

	Excavation & Trench Safety Permit Policy	Document Number: CSAF- 3
	University of Massachusetts Amherst Environmental Health & Safety	Effective Date: 02/17/09
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1.0 Purpose and Applicability

- 1.1 The purpose of this policy is to establish worker protection and public safety requirements for excavations and trenches on UMass Property and for UMass Projects. This policy also applies to projects under the jurisdiction of DCAM and UMBA.
- 1.2 This policy:
 - 1.2.1 delineates permitting requirements for all excavations and trenches greater than 3 feet below grade.
 - 1.2.2 establishes UMass policy to invoke OSHA standards (29 CFR 1926 Subpart P) as the minimum requirements for excavation/trench safety
 - 1.2.3 specifies minimum requirements for protecting the general public from hazards associated with trenches and excavations (520 CMR 14.00)
 - 1.2.4 provides protocols for addressing violations of the standards

2.0 Definitions

- 2.1 Applicant/Owner – The permit holder.
- 2.2 Competent Person – A person or persons who is capable of identifying existing and predictable hazards in the surroundings, or working conditions which are unsanitary, hazardous, or dangerous to people, and who has authorization to take prompt corrective measures to eliminate them. A competent person must be able to demonstrate that he or she has been trained in and is knowledgeable about: soil analysis, the use of protections for the General Public and the requirements of this regulations.
- 2.3 DOS – Division of Occupational Safety
- 2.4 DPS – Department of Public Safety
- 2.5 Emergency – An unforeseen condition in which the safety of the public is in imminent danger because of a threat to life or health or where immediate correction is required to maintain or restore essential public utility service.
- 2.6 Excavation - any man-made cut, cavity, trench, or depression in an earth surface, formed by earth removal, made below the surface ground in excess of 3 feet below grade
- 2.7 Excavator – Any entity including, but not limited to, a person, partnership, joint venture, trust, corporation, association, public utility, company or state or local government body or public agency which performs excavation operations including the excavation of trenches.
- 2.8 General Public – All natural persons not engaged in the creation of a trench.
- 2.9 Permit Holder – The excavator who is responsible for acquiring a permit from the Permitting Authority.
- 2.10 Permitting Authority – a city, town, or public agency required to administer the provisions of 520 CMR 14.03; for UMass, the permitting authority is EH&S.
- 2.11 Public Agency – A department, agency, board, commission, authority, or other instrumentality of the Commonwealth or political subdivision of the Commonwealth or two or more subdivisions thereof.
- 2.12 Serious Injury – A personal injury that results in death, dismemberment, significant disfigurement, permanent loss of the use of a body organ, member, function, or system, a compound fracture, or other significant injury that requires immediate admission and overnight hospitalization and observation by a licensed physician.

- 2.13 Trench – An excavation which is narrow in relation to its length, made below the surface ground in excess of 3 feet below grade and the depth of which is, in general, greater than the width, but the width of the trench, as measured at the bottom is no greater than 15 feet.
- 2.14 Unattended Trench – A trench where neither the permit holder, excavator, nor any of the people who work in or at the trench, are present.

3.0 Roles & Responsibilities

3.1 Permitting Authority

- 3.1.1 For excavations on UMass Property or for UMBA/DCAM projects for the campus, the permitting authority is the EH&S Safety Office. Areas of responsibility are:
 - 3.1.1.2 Physical Plant Safety Officer – UMass Physical Plant Construction Services projects, or Physical Plant contracts.
 - 3.1.1.3 Construction Safety Officer - Contractor, UMass F&CP, and UMBA/DCAM projects
 - 3.1.1.4 Campus Safety Officer – serves as an alternate for the Physical Plant and Construction Safety Officers
- 3.1.2 For excavations outside UMass Property lines, the permitting authority is the municipality. For the Town of Amherst, this responsibility lies with the DPW. Permits from authorities other than UMass will be completed in accordance with the procedures specified and forms provided by the applicable authority.
- 3.1.3 Issues permits - Review and approve permit applications. Electronically notifies DPS of permits issued (on a weekly basis), using the attached form found on the MA DPS website (“Notice of Issuance of Permit for the Excavation of Trenches”).
- 3.1.4 EH&S Safety Officers
 - 3.1.4.1 Respond to reports of open, unattended trenches
 - 3.1.4.2 Notify permit holders of the unsafe, unattended condition of a trench
 - 3.1.4.3 Take action to make open, unattended trenches safe until the permit holder is provided with reasonable time to respond to notification of an unsafe trench (e.g. by posting an attendant or police detail)
 - 3.1.4.4 Order the immediate shutdown of a trench if considered an immediate danger
 - 3.1.4.5 Notify DPS of violations if deemed necessary by EHS due to nature of violations
 - 3.1.4.6 Perform inspections of trenches and excavations in the course of their normal duties
 - 3.1.4.7 Perform inspections before reopening, after immediate shutdown
 - 3.1.4.8 Convene, or assist in convening, disciplinary hearings relative to the suspension or revocation of a permit as necessary in response to alleged violations of the statute or regulations
 - 3.1.4.9 Takes follow-up actions in response to violations of the statute or regulations. The permitting authority has the discretion to establish grounds for revocation/suspension.

