Town of Shirley
Department of Public Works

158 Great Road, Shirley, MA 01464 **978-425-2628**

Road Cut Permit Application

1. Location of Planned Project Drawing/sketch of project must be included	2. Contractors/Utility Name and address
3. Owner's Name and Address, Phone	4. Submitter's Name and Phone, and E-mail address Hoisting Lic. Number

5. **Type of Utility to be installed*:**_____
   If Sewer, Signature of Sewer Commission Required Indicating that DEP permits are issued and on Record with the Sewer Commission.
   Signature of the Sewer Commissioner._____

6. **DIG SAFE NUMBER** _____**Approved Start Date:**_____

7. **Anticipated date of permanent Pavement Installation** _____

8. **Applicant Acknowledges receiving regulation and agrees to be bound by the provisions thereto, and to comply with all specifications therein.**

_____ _____
Applicant Signature **Date**

_____ _____
DPW Director **Date**

Permit Fees:

Street/Road Openings and
Excavations within Public Right-of-way: _____$100.00 = 100 sq. ft. or less _____$200.00 = Greater than 100 sq. ft

- **Additional fee for newly paved Street/Road Openings:**

0-12 Months Old _____ $2,500.00 _____ 13-24 Months Old = $2,000.00
25-36 Months Old_____ $1,500.00 _____37-48 Months Old = $1,000.00
49-60 Months Old_____ $500.00 _____61 Months or older ____ $100.00 = 100 sq. ft. or less
_____$200.00 = Greater than 100 sq. ft.

*The schedule of when roads were paved will be documented through the Chapter 90 Mapit State Aid Program.

Trench Permit Application

Pursuant to G.L. c. 82A §1 and 520 CMR 7.00 et seq. (as amended).

Name of Applicant:	**Phone Number**
Street Address	**Cell Number**
City/Town	**Zip Code**
Name Of Excavator (if different)	**Phone Number** **Cell Number**
Street Address	**Hoisting License Number**
City/Town	**Zip**
Name Of Property Owner (if different)	**Phone Number** **Cell Number**
Street Address	
City/Town	**Zip**
Permit Fee Received: __ Y __N	

Description, location and purpose of the proposed trench: **Please describe the exact location of the proposed trench and its purpose to include a description of what is (or is intended) to be laid in the proposed trench (i.e.: pipes/cable lines etc.) Please use reverse side if additional space is needed.**

Dig Safe No.	**Dig Safe Approved Start Date**
Insurance Certificate No.	**Policy Expiration Date**

Name and contact information of Insurer
Name of Competent Person **(as defined by 520 CMR 7.02):**

SPECIFICATIONS

ROAD CROSSING AND PAVEMENT CUTS

No work may start until a permit for Road Crossing & Pavement Cuts have been approved by the Shirley DPW Director. All cost associated with the Road Crossing or Pavement Cuts what so ever, shall be borne by the Owner or Contractor.

INSURANCE & BOND

The Contractor shall carry Workmen's Compensation Insurance for the protection of all employees throughout the entire period that the Road Crossing - Pavement Cut is in operation with coverage limit of liability of no less than $1,000,000. (One Million Dollars). Before the Contractor commences work, the Insurance Company shall send to the DPW Director, indication that said insurance is in force and arrangements shall be made with said Insurance Company, to notify the DPW Director of any termination or material change in the aforementioned insurance at least ten days prior to the date on which the termination or change takes place. The Contractor shall also take out and maintain insurance as follows and all provisions as stated in the preceding paragraph with regard to supplying the DPW Director with certificates indicating that the insurance has been placed and provisions for notice in case of cancellation shall apply. Public liability for bodily injury of $500,000 (Five Hundred Thousand dollars) {for one person} and $1,000,000 (One Million Dollars) {on account of one accident}, including contingent liability for the Town for the acts or omissions of the Contractor or his subcontractors in the same amounts. Property damage minimum $300,000 (Three Hundred Thousand dollars). The property damage insurance shall include blasting, collapse, explosion and underground damage to public utilities, and shall also include contingent liability for the Town for the acts or omissions of the Contractor or his Subcontractors in the same amounts.

