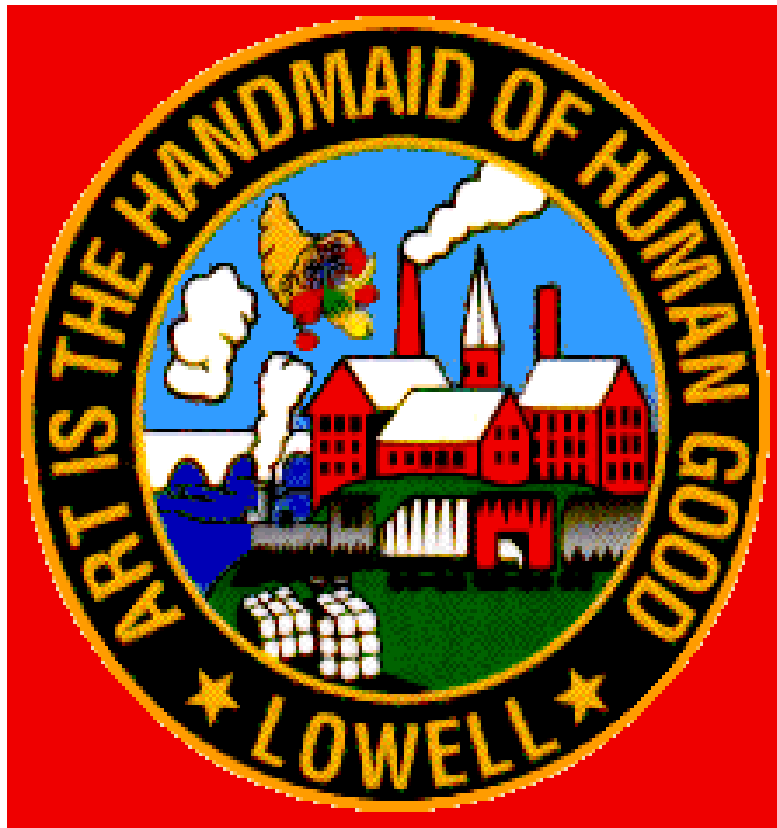


# PERMIT MANUAL



Effective May 1, 2010

City of Lowell

Department of Public Works

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## I. PURPOSE OF PERMITS

City streets and roads have been established and are maintained primarily for the purpose of movement of vehicles and pedestrians. It is also desirable to allow individuals and utility companies to utilize highway rights of way for purposes other than transportation. However, to prevent recurring, dangerous, and unnecessary interruptions to traffic and pedestrians, and to avoid interference with future road construction and construction methods, it is necessary that strict control be maintained and standard procedures be followed for excavations, construction, and maintenance of City roads.

## II. DEFINITIONS

### Architectural Access Board (AAB)

Regulatory agency within the Massachusetts Executive Office of Public Safety with a legislative mandate to develop and enforce regulations designed to make public buildings accessible to, functional for, and safe for use by persons with disabilities

### City

“City” shall mean the City of Lowell and/or its Commissioner of Public Works, or his designee.

### Excavation

“Excavation” shall mean any opening in the surface of public place made in any manner whatsoever, except an opening in a lawful structure below the surface of a public place, the top of which is flush with the adjoining surface and so constructed as to permit frequent opening without injury or damage to the public place.

### Facility

“Facility” shall mean any pipe, pipeline tub, main, service, trap, vent, manhole, meter, gauge, regulator, valve, conduit, wire, tower, pole, pole line, anchor, cable, junction box, or any other material, structure, or object of any kind or character, whether enumerated herein or not, which is or may be lawfully constructed, left, placed or maintained in, upon, along, across, under, or over any public place.

### Loam

Soil composed of sand, silt, clay, and organic matter, with particles of various sizes, evenly mixed; generally contain more nutrients than sandy soils and retain water easily  
Local Road/Street - Roadway that permits access to abutting land (high access, limited mobility)

### Local Road/Street

Roadway that permits access to abutting land (high access, limited mobility)

**Newly Constructed, Reconstructed, or Repaved Streets**

Any street or road which has been newly constructed, reconstructed, or repaved within the past five (5) years.