3.1.4.10 **May report violations of 520 CMR 14.00, at their discretion, to the Department of Public Safety** (see attached form found on the MA DPS website – “Notice of Administrative Action”) **or OSHA, depending on the nature of the violation**

3.2 Permit Holder / Excavator

- 3.2.1 Performs DigSafe notifications prior to start of excavation work
- 3.2.2 Performs a hazard assessment to determine likelihood of hitting underground utilities not clearly located by DigSafe
- 3.2.3 Confirms property lines and whether more than one permitting authority is involved
- 3.2.4 If contracted, provides certificate of insurance
- 3.2.5 Provides copies of hoisting licenses including class and expiration dates
- 3.2.6 Obtains a permit from EH&S and or other permitting authority prior to excavation.
- 3.2.7 Displays permit appropriately (posted in plain view of the trench, and available for inspection)
- 3.2.8 Ensures Competent Person present for all active work on excavations
- 3.2.9 Safely secures all trenches/excavations (by attendance, barricade, backfill, or covering)
- 3.2.10 Provides permit to permitting authority, DPS and DOS upon request
- 3.2.11 Allows permitting authority, DPS and DOS access for inspections
- 3.2.12 Complies with order for immediate shutdown indicated by permitting authority, DPS or DOS
- 3.2.13 Takes corrective measures , as advised by permitting authority, when violations are found
- 3.2.14 Pays administrative fines, if levied by DPS
- 3.2.15 Reports serious injuries/fatalities immediately (within 1 hour) to UMPD and EHS. Serious injuries are considered those that require an ambulance transport, or result in an OSHA recordable or loss time injury.

3.3 Department of Public Safety (DPS)

- 3.3.1 Provides guidance on regulations
- 3.3.2 Receives notification of all trench permits issued by a public agency
- 3.3.3 Receives notification of violations
- 3.3.4 Inspects sites – DPS could be called upon to inspect a site
- 3.3.5 Assesses administrative fines against the excavator
- 3.3.6 Conducts hearings regarding fines

3.4 Division of Occupational Safety (DOS)

- 3.4.1 Provides guidance on regulations
- 3.4.2 Inspects sites – DOS could be called upon to inspect a site

4.0 Procedure

4.1 Permit – Application & Requirements

4.1.1 Permit Application [See attached instructions and example]

For excavations under the jurisdiction of UMass, the permit must be completed and submitted to the EH&S Safety Officer having primary authority for the work (see section 3.1.1).

For excavations outside the jurisdiction, the forms provided by the permitting authority must be submitted in accordance with the authority's policies.