Automotive vehicles used in conjunction with the job, both on and off the public highway, shall carry the same rates of insurance for bodily injury and property damage as stated above.

Every applicant for a permit here under shall submit with their application a suitable BOND with a Company License to do business in Massachusetts, to secure the performance of all obligations of the Applicant, including the duty to install permanent pavement replacement. This BOND shall be in an amount sufficient in the opinion of the DPW Director, and shall name the Town of Shirley as the beneficiary, and shall be condition and payable upon the applicant's failure to perform their obligations and duties here under.

DEFINITIONS

Wherever the words defined in this section or pronouns used in their stead occur in the specifications, they shall have the meanings herein given. As Directed, As Required, Etc. Wherever in the specifications, the words (as directed), (as required), (as permitted), or words of like import are used, it shall be understood that the direction, requirement, or permission of the Town is intended. Similarly, the words (approved), (acceptable), (satisfactory), and words of like import shall mean approved by, acceptable to, or satisfactory to the Town of Shirley.

OPEN EXCAVATION

All open excavations shall be adequately safeguarded by PROVIDING TEMPORARY BARRICADES, CAUTION SIGNS, LIGHTS AND OTHER MEANS to prevent accidents to persons, and damage to property. The Contractor shall, at his own expense, provide suitable and safe bridges and other crossings for accommodating travel by pedestrians and workmen. Bridges provided for access to private property during construction shall be removed when no longer required. The length of open excavation will be controlled by the particular surrounding conditions, but shall always be confined to the limits prescribed by the Town. At any point, the Town may require special construction procedures such as limiting the

length of open trench, prohibiting stacking excavated material in the street, and requiring that the trench shall not remain open overnight.

The Town of Shirley may order the Contractor to take whatever steps he deems reasonably necessary to protect the health and safety of the Public. The Contractor shall take precautions to prevent injury to the Public due to open trench. All trenches, excavated material, equipment, or other obstacles that could be dangerous to the public shall be well lighted at night.

TEST PITS

Test pits for the purpose of locating underground pipelines or structures in advance of the construction shall be excavated and backfilled by the Contractor at the direction of the Town. Test Pits shall be backfilled immediately after their purpose has been satisfied, and the surface restored and maintained in a manner satisfactory to the Town of Shirley.

PROTECTION AND RELOCATION OF EXISTING STRUCTURES AND UTILITIES

The Contractor shall assume full responsibility for the protection of all buildings, structures, and utilities, public and private, including poles, signs, services to buildings, utilities in the streets, gas pipes, water pipes, hydrants, sewers, drains and electric and telephone cables, whether or not they are shown on the drawings. The Contractor shall carefully support and protect all such structures and utilities from injury of any kind. Any damage resulting from the Contractor's operations shall be repaired by him at his expense

The Contractor shall bear full responsibilities for obtaining all locations of underground structures and utilities (including existing water services, drain lines, and sewers, gas lines, telephone lines, and electric lines).Services to buildings shall be maintained, and all costs or charges resulting from damage thereto shall be paid by the Contractor.

CARE AND PROTECTION OF PROPERTY

The contractor shall be responsible for the preservation of all public and private property, and shall use every precaution necessary to prevent damage thereto. If any direct or indirect damage is done to public or private property by him or on the account of any act, omission, neglect, or misconduct in the execution of the work on the part of the Contractor, such property shall be restored by the Contractor, at his expense, to a condition similar or equal to that existing before the damage was done, or he shall make good the damage in another manner acceptable to the Town and property owner. ·

Along the location of this work all fences, walks, bushes, trees, shrubbery, and other physical features shall be protected and restored in a thoroughly workman like manner. Fences and other features removed by the Contractor shall be replaced in the location indicated by the Town as soon as conditions permit. All grass areas beyond the limits of construction, which have been damaged by the Contractor, shall be regraded and seeded.

Trees close to the work area shall be boxed or otherwise protected against injury. The Contractor shall trim all branches that are liable to damage because of his operations, but in no case shall any tree be cut or removed without prior notification of the Tree Warden. All injuries to bark, trunk, limbs and roots of the trees shall be repaired by dressing, cutting, and painting, according to approved standard.