**Person**

“Person” shall mean any person, firm partnership, association, corporation, company, or organization of any kind.

**Public Place**

“Public Place” shall mean any public street, way, place, alley, sidewalk, park, square, plaza, or any other similar public property owned or controlled by the City dedicated to public use.

**Right of Way (ROW)**

The land (usually a strip) acquired for or devoted to transportation purposes including area along the edge of a roadway for municipal purposes.

**Sidewalk**

Path for pedestrian travel which follows a street and occupies the border between the vehicular travel ways and private property

**Substructure**

“Substructure” shall mean any pipe, conduit, tunnel, duct, manhole, vault, buried cable, or wire, or any other similar structures located below the surface of any public place.

**Utility**

“Utility” shall mean a private company, corporation, or quasi-municipal corporation under the direction and control of the Public Utilities Commissioner.

### **III. APPLICATION FOR PERMIT**

An application for permit must be filed with the City of Lowell before preliminary investigation will be made for permit issue. Standard application forms for this permit may be secured from the Lowell Department of Public Works, City Engineer’s Office, or on the City of Lowell website ([www.lowellma.gov](http://www.lowellma.gov)). Each application form shall be completely filled in, signed, and delivered to the Lowell Public Works Department. All applications require current dig safe numbers and may require separate approvals or

notifications to the City of Lowell's Water and Wastewater Departments. An explanation of the application and sketch shall be made either in the space provided on the application form or a separate sheet in duplicate which the Applicant shall attach to the application. Such diagrams or sketches shall show the location of the work to be done in relation to the outstanding features of the road, such as property lines, intersections, pavement lines, sidewalks, trees, drainage structures, utility poles by number, and the character and extent of the work. NOTE: No street opening application will be processed for work related to sewer, CSO, or water lines until approval of water and wastewater executive directors has been acquired.

In the event the Permittee discovers that additional work or repairs not designated in the original permit must be done in the same location, the Permittee must make application to the City of Lowell for a permit to authorize the additional work in the same manner as the first permit. When the work proposed includes excavating in the public way the sketch will show the proposed cut lines, including dimensions and the relation to existing buildings or other features.

### **Plans and Specifications**

When applications are made for permits involving work of major scope, plans certified by a Professional Engineer and specifications must be submitted in duplicate with the application form. They should be detailed so that the exact location of the various parts of the work, the risk of injury to road users, and the probability of damage to trees, highway structures, and private property can be ascertained. A copy of the Department of Public Works Engineering Plan requirements may be obtained for assistance.

### **Rejection of Application**

The application for permit will be denied when it appears that the work called for in an application will not conform to City regulations, or cause substantial or needless damage to a highway, or create excessive disturbances to traffic, or create exceptionally dangerous conditions not commensurate with the benefits to the Applicant. The Commissioner of Public Works, or his designee, may refuse to issue a permit to any person, company, or utility when, in his opinion, work performed under a permit theretofore issued to the Applicant has not been properly executed, or when said Applicant has failed to reimburse the City for recoverable charges billed under terms governing the previous permit.

## **IV. BOND REQUIREMENTS**

Prior to the issuance of a permit, the Applicant shall provide the City with a bond in an amount and form that shall be determined by the Commissioner of Public Works. The bond shall be established so that the City will be protected against loss in the event of failure of the permit holder to complete the work or reimburse the City for restoration involving the work or encroachment authorized by the permit.

An annual performance bond will be provided to the City of Lowell to avoid the inconvenience and expense of obtaining individual bonds for each permit requested. The bond shall be released to the permit holder upon the expiration of the guarantee period. The guarantee period shall be for a period of five (5) years following the placement of the permanent patch or permanent paving. During the guarantee period the permittee shall be responsible for the restoration, repair, and maintenance of his work.

