher service) where a general laboratory orientation for each specific lab is required.
2. One-off projects (ex: fridge repair) where the Principal Investigator or Owner Representative is responsible for supervising the work to ensure contractor safety.
3. Lab renovation - lab must be cleared safe for work with the oversight of HSE (all hazards need to be removed from the work area prior to work commencement).

Lab staff must secure the work area by clearing all hazards prior to the contractor commencing work in an area. If the area is not secure, the contractor must refuse work until this has been completed.

Please contact HSE for further information (hse.ok@ubc.ca / 250-807-8859).

Radioisotopes

All design and construction of facilities designed for radioisotope use shall be reviewed and approved in writing by HSE.

Where applicable, the UBC O Project Manager or Owner Representative shall contact HSE at least ten (10) business days prior to project start up to enable staff to perform a Radiation Risk Assessment.

Radiation warning signs are only to be removed upon approval by HSE staff. Questions concerning radiation hazards may be directed to HSE (hse.ok@ubc.ca / 250-807-8859).

X-Ray or Gamma Radiation (Non-Destructive Testing)

Non-destructive testing involving x-ray or gamma radiation sources or x-ray emitting devices shall be in accordance with the Canadian Nuclear Safety Commission and BC Occupational Health and Safety Regulations (<http://www2.worksafebc.com/publications/OHSRegulation/Part7.asp>) to minimize radiation exposure to workers, other building occupants and passers-by.

Approval for all testing of this nature must be obtained from HSE at least five (5) business days prior to the testing date (hse.ok@ubc.ca / 250-807-8859).

Bio-Safety and Other Hazards

Unless specifically detailed as part of the contract, all contact with Biohazard Safety Cabinets (BSC) is strictly prohibited.

HSE coordinates the management of any proposed shutdown and/or move of all Biohazard Safety Cabinets (BSC) equipment. HSE also coordinates the certification and recertification of BSC's, Laminar flow hoods and PCR hoods.

Notification of work involving BSCs must be provided to HSE immediately to prevent delays to project schedules. One-month notification of project is recommended.

Any BSC that must be moved must be decontaminated prior to their relocation, and then re-certified before being put back into use; this process is managed through HSE to prevent damage to safety controls and devices, as well as ensuring potential health hazards are effectively controlled.

Questions concerning biohazards may be directed to HSE (hse.ok@ubc.ca / 250-807-8859).



Appendix 1- PROJECT NOTIFICATION AND APPROVAL

All new construction and renovation projects must be assessed to determine potential health, safety and environmental impacts. The impacts must be reviewed and approved by Facilities Management (FM) or Project Services (in cases where Project Services is managing the project) and communicated with those affected prior to any work commencing that has the potential to impact normal university operations. Once approved, Facilities Management or Project Services (in cases where Project Services is managing the project) will circulate the information to those impacted by the project. It is the responsibility of the Project Manager or Owner Representative (i.e. UBC Properties Trust or Campus Planning) to provide the following information as a project notification and approval request:

INFORMATION

- Type of work
- Location of work (building, site)
- Impact to occupants/community (as per assessment)
- Date, time, duration of project

INSTRUCTIONS

- Safety provisions (i.e. action required by occupants/community)

CONTACT INFORMATION (Project Manager, Owner Representative)

- Office, home and cell phone number
- Email address
- For both during and after regular business hours
- Alternate contact for emergencies

IMPORTANT: Failure to comply with University requirements for notification, communication, or approval may result in delayed project start dates or stop work orders.



Appendix 2 - PROJECT IMPACT ASSESSMENT (PIA)

The Project Impact Assessment (PIA) checklist (next page) is a tool for the UBC O Project Manager or Owner Representative to better understand the impacts of the work and to ensure that the appropriate approvals are in place prior to impactful work occurring on campus. The PIA must be completed prior to the commencement of the project to ensure proper action has been taken. Facilities maintenance and/or Health, Safety and Environment may request a copy of the completed PIA in order to ensure that appropriate project impact assessment and control is taking place.

It is the responsibility of the Project Manager or Owner Representative (i.e. Properties Trust, Campus Planning) to ensure the assessment is accurately completed and that appropriate action is taken to minimize disruption and protect faculty, staff, students, children, visitors, and animals.