MAINTENANCE OF TRAFFIC

Unless permission to close a street is received in writing from the Town, all excavated material shall be placed so that vehicular and pedestrian traffic may be maintained at all times. If the Contractor's operations cause traffic hazards, he shall repair the road surface, provide temporary ways, erect wheel guards or fences, or take other measures for safety satisfactory to the Town of Shirley.

Detours around the construction will be subject to the approval of the Town. Where detours are permitted the contractor shall provide all necessary barricades and signs as required to divert the flow of traffic. While

traffic is detoured the Contractor shall expedite construction operations and the Town will strictly control periods when traffic is being detoured. The Contractor shall provide any barricades and signs necessary to implement any methods of traffic control as directed by the Town, such as restrictions of streets to one-way traffic and restriction of parking in streets. The Contractor shall take precautions to prevent injury to the Public due to open trenches. Night watchmen may be required where special hazards exist, or Police protection provided for traffic while work is in progress. The Contractor shall be fully responsible for damage or injuries whether or not Police protection has been provided.

APPROVAL OF MATERIALS

Only new materials and equipment shall be incorporated in the work. All materials and equipment furnished by the Contractor shall be subject to the inspection and approval of the Town. No material shall be delivered to the work without prior approval of the Town of Shirley.

HANDLING AND STORAGE OF MATERIALS

All materials and equipment to be incorporated in the work shall be handled and stored by the manufacturer, fabricator, supplier and Contractor before, during and after shipment, in a manner to prevent warping, twisting, bending, breaking, chipping, rusting, and any injury, thereto or damage of any kind whatsoever to the material. Cement and lime shall be stored off the ground and shall be kept completely dry at all times.

CLEANUP

During the course of the work, the Contractor shall keep the site of his operations in as clean and neat a condition as is possible. He shall dispose of all residues resulting from the construction work. At the conclusion of the work, he shall remove and haul away any surplus excavation, broken pavement, lumber, equipment, temporary structures, and any other refuse remaining from the construction operations, and shall leave the entire work site in a neat and orderly condition.

TRENCH EXCAVATION

Trench excavation shall include material of every description and of whatever substances encountered. Pavement shall be cut with pneumatic chisels or cutting wheels along straight lines before excavating.

SHEETING AND BRACING

The Contractor shall furnish, put in place, and maintain such sheeting and bracing as may be required to support the sides of excavations, to prevent any movement which could in any way diminish the width of the excavation below that necessary for proper construction, and to protect adjacent structures from undermining or other damage. If the Town is of the opinion that sufficient or proper supports have not been provided, it may order additional bracing of the excavation at the expense of the Contractor. Compliance with such order shall not release the Contractor from his responsibility for the sufficiency of such supports. Care shall be taken to prevent voids outside of the sheeting, but if voids are formed, they shall be immediately filled with sand and rammed. Sheeting and bracing not left in place shall be carefully removed without endangering the new installations, the existing utilities or adjoining property. Voids caused by withdrawal of sheeting shall be immediately refilled and compacted with suitable tools. Wood sheeting shall not be withdrawn if driven below mid-diameter of any pipe, and under no circumstances shall any wood sheeting be cut off at a level lower than one foot above the top of the pipe.

LUMBER LEFT IN PLACE

The Contractor shall furnish, install and leave in place, to be embedded in the backfill, the sheeting and bracing ordered left in place by the Town. The Town may direct that sheeting and bracing to be cut off at any specified elevation.

PUMPING AND DRAINAGE

The Contractor shall, at all times during construction, provide and maintain proper equipment and facilities, to

remove promptly and dispose of properly, all water entering excavations and keep such excavations dry as to obtain a satisfactory, undisturbed, sub-grade foundation condition until the structures or pipes to be thereon have been completed. If at any time the problem of water entering the excavation becomes severe enough to require special procedure other than pumping excess water with a portable pump, the Contractor shall notify the Town of the proposed procedure. The Contractor shall protect all exposed earth at bottom of excavations from becoming frozen by covering with tarpaulins or straw, and by providing heat if necessary.