**V. INSURANCE REQUIREMENTS**

An applicant for a permit to work within City ROW or lands shall furnish to the City, prior to the issuance of the permit, certificates of minimum insurance including, automobile, property damage liability, bodily injury liability, and workmen’s compensation insurance in the amounts determined by the Commissioner of Public Works. Insurance coverage shall be reviewed and updated periodically.

General Liability:

Includes:	Each Occurrence-	\$1,000,000
Comprehensive Form	Aggregate	- \$3,000,000
Premises/Operations		
Underground Explosion Collapse Hazard		
Products/Completed Operations		
Independent Contractors		
Broad from Property Damage		
Personal Injury		

Automobile Liability:

Includes:	Bodily Injury &	- \$1,000,000
All Owned Vehicles	Property Damage	
Hired Vehicles	Combined	
Non-owned Vehicles		

Workers Compensation & Employees Liability:

As required by State of Mass	Each Accident:	-\$100,000
	Bodily Injury by	- \$500,000
	Disease (Policy Limit)	
	Bodily Injury by	- \$100,000
	Disease (Each Employee)	

**VI. FEES**

The Department of Public Works shall levy charges and fees as determined by the Lowell City Council and recorded in City Ordinances.

## **VII. ISSUANCE OF PERMIT**

A Permit shall be issued:

- a. Upon receipt of a bond issued in the correct amount
- b. Payment of fees as required by the Commissioner of Public Works
- c. After completion of all aspects of the application for permit.

An application form must be signed by the Commissioner of Public Works, or his designee, before it becomes valid. Approved permits will be issued by the Public Works Department within three (3) full working days after application for permit has been received in good order. The Permittee is forbidden to commence work until the above mentioned items have been complied with and the Permittee has notified the City Inspector (Engineer's Office) at least twenty-four (24) hours in advance of the exact date and hour proposed work is to begin.

## **VIII. EMERGENCY REPAIRS**

Nothing in this manual shall be construed to prevent the making of such excavations as may be necessary for the preservation of life or property, or for the location of trouble in conduit or pipe, or for making repairs, provided that the person making such excavation shall apply to the City for such permit on the first working day after such work is commenced. Before the emergency work begins, contractor must call both the DPW Night Watchman at 978-970-3319 and Lowell Police at 978-970-3200 and notify them of the emergency work.

## **IX. REVOCATION OF PERMITS**

Any permit issued by the City of Lowell is revocable immediately upon written notification to the Permittee.

## **X. DISPLAY OF PERMITS**

A copy of the permit shall be at the job site at all times for inspection by local police, Public Works personnel, and other interested persons. To be valid, the permit must show the effective and expiration dates and must be signed by the Commissioner of Public Works or his designee. This regulation will also apply to public utilities and their subcontractors.

## **XI. EXTENSION OF TIME**

All required work shall be completed in a manner satisfactory to the City before the expiration date shown on the permit except in cases where permanent repairs, such as final paving must be made at a future date. Otherwise, the permit holder shall request the City to allow an extension of time. Extension of time may be granted upon written request by the Permittee, the DPW Commissioner, stating the reason(s) for the request.

## **XII. INDEMNIFICATION**

The Applicant agrees as a condition governing the issuance of a permit, that they will hold harmless the City of Lowell, the Commissioner of Public Works, and his agent and employees from any and all claims and actions whatsoever arising from the experience of said permit. By signing the application, the applicant is agreeing to this indemnification.

## **XIII. CLEARANCE FOR VITAL STRUCTURES**

The excavation work shall be performed and conducted so as not to interfere with access to fire hydrants, fire stations, fire escapes, water gates, underground vaults, valve housing structures, traffic signal cables and loops, and all other vital equipment as designated by the City.