Project Impact Assessment Checklist				
Impact Category		Impact Parameters	Risk to Community	Action Required
<input type="checkbox"/>	Temperature – slight deviation from thermal comfort parameters	Winter <20 degrees C >24 degrees C Summer <23 degrees C >27 degrees C	Thermal comfort	Notification to building occupants regarding potential thermal discomfort
<input type="checkbox"/>	Temperature – significant deviation	<18 degrees C >30 degrees C	Health risk to occupants Fire or explosion hazard (i.e. ether flash point = -35 degrees C)	Consider allowing occupants to work from home or provide alternative accommodations If hazardous material storage areas are affected, relocate or develop contingency for temperature sensitive materials
<input type="checkbox"/>	Reduction or interruption in outdoor air supply – office and classroom	<15 cubic feet per minute (cfm) of outdoor air per person	CO2 levels above 650 ppm may indicate inadequate fresh air supply	Determine areas affected, length of interruption, and other expected impacts (i.e. heat).
<input type="checkbox"/>	Reduction or interruption in outdoor air supply – laboratory or chemical storage area	Reduction of 10% or more air exchanges per hour (ACH)	Health risk due to accumulation of bench-top contaminants in lab environment	Close labs and access to chemical storage areas until adequate fresh air/ventilation can be supplied.
<input type="checkbox"/>	Reduction or interruption in outdoor air supply – equipment area (high heat producing)	>Room specified rate (>10 ACH if not specified)	Temperature sensitive equipment can become damaged or shut off possibly destroying contained materials	Develop contingency plan that addresses equipment needs (i.e. relocation, addition of fans, localized ventilation)

Impact Category		Impact Parameters	Risk to Community	Action Required
<input type="checkbox"/>	Work affecting animal care areas	Dependant on animal needs.	Animals can be dramatically affected by even slight changes in temperature, fresh air supply, noise and vibration.	Contact Director of Animal Care (or alternate) for direction.
<input type="checkbox"/>	Combustion products	>5 ppm carbon monoxide	Health hazard to occupants.	Provide localized ventilation or relocate occupants.
<input type="checkbox"/>	Chemical products (i.e. solvents, paint)	Above ½ OHSR OEL (action limit) for chemical used.	Health hazard to occupants.	Provide localized ventilation or relocate occupants.
<input type="checkbox"/>	Designated substances (Silica, Lead, Wood Dust)	Cutting, grinding, sanding	Health hazard to occupants.	Control exposures as low as reasonably achievable
<input type="checkbox"/>	Lighting	Lighting must comply with WorkSafeBC minimum requirements for illumination.	Must ensure safe working conditions, safe passage, and identification of hazards or obstructions.	Close building if lack of lighting presents a risk to the occupants. Close building if emergency lighting is affected.
<input type="checkbox"/>	Staging areas on University grounds	Use of UBC O property outside of contractor designated areas for mobilization or storage equipment.	Must maintain fire lane access, egresses, utility access, and preserve landscaping where possible.	Submit plan including layout to FM <u>5 business days</u> in advance of project.
<input type="checkbox"/>	Fire alarm systems	Disconnection or impact fire systems.	May result in increased fire hazard and false alarms to fire department.	Must apply to FM <u>24 hours</u> in advance of project. Provisions to ensure occupant safety (alternative notification systems, Fire Watch, signage). See Contractor Safety and Orientation Manual (http://riskmanagement.ok.ubc.ca/safety/general.html)

Impact Category		Impact Parameters	Risk to Community	Action Required
<input type="checkbox"/>	Service shutdown – Emergency Power	Total stoppage of a distributed service to a particular area.	Detail types and impact.	Must apply to FM <u>10 working days</u> in advance of project. Identify areas affected by loss of emergency power. Develop contingency.
<input type="checkbox"/>	Fume Hood work	Exhaust system shutdown. Laboratory work or renovation.	Potential user exposure to hazardous (chemical, radioactive) materials.	Work must be reviewed and approved by FM and HSE. Note that contractors must be accompanied by lab personnel when performing work in labs unless pre-approved (HSE). New fume hoods must meet UBC technical guidelines and be approved by HSE. Notify laboratory personnel <u>10 days in advance</u> of project. See Contractor Safety and Orientation Manual (http://riskmanagement.ok.ubc.ca/safety/general.html)
<input type="checkbox"/>	Biohazard Safety Cabinet (BSC) work	Exhaust system shutdown. Laboratory work or renovation.	Potential user exposure to hazardous biological materials.	Work must be reviewed and approved by FM and HSE. Note that contractors must be accompanied by lab personnel when performing work in labs unless pre-approved (HSE). BSCs must be approved by HSE and meet UBC technical guidelines. Notify laboratory personnel <u>one month in advance</u> of project. See Contractor Safety and Orientation Manual (http://riskmanagement.ok.ubc.ca/safety/general.html)
<input type="checkbox"/>	Demolition	Any demolition.	Occupational hazard and damage to infrastructure or environment.	See Contractor Safety and Orientation Manual (http://riskmanagement.ok.ubc.ca/safety/general.html)
<input type="checkbox"/>	Excavation	Any excavation.	Occupational hazard and damage to infrastructure or environment.	Work must be reviewed and approved by FM and HSE. See Excavation Work Procedure (http://riskmanagement.ok.ubc.ca/safety/general.html#excavations)