Required information on permits:

- (1) Dig-Safe Number
- (2) Name & contact information of permit holder/contracting authority
- (3) Name & contact information of the excavator:
 - The specific excavator, competent person, and person performing the excavation may change on complex/extensive projects. Therefore, all personnel should be updated as necessary during the course of a project. Secondary or "back-up" people, can be designated, in case the primary people are unavailable.
 - Per MA DPS, a blanket-listing of all UMA excavating personnel on the permit is acceptable, so that daily, last-minute changes are avoided.
- (4) Name & contact information of owner(s) of property
- (5) Alternate contact(s) information
- (6) Name of the competent person(s)
- (7) Name of the person(s) performing the excavation (of the trench), and the MA hoisting license # for each person(s), with expiration date(s).
- (8) Permit expiration date (if applicable)
- (9) Specific location of the excavation/trench
- (10) The anticipated date to begin the excavation/trench operation.
- (11) The anticipated date to conclude the excavation/trench operation.
- (12) Name & contact information of the insurer (UMass is self-insured).
- (13) Statements required by M.G.L. c.82A § 3 (3) and (5)(i), (ii):
 - (a) "Persons engaging in any trenching operation shall familiarize themselves with the federal safety standards promulgated by the Occupational Safety and Health Administration on excavations: 29CFR 1926.650 *et seq.*, entitled Subpart P Excavations"
 - (b) "By applying for, accepting and signing this permit, the applicant attests to the following:
 - (1) that he has read and understood the regulations promulgated by the Department of Public Safety with regard to trench safety, and
 - (2) that he has read and understood the federal safety standards promulgated by OSHA on excavations: 29CFR 1926.650 *et seq.*, entitled Subpart P Excavations".
- (14) A Summary of Excavation and Trench Safety Regulation 520 CMR 14.00 *et seq.*
- (15) A Summary of OSHA 1926 Subpart P – Excavations, and a summary of any regulation promulgated by the Department of Public Safety in conjunction with the Department of Occupational Safety, in accordance with M.G.L. c.82A

4.1.2 Permit Requirements

4.1.2.1 In order to obtain a permit, the following information must be submitted to the permitting authority:

4.1.2.1.1 completed application for excavation/trench

- 4.1.2.1.2 certificate of insurance with general liability coverage of \$100,000 per person and \$300,000 per claim (outside contractors only)
- 4.1.2.1.3 certification and a hazards analysis has been completed for known underground utilities

- **A permit must be obtained for all excavations and trenches to be dug by the excavator**

- 4.1.2.2 Emergency Situations: Permits are not required prior to creating a trench in response to an emergency. The excavator must obtain a permit on the next business day, at the latest.
- 4.1.2.3 Blanket Permit Provision: a blanket permit allows entities working on large projects with multiple trenches to add to the list of trench locations as the permit holder becomes aware that a trench is required. The benefits of the blanket permit include a reduction in redundant paperwork and increased efficiency. The blanket permit in no way absolves the permit holder from the information required by the regulations.

Blanket permits will be valid for the duration established by the permitting authority.

4.2 Excavation/Trench Protections

- 4.2.1 When protecting the General Public from unauthorized access to unattended excavations/trenches, remember:

“A-B-B-C”

{	<p>Attendance</p> <p>Barriers</p> <p>Backfill</p> <p>Covers</p>
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- 4.2.2 All unattended excavation/ trenches must be protected from access, whether on public ways, public lands, or private property.
- 4.2.3 Covers, portable barriers, or backfilling are required when the excavation/trench is unattended:
 - 4.2.3.1 Covers must be steel metal plates (“road-plate”) no less than ¾ inches thick or equivalent and placed over the excavation or trench
 - 4.2.3.2 Barriers used instead of covers to secure an unattended excavation/trench shall be no less than 6 feet in height and must be continuous
 - 4.2.3.3 Barriers must be adequately stable and supported so as not to be blown over or easily moved; supported in a manner that will allow them to be seen by a motorist
 - 4.2.3.4 No more than 4 inches shall be allowed between multi-sectioned barriers