## **XIV. PROTECTIVE MEASURES & TRAFFIC CONTROL**

### **Safety to Traffic**

It shall be the duty of the Permittee to make certain that the security of the traveling public is safeguarded and its rights are not unreasonably curtailed. Unless specifically indicated in the permit or authorized by the Inspector, the traveled path shall not be obstructed. Storage of material shall not be allowed within the traveled way.

### **Trench Safety**

The portions of the City's streets and roads which are excavated or are otherwise unsafe for public travel shall be adequately protected at all times per Massachusetts Trench Safety regulations 14.00 CMR 520. Such areas shall be marked at night with flasher beacons or other warning devices approved by the Inspector. When portions of the traveled way are made dangerous for the movement of vehicles or pedestrians, a sufficient number of uniformed police officers shall be employed by the permittee to direct the traffic safely through the areas. The work shall, if possible, be planned to avoid such conditions.

### **Detours and Traffic Management Plans**

When, in the opinion of the Commissioner of Public Works or Lowell Police Department, the applicant's proposed operations will obstruct a City roadway to such an extent as to unduly restrict vehicular traffic or make hazardous its use, a parallel City road bypass may be designated. All expense incurred by the Permittee as a result of this bypass establishment, use, and restoration of said detour shall be the entire responsibility of the Permittee. The Traffic Management Plan (TMP) must be approved by the City's Transportation Engineer. The permittee shall notify the Police, Fire, Ambulance and LRTA of the approved TMP. The permittee shall supply and maintain such signs at his expense as may be necessary to clearly outline the TMP. Preliminary to detouring of traffic over a road bypass, an inspection shall be made by the Permittee and representative



of the City to determine the adequacy of the signs and the structural condition of the road involved. A second inspection shall be made by the same person when the TMP is terminated so that there will be an agreement as to the extent of repairs, if any, to be made by the Permittee to restore the conditions equal or better to those existing prior to the establishment of the TMP.

### **Protective Measures and Routing of Traffic**

The Permittee shall, in general, maintain safe crossing for two (2) lanes of vehicular traffic at all street intersections where possible, and safe crossings for. Adequate crossings shall be maintained for vehicles and pedestrians when an excavation is made across any public street, alley or sidewalk. When an excavation on any major or minor arterial takes up more than one-third (1/3) of the roadway, and is to remain open overnight, steel bridging of sufficient strength will be required to maintain a normal traffic flow. The steel plates must meet the requirements of 14.00 CMR 520.

The Permittee shall take appropriate measure to assure that during the performance of the excavation work, traffic conditions are as near normal as possible and shall be maintained at all times so as to minimize inconvenience to the occupants of the adjoining properties and to the general public. When traffic conditions permit, the Commissioner of Public Works, or his designated representative, with the approval of the Police, Fire, Ambulance and LRTA, may with written approval (or by verbal approval in cases of emergency), permit the closing of streets and alleys to traffic for a period of time prescribed by him, if in his opinion, it is necessary. **The written approval of the Commissioner of Public Works of the City will require that the Permittee give notification to various public agencies and to the general public in addition to conditions in the TMP. In such cases, such written approval shall not be valid until such notice is given.** In cases of emergency on week nights, weekend, or holidays, the facility owner having such emergency shall contact the Police and Fire Departments by phone before closing a street to traffic. Warning signs shall be placed far enough in advance of the construction operation to alert traffic within a public street. Barrels, cones or other approved devices shall be placed to channel traffic in accordance with the instructions of the Commissioner of Public works of the City after his review of the proposed traffic control measures for the project.

### **Temporary Steel Plating**

A contractor may temporarily place a structural steel plate(s) over an open trench with the approval of the City of Lowell's DPW's representative. Any steel plates must meet ASTM A36 steel (minimum) with a thickness  $\frac{3}{4}$ ". Steel plates must completely cover the open trench and have a minimum overlap, on each side, of four (4) feet for the entire length of the trench. The contractor shall also make all efforts to prevent any lateral movement of plate(s) placed by the contractor. No spikes are allowed in any situation.