BACKFILLING

As soon as practicable after installation is completed, the backfilling shall begin, and shall thereafter be prosecuted expeditiously. The space between the utility and the sides of the trench shall be packed full by hand shovel, using approved backfill up to one foot above the top of utility. The material shall be selected earth, free from frozen lumps or stones larger than two inches.

Back fill shall be thoroughly compacted by hand tamping as placed.
Where the utilities are laid in the streets or paved areas the remainder of the trench above the material and up to a depth *of* one foot below the bottom of the specified paving shall be backfilled with suitable material in layers not to exceed one foot, and thoroughly compacted. The last one foot layer shall be bank-run gravel as specified. Bank-run gravel shall consist of hard, durable stone and coarse sand, free from frost, frozen lumps, loam and clay, uniformly graded and containing no stone having any dimension greater than two inches. The grading of sizes and material shall be such that the gravel may be thoroughly consolidated. The grading shall conform to the following requirements:

Sieve size	Percent Finer by Weight
½ in	50-85
no. 4	40-75
no. 40	10-35
no. 200	0-10

Where the utilities are laid cross-country, the remainder of the trench above the selected material shall be filled with suitable material. The backfill shall be compacted in three-foot layers and mounded six inches above the existing grade or as directed. In some areas it may be necessary to remove excess material during the clean-up process, so that the ground may be restored to its original level and condition.

Each layer of backfill material shall be thoroughly compacted by rolling, tamping, or vibrating with mechanical compacting equipment, or by hand tamping.
If rolling is employed, it shall be by use of a suitable roller or tractor, being careful to compact the fill throughout the full width of the trench. Where other methods are not practicable, compaction shall be by use of band or pneumatic ramming with tools weighing at least 20 pounds.

The method shall consist of one man ramming for each man shoveling backfill into the trench, the material being spread and compacted in layers not over twelve inches thick. If necessary, sprinkling shall be employed in conjunction with rolling or ramming. If backfilling is done by machine, it shall be conducted in a manner to obtain results equal to those obtained by other methods described above. All compaction equipment and methods are subject to the review of the Town of Shirley.
Boulders ·or pieces of ledge exceeding ten inches in length shall not be placed in backfilling. Compaction of all backfill materials shall be to at least 95% of maximum density, as determined by ASTM compaction tests: Designation D1557,
Method D. Density tests will be taken by the Town. If the compaction requirements are not met, the Contractor shall excavate and re-compact the material. Bituminous paving shall not be placed in backfilling. Frozen material shall not be used under any circumstances. All road surfaces shall be broom and hose-cleaned immediately after backfilling. Dust control measures as specified under section 2M shall be employed at all times.

NOTE: BACKFILL & RE-SURFACING ROADWAYS:

All excavations in Town Roads and Sidewalks will require the use of flowable fill and infrared treatment. The depth of flowable fill will be specified by the DPW Director at time of excavation. Flowable fill shall be brought up to 4 inches below finish grade. Final patch paving will be 2 ½ inches of binder and 1 ½ inches of top. Infrared treatment shall be in effect. Infrared treatment shall be in effect on patches and laterals. Parallel excavation shall require flowable fill, permanent patching and the overlay and full width pavement in the affected area. (See article "21A"), for additional information.

RESTORINGTRENCH SURFACE

If the trench occurs in the shoulders, or sidewalks, the Contractor shall thoroughly consolidate the backfill and shall maintain the surface as the work progresses. If settlement takes place, he shall immediately deposit additional fill to restore the level of the ground. The top twelve inch layer of trench backfill shall consist of compacted bank-run gravel (see item 16c, backfilling) The surface of oil driveways and other areas which are disturbed by the trench excavation and which are not a part of the paved highway, shall be restored by the Contractor to a condition at least equal to that existing before the work began. In section where the utility passes through grass areas, the Contractor shall remove and replace the soil to a minimum depth of six inches and replace with loam, and shall seed the surface as specified in Section 18, Loaming and Seeding.