- 4.2.3.5 Any openings between the ground and barrier shall not exceed 4 inches
- 4.2.3.6 Placement of horizontal supports shall be on the inside of the barrier (facing the excavation/trench)
- 4.2.3.7 Fence-type barriers shall be secured by vertical support members not more than 10 feet apart.
- 4.2.3.8 Barriers shall be placed so as to be unaffected by changing conditions (i.e. erosion, cave-in) of the trench
- 4.2.3.9 Chain-link fence is an appropriate selection
- 4.2.3.10 Barriers adjacent to high-speed traffic may include traffic control barrels ballasted by sandbags or temporary pre-cast concrete barriers as components.
- 4.2.3.11 Solid barriers shall not contain holes or indentations larger than 4 inches
- 4.2.3.12 The wall of a dwelling or other permanent structure of a height of not less than 6 feet may serve as part of the barrier, provided it complies with all of the provisions listed above
- 4.2.3.13 Gates and other means of egress must:
 - (a) comply with the size and strength provisions listed above
 - (b) be securely fastened to adjacent barrier components
 - (c) allow not more than 4 inches between gates and barrier components
 - (d) be securely locked with a padlock, combination lock, or other suitable locking device
- 4.2.3.14 Barriers shall be clearly marked on all sides with signs indicating “Danger – Do Not Enter”, “Authorized Personnel Only”, or equivalent warning
- 4.2.3.15 For excavations/trenches inside an established construction area, the site construction fence may be considered adequate if it meets the requirements specified herein. However, some excavations within the site may need additional barricades if not readily seen.
- 4.2.4 The strength of barriers shall match that of fencing listed in swimming-pool safety standards.
- 4.2.5 If a cover, barrier, or backfilling is not used to secure an excavation/trench, then it must have continuous personal monitoring by the permit holder or by a person(s) under the control and direction of the permit holder.
- 4.2.6 The permitting authority may require any additional, site-specific provisions it deems necessary to protect the general public as a condition to any permit issued.

4.3 Inspections

- 4.3.1 UMass Safety Officers perform inspections of trenches and excavations in the course of their regular duties.
- 4.3.2 These inspections cover both public safety and worker safety considerations.

4.4 Violations

UMass may take the following actions if a violation is noted:

- 4.1 Immediate Shutdown by the Department of Public Safety, Division of Occupational Safety, or UMass
 - 4.1.1 Conditions warranting immediate shutdown:
 - 4.1.1.1 Immediate threat, fatality or serious injury to the general public
 - 4.1.1.2 Failure to use effective protections for the general public, as required (attendance, barrier, backfilled, covered)
 - 4.1.1.3 Any other condition that constitutes a serious threat to life, limb, or property of the general public as determined by the permitting authority
 - 4.1.1.4 Failure to obtain a permit
 - 4.1.1.5 UMass may also order an immediate shutdown for conditions that constitute and immediate threat to the worker.
 - 4.1.2 Shutdown remains in effect until the condition(s) is corrected to the satisfaction of the authority responsible for shutdown (re-inspection is required).
 - 4.1.3 Appeal from immediate shutdown may be made to the authority ordering the shutdown (appeals must be made within 10 calendar days of the shutdown); **the site must remain shut down during the appeal period.**
- 4.2 Suspension or Revocation of a Permit
 - 4.2.1 UMass may suspend or revoke a permit following a hearing
 - 4.2.2 Hearings must be held in accordance with M.G.L. c30A (Mass Administrative Procedure Act) and 801CMR 1.02 (Informal/Fair Hearing Rules).
- 4.3 Notifications

UMass reserves the right to notify the DPS or OSHA of violations to these requirements depending on the nature of the violations and the responsiveness of the contractor.

4.4 Administrative Fines

UMass does not issue fines;
however, the Department of Public Safety can impose administrative fines
against the excavator (M.G.L. c82A, §1).

4.5 **Serious Injury / Fatality**

4.5.1 Notification

An excavator shall report all serious injuries or fatalities which occur at the
location of a trench to the UMPD and EHS within one hour from the time the
serious injury occurred.

4.5.2 Investigation

In the event that a serious injury or fatality occurs, the trench site shall be
immediately secured. The site surrounding the trench shall not be disturbed,
cleaned, or altered in any way except by a public authority or as necessary for
the preservation of life and property or the removal of the injured person(s) until
receiving express authorization from an inspector of the Department of Public
Safety.

5.0 **References**

- 5.1 M.G.L. chapter 82A, “General Laws of Massachusetts, Chapter 82A, Excavation and Trench Safety”
- 5.2 520 CMR 14.00, “Code of Massachusetts Regulations, Excavation and Trench Safety”
- 5.3 M.G.L. chapter 30A, “General Laws of Massachusetts, Chapter 30A, Mass Administrative Procedure Act”
- 5.4 801 CMR 1.02, “Code of Massachusetts Regulations, Informal/Fair Hearing Rules”