The permitted contractor is responsible for any plate movements. He will be charged if the City of Lowell resets any moved or out of position plates. He is responsible for

insuring that excessive noise is not caused by traffic traveling over the steel plate(s). Noise suppression devices may be used to reduce the noise created by plate vibrations. An asphalt based sound damper (Soundamp E) is available from SOUND SEAL. Any location requiring a steel roadway plate for than three (three) days will require the top of the plate to sit flush with the roadway. Contractor's contact information must be spray painted on the plate and be visible from the top.

Steel plates, in general, will not be allowed if winter weather is expected. In the event that placement of steel plate(s) is unavoidable, the contractor will recess the plates, place warning devices on the plate(s) and notify the DPW Street Department of the plate location. The contractor shall be responsible for any charges for City of Lowell DPW warning devices and/or damages incurred from plate movements during winter weather operations. Once secured, emergency contact information is to be sprayed onto plates.

## **XV. RELOCATION AND PROTECTION OF UTILITIES**

The Permittee shall not interfere with any existing facility without the written consent of the City and the owner of the facility. If it becomes necessary to relocate an existing facility, this shall be done by its owner. No facility owned by the City shall be moved to accommodate the Permittee, unless the cost of such work is borne entirely by the Permittee. The cost of moving privately owned facilities shall be similarly borne by the Permittee unless it makes other arrangements with the person owning the facility. The Permittee shall support and protect to the satisfaction of the owner of the facility, all pipes, conduits, poles, wires, or other apparatus, which may in any way be affected by the excavation work. The Permittee shall secure approval of the method of support and protection from the owner of the facility.

In case any of said pipes, conduits, poles, wires, or apparatus should be damaged, and for this purpose pipe coating or other encasement or devices are to be considered as part of a substructure, the Permittee shall promptly notify the owner thereof. All damaged facilities shall be repaired by the agency or person owning them and the expense of such repairs shall be charged to the Permittee. It is the intent of this paragraph that the Permittee shall assume all liability or damage to facilities and injury to persons. The only exception will be such instances where damage is exclusively due to the negligence of the owning company. The City shall not be made a party to any action because of this paragraph. The Permittee shall inform himself as to the existence and location of all underground facilities and protect the same against damages.

## **XVI. PROTECTION OF PUBLIC PROPERTY**

The Permittee shall not remove, even temporarily, any trees, shrubs, traffic signs, signals, loops or survey bounds which exist within the ROW without first obtaining the consent of the appropriate City Department or City Official having control of such property. In the event of damage, the City shall be compensated in a manner acceptable to the governing department.

## **XVII. CARE OF EXCAVATION MATERIAL**

All material excavated from trenches, and piles adjacent to the trench or in any street, shall be piled and maintained in such manner as to not endanger pedestrians, or users of the street, and so that as little inconvenience as possible is caused to those using the street adjoining properties. Whenever necessary, in order to expedite the flow of traffic or to abate the dirt or dust nuisance, toe boards or bins may be required by the City to prevent the spreading of dirt into traffic lanes.

Where the confines of the area being excavated are too narrow to permit the piling of excavated material beside the trench, the City shall have the authority to require that the Permittee haul the excavated material to a storage site and then rehaul it to the trench site at the time of backfilling. It shall be the Permittee's responsibility to secure the necessary permission and make all necessary arrangements for all required storage and disposal sites.

## **XVIII. CUTTING THROUGH PAVEMENT**

*NOTE: The following apply to both streets and sidewalks.*

1. Where existing bituminous concrete pavement is to be excavated, the pavement shall be pre-cut in a neat, clean straight line with a pavement breaker or saw. The minimum width of any excavation shall be 24 inches. Pavement edges shall be trimmed to a vertical face and neatly aligned parallel and perpendicular to the centerline of the trench as specified by the Field Engineer.
2. Pulverization of a trench will be considered an acceptable procedure provided that the trench is cut in a neat straight line with a pavement breaker or saw prior to permanent restoration.
3. The City may prohibit heavy-duty pavement breakers when their use endangers existing substructures or other property.
4. Unstable pavement shall be removed over cave-ins and breaks and the sub-grade shall be treated as the main trench.
5. The Permittee shall not be required to pay for the repair of any pavement damage existing prior to the excavation unless the Permittee's cuts results in small floating sections that may be unstable. If this occurs, the Permittee shall remove the unstable portion (up to 2' with approval of field engineer) and the area shall be treated as part of the excavation.
6. The maximum length to open trench permissible, at any time, shall be two hundred (200) feet. No greater length shall be opened for pavement removal, excavation, construction, backfilling, patching or any other operation without written permission from the City.

7. Excavation should be a minimum of twenty-four (24) inches from the face of the curb. If the excavation is less than five (5) feet from the face of the curb, then the repair must go to the curb.

## **XIX. BACKFILLING OF EXCAVATION**

1. Backfill material within the streets right of way shall be replacement gravel and comply with State Specifications M1.03.0, Type B, with no stones larger than three (3) inches in diameter. All excavated material, except as directed by the Field Engineer, shall be removed from the site and disposed of at no additional cost to the City. Adequate moisture content in a backfill material is essential to achieve effective compaction. It will be the Permittee's responsibility to adjust the moisture content of soil in the field as necessary to achieve the specified compaction.

2. Backfill materials shall be considered unsuitable when containing at least one of the following properties:

- a. Material with a maximum unit dry weight per cubic foot less than 90 lbs. as determined by ASTM D698;
- b. Material containing visible organic matter, topsoil, organic silt, peat, construction debris, roots or stumps;
- c. Material that has a liquid content greater than 55;
- d. Material designated in the field by the Field Engineer.

3. Prior to beginning backfill operations, the Permittee shall be responsible for contacting the Field Engineer to obtain a soil sample. The soil sample will then be forwarded to an approved material testing agency to insure its compliance with the project's specifications. A maximum laboratory dry density of the soil will be determined in accordance with ASTM D698; it will benefit the Permittee to provide a soil sample prior to the beginning of the project. This will allow field density test values to be calculated as the excavation is being backfilled and allow for additional passes with compaction equipment, if necessary. It will also be the responsibility of the Permittee to notify the Field Engineer if any change in soil characteristics occurs.

4. Approved backfill material shall be placed in lifts not to exceed ten (10) to twelve (12) inches and thoroughly compacted by mechanical or pneumatic compactors to at least ninety-five percent (95%) of the soil's maximum laboratory dry density.

5. An approved material testing agency or certified Field Engineer will then perform field density testing. Density testing will be performed at intervals of one (1) test per one hundred (100) linear feet of the compacted lift. In the event that the project is of a short duration or begins prior to obtaining the soil's maximum laboratory dry density (which is necessary in determining field density test results), the Permittee shall assume full responsibility for re-excavating and re-compacting areas of failed field density tests.

6. Due to the hazardous nature of performing field density testing in deep excavations, the Permittee shall be responsible for establishing a method of compaction using mechanical or pneumatic compactors that assures each lift is compacted to at least ninety-five percent (95%) of the soil's maximum laboratory dry density.

7. As the excavation is brought to grade and field density tests are taken, the project's Engineer, along with the Permittee, shall establish a sufficient compaction method necessary to achieve at least ninety-five percent (95%) of the material's maximum laboratory dry density based on the type of compaction equipment, number of passes and existing soil type and moisture content.

8. **BUCKET WHACKING AND WATER JETTING WILL NOT BE PERMITTED.**

**XX. EXCAVATING AND BACKFILLING TRENCHES IN NEW STREETS LESS THAN FIVE (5) YEARS OLD**

1. All applicable provision of Section XVIII (CUTTING THROUGH PAVEMENT) SHALL APPLY TO THIS Section.

2. All applications for excavation in new streets must first be approved by Lowell City Council. A copy of the Council vote will become part of the application package.