Impact Category		Impact Parameters	Risk to Community	Action Required
<input type="checkbox"/>	Lock out	Work on machinery or systems that are powered, pressurized or energized.	Occupational hazard and damage to equipment.	Must have FM approval to work on University systems or machinery. Comply with WorkSafeBC OHS Regulations.
<input type="checkbox"/>	Rooftop access	Access to UBC O rooftops.	Fall hazard.	Follow Rooftop Access Procedure (http://riskmanagement.ok.ubc.ca/safety/general.html#rooftops) Application must be made to FM <u>2 days in advance</u> of project.
<input type="checkbox"/>	Partial or Full Road Closure	Any lane or road closure.	Need to communicate with emergency services and ensure access to emergency connections is preserved.	Closure must be approved by FM and HSE <u>7 days in advance of the project</u> . Length of disruption, alternate routes, and project description (including safety provisions, i.e. use of flag-person, contact person for emergencies) must be provided. Operate in accordance with http://www2.gov.bc.ca/gov/content/transportation/transportation-infrastructure/engineering-standards-guidelines/trafficmanagementmanual
<input type="checkbox"/>	Partial or complete egress or building exit closure	Any restriction to an emergency egress or exit. This includes storage of materials.	Safe building evacuation and need to communicate with emergency wardens.	Closure must be approved by FM and HSE <u>7 days in advance</u> of the project.
<input type="checkbox"/>	Heavy equipment operation	In areas where pedestrians or traffic may interface with equipment.	Must ensure that pedestrians and vehicular traffic are re-routed and protected.	Ensure adequate signage, barriers and flag-person to ensure individual safety. Other impacts will apply.
<input type="checkbox"/>	Hot Work and Dust production			If performed in University occupied building follow Hot Work and Dust procedure (http://riskmanagement.ok.ubc.ca/safety/general.html#hotwork) Application must be made to FM and HSE, <u>2 days in advance</u> of project.

Impact Category		Impact Parameters	Risk to Community	Action Required
<input type="checkbox"/>	Confined Space Entry	Areas including but not limited to manholes and service tunnels, interstitial spaces, and vaults.	Worker safety and protection of infrastructure and machinery.	Contact FM and HSE for permission and access. Note that contractors must be oriented by the University regarding worksite specific hazards
<input type="checkbox"/>	Underground Utilities	Before excavating or drilling.	Danger to workers from underground services and damage to infrastructure.	See contractor safety and orientation manual. (http://riskmanagement.ok.ubc.ca/safety/general.html)
<input type="checkbox"/>	Hazardous materials (storage and disposal)	Any hazardous materials (i.e. chemicals).	Danger to community and environment.	All hazardous materials used by the contractor must be properly secured and disposed of. Spills must also be reported immediately to HSE. See contractor safety and orientation manual for more information. (http://riskmanagement.ok.ubc.ca/safety/general.html)
<input type="checkbox"/>	Laboratory entry	Access to an area where chemical, radioactive or biological material is used or stored.	Occupational exposure hazard, damage to equipment or research related items.	<ol style="list-style-type: none"> 1. Regular access (ex: fire extinguisher service) where a general laboratory orientation is required. 2. One-off projects (ex: fridge repair) where the Principal Investigator or Owner Representative is responsible for supervising the work to ensure contractor safety. 3. Lab renovation (all hazards need to be removed prior to work commencement) where the lab must be cleared safe for work through HSE.
<input type="checkbox"/>	Non - destructive testing	Non-destructive testing involving x-ray or gamma radiation sources or x-ray emitting devices.	Must comply with CNSC and OHSR to minimize occupant exposure.	Must have prior approval from HSE (minimum <u>5 business day notice in advance of project</u>).
<input type="checkbox"/>	Noise, vibration, dust, debris			Communicate impacts to FM to allow community communication and accommodations as necessary

<input type="checkbox"/>	Other potential impacts to health, safety and/or environment not specified above. Please specify below.
--------------------------	---

Other:
