



Work Procedure	UBCO-RMS-OHS-WP 16-002
Facilities Management Risk Management Services	Date Created: August 12, 2016 Date Updated: N/A Supersedes: N/A

# Excavations

## 1. SCOPE

This Work Procedure (WP) covers all excavation work performed on the University of British Columbia's Okanagan Campus (UBCO). The Excavation Work Procedure is designed to ensure that underground utilities are not damaged during any type of excavation (digging) being performed on campus.

It is mandatory that all excavation work carried out on campus be done in compliance with this and other relevant work procedures.

Facilities Management must approve all applications prior to commencement of any excavation and has the authority to prohibit access if unsafe conditions exist.

## 2. PURPOSE

This document will cover the basic requirements associated with creating excavations on campus.

## 3. POLICY

1. UBC will take all reasonable measures to provide a safe workplace. All UBC operations must be performed in a manner which will prevent any undesirable effects to UBC and/or UBC employees, assets, the local community, and the environment.
2. The provisions of this program and all applicable standards will be followed to ensure the reliable operation of utility systems. Failure to follow the requirements of the Excavation Program will be cause for disciplinary action for UBC employees and potential fines & penalties for contractors.
3. UBC Okanagan's Excavation Program is meant to work with applicable portions of WorkSafeBC Occupational Health and Safety Regulations, and thus should not be in conflict with their requirements.

## 4. BACKGROUND

### *Definitions*

"**adjacent to an excavation**" means within a distance less than or equal to the overall depth of the excavation, measured from a vertical line through the toe of the excavation face;

"**construction project**" means any erection, alteration, repair, dismantling, demolition, structural or routine maintenance, painting, land clearing, earth moving, grading, excavating, trenching, digging, boring, drilling, blasting, concreting, or the installation of any machinery;

"**demolition**" means tearing down, destruction, breakup, razing or removal of the whole or part of a building or structure, or of free standing machinery or equipment that is directly related to the function of the structure;

"**excavation**" means any cut, cavity, trench or depression in the earth's surface resulting from rock or soil removal;

"**fill**" means any soil or other loose material that is constructed to form an embankment or a part of the foundation of a structure or improvement;

"**formwork**" includes the foundation, supporting structure, and mold into which concrete will be placed;

"**formwork designer**" means the professional engineer responsible for the design of formwork;

"**stockpile**" means any soil or other loose material that is placed in an area for storage but that is not intended to function as fill;

"**tilt-up construction**" means a system of building construction in which concrete wall panels are placed in position in the permanent structure and temporarily braced or supported;

"**trench**" means an excavation less than 3.7 m (12 ft) wide at the bottom, over 1.2 m (4 ft) deep, and of any length.

## 5. RESPONSIBILITIES

1. Responsible Supervisor (University employee / Project Manager / UBC Owner Rep)
  - a. Inform employees and contractors of the UBC Okanagan Excavation procedure.
  - b. Ensure that Excavation Permits are completed for all excavations on campus.
  - c. Initiate request for Excavation Permit a minimum of ten business days prior to intended date of commencement of excavation work.
  - d. Note if proposed excavation falls within the Agricultural Land Reserve; take appropriate follow-up measures with Agricultural Land Commission if yes.
  - e. Determine if a City of Kelowna Soil Removal and Deposit permit will be required (<http://www.kelowna.ca/CM/Page331.aspx>).

- f. Evaluate in cooperation with Facilities Management (FM), Campus Planning and Development (CPD), and Risk Management Services (RMS) the work to be performed and identify required precautions on the Excavation Permit.
  - g. Provide employee/contractor that is performing excavation with approved Excavation Permit.
  - h. Ensure that excavation work is planned and performed in compliance with all applicable WorkSafeBC OHS Regulations, including but not limited to [Sections 20.78 - 20.95](#) (Excavations).
  - i. Inspect excavation area and sign Excavation Permit if all requirements have been met.
  - j. Forward a final copy of the Excavation Permit to Facilities Management immediately after completion of project.
2. Person Performing Excavation (employee, contractor, sub-contractor)
    - a. Complete the Excavation Permit and forward to the Responsible Supervisor.
    - b. Post the approved Excavation Permit on hoarding at the location of the excavation, or if the hoarding is not set up in a manner that would allow for posting, keep Excavation Permit inside equipment operator's cab.
    - c. Conduct excavation in accordance with WorkSafeBC and UBCO requirements.
      - i. Contractors are also responsible to operate on UBCO campus and lands in accordance with the current version of the UBCO Contractor Safety Manual (<http://riskmanagement.ok.ubc.ca/safety/general.html>).
    - d. Immediately report any accident/incident, including a minor or major collapse to any portion of a trench, to Responsible Supervisor and Campus Security at 250-807-8111.
    - e. Fill out the appropriate portions of the permit upon completion of work.
3. Facilities Management (FM)
    - a. Upon receipt of Excavation Permit application, forward to Campus Planning & Development and Risk Management Services for their review.
    - b. Review Excavation Permit applications within five business days of submission.
    - c. Review applications with additional stakeholders if necessary (e.g. Parking Services).
4. Campus Planning & Development (CPD)
    - a. Review Excavation Permit applications within five business days of receipt from FM.
5. Risk Management Services (RMS)
    - a. Review Excavation Permit applications within five business days of receipt from FM.
    - b. Inspect excavation projects as appropriate.
    - c. Provide training in the Excavation Permit system.

- d. Review the UBCO Excavation WP in conjunction with Facilities Management and update/edit the program when deemed appropriate to ensure continual program improvement.

## 6. REFERENCES

[BC One Call website](#)

[BCCGA - Underground Infrastructure Safety - Best Practices v2](#)

[Duke University Excavation Program SOP](#)

[Shaw Cable "DigShaw" website](#)

[WorkSafeBC Occupational Health and Safety Regulations - sections 20.78 to 20.95](#)

[WorkSafeBC - Prevention of Damage to Buried Facilities in British Columbia](#)

## 7. PROCEDURE

- a. An Application for Project Approval as well as Project Impact Assessment (<http://riskmanagement.ok.ubc.ca/safety/general.html>) must be completed and submitted by the Responsible Supervisor to Facilities Management a minimum of two weeks prior to project commencement. Review of application will then be completed by Facilities Management, Campus Planning and Development, and Risk Management Services.
- b. Once excavation project has been approved, Project Notice is to be sent out to potentially affected stakeholders on campus (as long as possible before project commencement, preferably at least two weeks prior).
- c. An approved Excavation Permit is required before any excavation (digging), is performed anywhere on campus, by anyone.
  1. Exceptions are as follows:
    - a. External utility companies with right of way easements on UBCO property.
    - b. Landscaping hand shovel/tool work in established plant beds or along irrigation lines where it is confirmed that underground utilities are not present within the top 18 inches (i.e. depth of approximately 1.5 average hand shovel blades).
- d. Permit must remain on-site during excavation.
- e. Permit expires with associated BC One Call Ticket and/or Shaw Cable Locate.
- f. If a new equipment operator not on the active permit is assigned to work on the site, a new permit must be requested.
- g. If any utility is discovered that is not marked, the equipment operator must immediately stop and contact the UBCO Project Manager or Owner Rep and the Facilities Management Associate Director.
- h. Utility location markings must be maintained throughout the work. If work area needs to be remarked during permit period, the UBCO Project Manager or Owner Rep is to be contacted.

- i. Locating natural gas lines or buried electrical lines requires the use of a vacuum truck.
- j. Utility markings should not be considered an exact location, they have a 30 inch variance on each side of the marking.
- k. Within 30 inches of the edge of a utility, hand digging or vacuum excavation is required to locate utility.
- l. For new utilities or repaired utilities, excavated areas must be inspected by a Facilities Management representative prior to back-filling. Failure to receive approval, the utility will have to be uncovered at the contractor's expense.
- m. Obtaining an Excavation Permit
  1. Will the excavation be for a major construction project (i.e. new building or building addition)? If no, go to Step 2. If yes, a pre-excavation review is to be held prior to project commencement. A request is to be sent from the UBCO Project Manager or Owner Rep to a Facilities Management Manager a minimum of two weeks before request for location of utilities.
    - a. Review scope of excavation
    - b. Excavation/project schedule
    - c. Drawings of planned work
    - d. Drawings of any logistical issues (traffic impact, etc.)
    - e. Name of contractor(s) doing work
    - f. Temporary utilities or shutdowns if required
    - g. Review Risk Mitigation Plan
  2. Contractor completes Permit Request Form and is signed off by UBCO Project Manager or Owner Representative.
  3. Contractor or requestor must attach a drawing(s) and sketch(es) of planned work.
  4. Contractor or employee performing the work contacts BC One Call (<http://www.bconecall.bc.ca/> / 1-800-474-6886) and Shaw Cable (<http://www.digshaw.ca>, 1-866-344-7429) to request utility locates 72 hours or more prior to need date.
  5. BC One Call and Shaw Cable will separately coordinate marking of utilities and provide drawings of known utilities in area to be attached to their respective permits.
  6. UBCO Facilities Management representative reviews on-ground markings and requirements with equipment operator.
  7. Project Manager/UBC Owner Representative, Facilities Mgmt. representative and equipment operator all sign excavation permit.
  8. Contractor can now begin work.
  9. If work goes on beyond expiry of BC One Call Ticket and/or Shaw Cable Locate, return to Step 2 to request new permit.
  10. If work area needs to be remarked during permit period, contact the Project Manager or Owner Rep.
  11. All excavations must be replaced with appropriate backfill upon completion; to be approved by a FM Manager before backfilling commences.

**8. REVIEW AND RETENTION**

This Work Procedure is reviewed annually or whenever deemed necessary by the responsible departmental representative in Risk Management Services.

**9. APPROVAL OF UBCO EXCAVATION WORK PROCEDURE**

Original:

	<b>Author(s)</b>	<b>Facilities Management Approval</b>	<b>Risk Management Services Approval</b>
<b>Name</b>	Jason McLeod, Health & Safety Advisor	Roger Bizzotto, Associate Director	Mike McGinty, Associate Director
<b>Date</b>	2016/08/12	2016/08/12	2016/08/12

Revision:

	<b>Author(s)</b>	<b>Facilities Management</b>	<b>Risk Management Services</b>
<b>Name</b>	-	-	-
<b>Date</b>	-	-	-



# EXCAVATION PERMIT

**Project Name:** \_\_\_\_\_ Today's Date: \_\_\_\_\_

UBCO Project Manager/Owner Rep: \_\_\_\_\_ Phone: \_\_\_\_\_

Contractor Name: \_\_\_\_\_ Phone: \_\_\_\_\_

Contractor Site Supervisor: \_\_\_\_\_ Phone: \_\_\_\_\_

Equipment Operator: \_\_\_\_\_ Phone: \_\_\_\_\_

Location(s) of Work: \_\_\_\_\_

Description of Work: \_\_\_\_\_

Planned Excavation Start Date: \_\_\_\_\_ Planned Excavation Completion Date: \_\_\_\_\_

BC One Call permit – Date issued & Expiry: \_\_\_\_\_

BC One Call Locate – Date completed: \_\_\_\_\_

BC One Call map attached to permit: Yes    No    Copy submitted to UBCO Facilities Mgmt: Yes    No

Shaw Cable permit – Date issued & Expiry: \_\_\_\_\_

Shaw Cable Locate – Date completed: \_\_\_\_\_

Shaw Cable map attached to permit: Yes    No    Copy submitted to UBCO Facilities. Mgmt: Yes    No

City of Kelowna excavation permit required?    Yes    No

If YES to above, City of Kelowna SR&D permit – Date issued & Expiry: \_\_\_\_\_

**Signatures:**

UBCO Project Manager/Owner Rep: \_\_\_\_\_ Today's Date: \_\_\_\_\_

Contractor Site Supervisor: \_\_\_\_\_ Today's Date: \_\_\_\_\_

Approved by Facilities Management Manager (name): \_\_\_\_\_

Signature: \_\_\_\_\_ Today's Date: \_\_\_\_\_