3. All material excavated shall be removed from the project site at the end of the work day. No material shall be placed on the roadway. All excavated material shall be loaded directly into a dump truck for disposal or storage off site.

4. Upon completion of water, sewer and/or utility work, a one (1) foot envelope of approved pipe bedding material shall be placed over installed lines. The trench shall then be backfilled using Excavatable Controlled Density Fill (CDF), Type 2E. For rigid base roads, the trench shall be filled with CDF to the bottom of the rigid base. Prior to backfilling with CDF, the Permittee may be required to notify the City Engineer for the purpose of obtaining a sample for compressive strength testing. A copy of the CDF receipt is to be provided to Engineering.

5. All applicable provisions of Section XXII, c and d – temporary and permanent surface repair-shall apply to this Section including an infra-red treatment of the permanent roadway patch to be performed after one (1) seasonal movement of the patch.

**XXI. STREET, SIDEWALK, CURB and TRENCH REPAIRS**

**A. SCOPE OF WORK**

The work under this section shall include furnishing and installing hot mix bituminous concrete as temporary or permanent resurfacing on the complete width of the trench; furnishing and installing cement concrete where excavated in streets and sidewalks; and

the removing and resetting of granite curb. This work shall be as specified herein, as shown on the plans or as directed by the Field Engineer.

**B. MATERIALS**

All bituminous concrete shall conform to the requirements as set forth in the most recent edition and amendments thereto of the Standard Specifications for Highways and Bridges, Massachusetts Highway Department, Commonwealth of Massachusetts.

1. Bituminous concrete shall conform to Section M3.11, Class I, Type I-1 of the above mentioned specifications.
2. Cement concrete sidewalks shall conform to Section M4.02 (air-entrained 4000 psi, ¾" aggregate) of the above mentioned specifications.

**C. TEMPORARY SURFACE REPAIRS**

1. As soon as the excavation has been backfilled and compacted, a temporary repair shall be made. Temporary paving shall be hot laid binder course conforming to the above mentioned specifications and shall be placed in a single, three and a half (3 1/2") inch course. This course shall be compacted to match existing pavement so that it is hard enough and smooth enough for vehicular traffic to pass safely over it at the legal rate of speed. The contractor shall maintain the temporary paving until the permanent paving is placed.
2. In the event there is unacceptable maintenance of temporary repairs, the Permittee will be notified of those situations. Upon notification, the Permittee will make the required improvements within twenty-four (24) hours. In emergency situations, the City will make immediate repairs and the Permittee will be billed directly. All temporary material shall conform closely to the level of the adjoining paved surface and shall be compacted so that it is hard enough and smooth enough to be safe for pedestrian and vehicular travel.
3. The Permittee shall maintain the temporary paving for a period of not more than ninety (90) days after backfilling is completed or as directed by the Department. At that time, final paving will be required to conform with the schedule detailed in the next Section. The temporary patch shall be maintained and kept safe for pedestrian and vehicular traffic until the permanent restoration is made.

**D. PERMANENT SURFACE REPAIR**

1. Permanent repairs shall be completed within a period of not more than ninety (90) days or in accordance with the following schedule:

**SCHEDULE OF PERMANENT PATCHING**

Temporary Patch Placed

Permanent Patch Placed

December 30-March 31

by May 15

2. The permanent patch shall be extended one (1) foot on all sides of the temporary patch area. The pavement shall be cut in a neat, straight line with a pavement saw only. The cut shall be square or rectangular with edges parallel and perpendicular to the trench or as directed by the Field Engineer. Cuts shall be straight and vertical. The permanent patch of bituminous concrete walks shall be the full width of the sidewalk with end cuts straight and perpendicular to the street line.