LOAMING AND SEEDING

Loam shall be six inches of rich topsoil, free from stones larger than two inches, and free from roots of a size, which may readily be raked out of the finished surfaces. Fertilizer shall be on approved brand of 5-10-5 fertilizer. Grass seed shall be of the highest quality in proportion of one pound of Clover to five pounds of Kentucky Blue Grass, unless otherwise directed by the DPW Director. Prepare surfaces on which loam is to be placed by raking to true grades. Place loam, rake and dress to true and uniform grades, and roll lightly.

Apply fertilizer at the rate of twenty pounds per 100 square yards, and sow grass seed at a uniform application of four pounds per l00 square yards, rake seeded areas moist until grass growth is well started. Reseed areas that fail to germinate, and restore and reseed washed area, if any. Contractor may, at his option, seed slopes lightly with oats in addition to grass seed in order to reduce surface erosion. Seeding with oats, however, shall not relieve the Contractor of his obligation to reseed washed areas.

PERMANENT PAVEMENT

The contractor shall place permanent pavement over flowable fill, no later than two days after the trench has been backfilled unless otherwise directed by the DPW Director. The material shall be Class 1, Bituminous Concrete, Type I, four (4) inches thick, conforming to Section 460 of the Massachusetts Standard Specifications, referred to above.

All temporary pavement shall be "HOT MIX" type insofar as possible and "cold mix" will only be acceptable for repairs during seasonal closure of "hot mix" plant suppliers. If points of settlement or holes appear in the temporary pavement, the Contractor shall repair the same within three days of notification by the Town or Owner. If after due notice, the Contractor fails to make the repairs, the work will be done by the Town and the total cost of such repairs will be charged to the Contractor or Owner, unless exempted by the Director of Public Works as being unnecessary. The Contractor shall, in accordance with these regulations, install permanent pavement replacement. (Where permanent pavement is to be installed, the Contractor shall remove the temporary pavement and regrade the sub-base for installation of permanent pavement

Remove existing pavement by saw, pneumatic hammer or wheel cutting. The trenches to be repaved as directed by the Town, after backfilling operations are completed, and after the twelve inches of bank-run gravel sub-base is shaped and compacted, place the type of pavement as directed by the Town. Hose clean oil road surfaces after backfilling and before any surfacing, but in no case will pavement be placed until the gravel base is dry and compacted to at least 95% maximum density at optimum moisture content. Maintain pavement during the guarantee period of one year after installation of permanent pavement replacement, and promptly refill and repaved areas that have settled or are otherwise unsatisfactory for traffic. Furnish and spread calcium chloride on disturbed surfaces in streets to allay dust conditions. Calcium Chloride shall conform to AASHTO M-144, except the pellet or flake shall be equally acceptable.

Permanent pavement shall not be placed until the temporary pavement has lasted one complete winter season. After the paving mixture has been properly spread, initial compaction shall be obtained by the use of power rollers weighing not less than 240 pounds per inch width of tread. Final compaction of the

surface shall be accomplished by rollers weighing not less than 285 pounds per inch width of tread. Along curbs, structures, and all places not accessible with a roller, the mixture shall be thoroughly compacted with tampers. Such tampers shall not weigh less than twenty-five pounds, and shall have a tampering face of not more than fifty square inches. The surface of the mixture after compaction shall be smooth and true to the established line and grade.

When the air temperature falls below fifty degrees F., extra precautions shall be taken in drying aggregates, controlling the temperatures of the materials, placing and compacting, the mixtures.
No mixtures shall be placed when the air temperature is below forty degrees F., nor when the material on which the mixtures is to be placed contains frost or has a surface temperature not suitable to the Town.

PERMANENT PAVEMENT AND OVERLAY

Except as otherwise specified herein, the current Standard Specifications for Highway and Bridges, as issued by the Commonwealth of Massachusetts, Highway Department, shall apply to materials and workmanship requirements for temporary and permanent replacement of pavement removed in excavation of trenches.
After completion of the one-year waiting period, the work area shall be checked for repairs and the area shall be overlaid. Overlay of the entire street shall be required for all excavation done paralleled to the street, within the paved area of the street. Overlay is to begin fifty feet before start of construction station, and end fifty feet after end of construction station.
The overlay is to be type I Bituminous Concrete, (2) TWO inches wearing course, and conform to Mass DPW Specifications.
Permanent pavement shall be Type I Bituminous Concrete, conforming to Section 460 of the Massachusetts DPW Specifications. The pavement shall be laid in two courses; a 2½-inch binder course, and a 1½-inch wearing course. The pavement shall be laid over a prepared sub-base, thoroughly compacted and shaped to the required grade and cross section, and the edge of old pavement trimmed to a smooth line.
Immediately prior to placing a permanent pavement, the Contractor shall cut the existing pavement to lines twelve inches beyond each side of the trench so that the (2) TWO inch binder course will extend at least twelve inches on undisturbed material. The existing pavement shall be cut so as to produce a clean, straight, vertical edge free of loose or broken pieces for a depth of one inch to receive this surface course. Cut edge of asphalt pavement shall be thoroughly broomed and coated with an asphalt tack coat.
The tack coat, consisting of Grad MC-70 or M-82 shall be placed over the binder course. The tack coat shall be spread at a rate of 0.2 to 0.50 gallons per square yard in accordance with Section 460 of the "Standard Specifications".
No vehicular traffic shall be permitted on the newly completed pavement until adequate stability has been attained and the material has cooled sufficiently to prevent distortion or loss of fines. If the climatic or other conditions warrant it, the period of time before opening to traffic may be extended at the discretion of the Town.

MANHOLES AND CATCH BASINS

All manhole and catch basins shall have interlocking sections and be of Standard Precast construction with either cast iron aluminum or approved plastic steps spaced eighteen (18) inches apart. A water tight seal shall be placed between precast manholes. Precast sewer manholes shall have rubber “O” ring gaskets or acceptable sealing device.
All manhole covers used on town streets shall be of heavy duty construction with a frame and cover height of at least eight (8) inch s. Covers shall also be marked with the words "Drain" or "Sewer" integrally as appropriate. DRAlN covers shall be 24 inches diameter and SEWER covers will be 30 inches diameter.
All brick used in sanitary sewer manholes, including brick used for inverts and raising covers shall conform to A.S.T.M. Standard Specifications for Sewer bricks. Barrel block and cement brick are acceptable in drain manholes only. If the town inspector rejects any brick, all such rejected brick shall be immediately removed and acceptable brick shall be substituted.

Mortar used in manholes shall be composed of one part Portland cement, hydrated lime and two parts sand; the volume of sand shall not exceed three times the sum of the volume of cement and lime. Lime and sand shall conform to A.S.T.M. Standards.
When installing manholes and catch basins, the trench shall be excavated so there is clearance of two feet on each side of the structure. Four (4) inches to six (6) inches of crushed stone shall be placed under the manhole or catch basin and gravel shall be compacted in twelve (12) inch lays

around the structure to secure it firmly. Catch basins shall maintain a (4) four foot sump. In new construction, basin to basin connections shall not be allowed and drain manholes must be utilized. A precast catch basin top section shall have a twenty four (24) inch by twenty eight (28) inch opening to allow proper throat and mouth opening.

Placing Castings: (201.63)

Frame castings for basins, manholes and inlets shall be set in full mortar beds true to the lines and grades as directed. Where directed the castings shall be temporarily set at such grades as to provide drainage during the construction. The castings of structures located within the pavement area shall not be completely set to the established grade until the bottom course of pavement has been laid. The final setting of all other castings shall be performed at the proper stage of construction as directed. Cement concrete collars shall be placed around the castings after the final setting as shown on the plans and / or as directed. The width of the collar shall be a minimum of one (1) foot, the thickness of the collar shall be the same as the height of the frame which is being placed.

Headwalls

Headwalls shall be constructed of A.S.T.M. approved concrete, shall be built as directed to connect surface drains, culverts and like structures must be approved by the Town Inspector.

CONDITIONS AND REQUIREMENTS PURSUANT TO G.L.C.82A AND 520 CMR 7.00 et seq. (as amended)

By signing the application, the applicant understands and agrees to comply with the following:

1. No trench may be excavated unless the requirements of sections 40 through 40D of chapter 82, and any accompanying regulations, have been met and this permit is invalid unless and until said requirements have been complied with by the excavator applying for the permit including, but not limited to, the establishment of a valid excavation number with the underground plant damage prevention system as said system is defined in section 76D of chapter 164 (DIG SAFE);

2. Trenches may pose a significant health and safety hazard. Pursuant to Section 1 of Chapter 82 of the General Laws, an excavator shall not leave any open trench unattended without first making every reasonable effort to eliminate any recognized safety hazard that may exist as a result of leaving said open trench unattended. Excavators should consult regulations promulgated by the Department of Public Safety in order to familiarize themselves with the recognized safety hazards associated with excavations and open trenches and the procedures required or recommended by said department in order to make every reasonable effort to eliminate said safety hazards which may include covering, barricading or otherwise protecting open trenches from accidental entry.

3. Persons engaging in any in any trenching operation shall familiarize themselves with the federal safety standards promulgated by the Occupational Safety and Health Administration on excavations: 29 CFR 1926.650 et.seq., entitled Subpart P "Excavations".

4. Excavators engaging in any trenching operation who utilize hoisting or other mechanical equipment subject to chapter 146 shall only employ individuals licensed to operate said equipment by the Department of Public Safety pursuant to said chapter and this permit must be presented to said licensed operator before any excavation is commenced;

5. By applying for, accepting and signing this permit, the applicant hereby attests to the following: (1) that they have read and understands the regulations promulgated by the Department of Public Safety with regard to construction related excavations and trench safety; (2) that he has read and understands the federal safety standards promulgated by the Occupational Safety and Health Administration on excavations: 29 CMR 1926.650 et.seq., entitled Subpart P "Excavations" as well as any other excavation requirements established by this municipality; and (3) that he is aware of and has, with regard to the proposed trench excavation on private property or proposed excavation of a city or town public way that forms the basis of the permit application, complied with the requirements of sections 40-40D of chapter 82A.

6. This permit shall be posted in plain view on the site of the trench.

For additional information please visit the Department of Public Safety's website at www.mass.gov/dps

Summary of Excavation and Trench Safety Regulation (520 CMR 14.00 et seq.)

This summary was prepared by the Massachusetts Department of Public Safety pursuant to G.L.c.82A and does not include all requirements of the 520 CMR 14.00. To view the full regulation and G.L.c.82A, go to www/mass.gov/dps Pursuant to M.G.L. c. 82, § 1, the Department of Public Safety, jointly with the Division of Occupational Safety, drafted regulations relative to trench safety. The regulation is codified in section 14.00 of title 520 of the Code of Massachusetts Regulations. The regulation requires all excavators to obtain a permit prior to the excavation of a trench made for a construction-related purpose on public or private land or rights-of-way. All municipalities must establish a local permitting authority for the purpose of issuing permits for trenches within their municipality. Trenches on land owned or controlled by a public (state) agency requires a permit to be issued by that public agency unless otherwise designated.

In addition to the permitting requirements mandated by statute, the trench safety regulations require that all excavators, whether public or private, take specific precautions to protect the general public and prevent unauthorized access to unattended trenches. Accordingly, unattended trenches must be covered, barricaded or backfilled. Covers must be road plates at least ¾" thick or equivalent; barricades must be fences at least 6' high with no openings greater than 4" between vertical supports; backfilling must be sufficient to eliminate the trench. Alternatively, excavators may choose to attend trenches at all times, for instance by hiring a police detail, security guard or other attendant who will be present during times when the trench will be unattended by the excavator.

The regulations further provide that local permitting authorities, the Department of Public Safety, or the Division of Occupational Safety may order an immediate shutdown of a trench in the event of a death or serious injury; the failure to obtain a permit; or the failure to implement or effectively use adequate protections for the general public. The trench shall remain shutdown until re-inspected and authorized to re-open provided, however, that excavators shall have the right to appeal an immediate shutdown. Permitting authorities are further authorized to suspend or revoke a permit following a hearing. Excavators may also be subject to administrative fines issued by the **Department of**

Public Safety for identified violations.

Summary of 1926 CFR Subpart P -OSHA Excavation Standard

This is a worker protection standard, and is designed to protect employees who are working inside a trench. This summary was prepared by the Massachusetts Division of Occupational Safety and not OSHA for informational purposes only and does not constitute an official interpretation by OSHA of their regulations, and may not include all aspects of the standard.
For further information or a full copy of the standard go to www.osha.gov.

• Trench Definition per the OSHA standard:

- An excavation made below the surface of the ground, narrow in relation to its length.
- In general, the depth is greater than the width, but the width of the trench is not greater than fifteen feet.

• **Protective Systems** to prevent soil wall collapse are always required in trenches deeper than 5', and are also required in trenches less than 5' deep when the competent person determines that a hazard exists. Protection options include:

- Shoring. Shoring must be used in accordance with the OSHA Excavation standard appendices, the equipment manufacturer's tabulated data, or designed by a registered professional engineer.
- Shielding (Trench Boxes). Trench boxes must be used in accordance with the equipment manufacturer's tabulated data, or a registered professional engineer.
- Sloping or Benching. In Type C soils (what is most typically encountered) the excavation must extend horizontally 1 ½ feet for every foot of trench depth on both sides, 1 foot for Type B soils, and ¾ foot for Type A soils.
- A registered professional engineer must design protective systems for all excavations greater than 20' in depth.

• **Ladders** must be used in trenches deeper than 4'.

- Ladders must be inside the trench with workers at all times, and located within 25' of unobstructed lateral travel for every worker in the trench.
- Ladders must extend 3' above the top of the trench so workers can safely get onto and off of the ladder.

• **Inspections** of every trench worksite are required:

- Prior to the start of each shift, and again when there is a change in conditions such as a rainstorm.
- Inspections must be conducted by the competent person (see below).

• **Competent Person**(s) is:

- Capable (i.e., trained and knowledgeable) in identifying existing and predictable hazards in the trench, and other working conditions which may pose a hazard to workers, and
- Authorized by management to take necessary corrective action to eliminate the hazards. Employees must be removed from hazardous areas until the hazard has been corrected.

• **Underground Utilities** must be:

- Identified prior to opening the excavation (e.g., contact Digsafe).
- Located by safe and acceptable means while excavating.
- Protected, supported, or removed once exposed.

• **Spoils** must be kept back a minimum of 2' from the edge of the trench.

• **Surface Encumbrances** creating a hazard must be removed or supported to safeguard employees. Keep heavy equipment and heavy material as far back from the edge of the trench as possible.

• **Stability** of Adjacent Structures:

- Where the stability of adjacent structures is endangered by creation of the trench, they must be underpinned, braced, or otherwise supported.
- Sidewalks, pavements, etc. shall not be undermined unless a support system or other method of protection is provided.

• **Protection** from water accumulation hazards:

- It is not allowable for employees to work in trenches with accumulated water. If water control such as pumping is used to prevent water accumulation, this must be monitored by the competent person.
- If the trench interrupts natural drainage of surface water, ditches, dikes or other means must be used to prevent this water from entering the excavation.

• **Additional Requirements**:

- For mobile equipment operated near the edge of the trench, a warning system such as barricades or stop logs must be used.
- Employees are not permitted to work underneath loads. Operators may not remain in vehicles being loaded unless vehicles are equipped with adequate protection as per 1926.601(b)(6).
- Employees must wear high-visibility clothing in traffic work zones.
- Air monitoring must be conducted in trenches deeper than 4' if the potential for a hazardous atmosphere exists. If a hazardous atmosphere is found to exist (e.g., O2 23.5%, 20% LEL, specific chemical hazard), adequate protections shall be taken such as ventilation of the space.
- Walkways are required where employees must cross over the trench. Walkways with guardrails must be provided for crossing over trenches > 6' deep.
- Employees must be protected from loose rock or soil through protections such as scaling or protective barricades.