3. A tack coat shall be applied to the vertical faces of the existing pavement before placing permanent patch. A permanent patch material shall be applied in two (2) courses in accordance with the following thickness chart:

**BITUMINOUS CONCRETE**

**PAVEMENT COURSE THICKNESS CHART**

	<u>Binder Course</u>	<u>Top Course</u>
Roadway up to 12% grade	2-1/2"	1-1/2"
Roadway from 12% to 16% grade	3"	1-1/2"
Roadway 16% and over	3-1/2"	1-1/2"
Rigid Base Roadway	(match thickness of rigid base rigid base to a max of 6 1/2 ")	1-1/2"
Driveway	2"	1"
Sidewalk	1"	1"

(Note: Thickness depths are measured after compaction.)

4. The binder will be placed in courses NOT exceeding 2-1/2 inches. Multiple binder courses will be laid if the existing thickness conditions warrant.

5. When two (2) or more openings are made in sequence with fifteen (15) feet or less between the adjacent openings, the Permittee shall neatly cut out and remove the area of pavement between these adjacent openings and shall patch the entire area as one trench.

6. The Permittee shall be required to correct any trench settlements and/or faulty pavement patches for a period of five (5) years after the permanent patch is placed, at the direction of the Field Engineer and Commissioner. In the event of a failed permanent patch, the Permittee shall be responsible for fully removing the patch, regrading the sub-grade and re-cutting the trench edges (if necessary) prior to installing a new permanent patch. Spot repairs of permanent patches will not be acceptable.

7. If, during construction, break backs occur, the bituminous concrete shall be cut back to a sufficient point where the edges are smooth and straight. Where, in the opinion of the

Field Engineer, the break backs are extensive, the ENTIRE TRENCH LENGTH shall be evenly cut back so to insure two parallel edges.

- 8.** Granite curb requiring resetting shall be excavated so that the present curb can be removed without damage. When resetting, the length of any section of curb or edging shall be altered by cutting in order to fit closures as necessary.
- 9.** Settlement of curbing caused by the contractor shall be repaired by the contractor at no cost to the City.
- 10.** Where cement concrete or paving block is encountered in roadways (either as wearing surface or as a base for bituminous concrete), it shall be replaced with binder at a thickness equal to the existing rigid road base to a maximum depth of eight (8) inches. When replaced as the base paving, the binder shall be so placed as to allow for the subsequent permanent paving courses to be placed over it.
- 11.** Where cement concrete is encountered in sidewalks, it shall be replaced at a minimum thickness of six (6) inches in driveways and wheelchair ramps. The concrete shall be poured in forms that are smooth, free of warp, of sufficient strength to resist springing out of shape, and satisfactory to the City of Lowell's Field Engineer. All sidewalks shall be poured on an eight (8) inch gravel base. All cuts in concrete sidewalks shall be from the nearest joint or pour line for the full width of the sidewalk. The finished surface shall be brushed by drawing a soft-bristled push broom with a long handle over the surface of the concrete, perpendicular to pedestrian travel, to produce a non-slip surface. Joints shall be scored at intervals at the discretion of the City of Lowell's Field Engineer. For normal sidewalk work, these joints shall be installed at intervals equal to the width of the sidewalk but not to exceed five (5) feet; expansion joints every 30 linear feet. A 2 1/2" edge finish shall be required on each side of the joint. The broom finish shall extend from the curbing to the back of sidewalk. The finished concrete surface shall be adequately protected for curing and defacement by a method approved by a City of Lowell Field Engineer.
- 12.** Where bituminous concrete is encountered in sidewalks, it shall be replaced at a minimum compacted thickness of one (1) inch of 3/4" binder and one (1) inch of top course. Satisfactory forms shall be installed to assist in securing proper alignment and adequate compaction of both courses where an approved mechanical spreader is not used. All cuts for permanent patches shall be perpendicular to the street line and extend full width of the sidewalk. The minimum width for a permanent patch in a bituminous sidewalk shall be four (4) feet.
- 13.** Whenever sidewalks at crosswalks are disturbed for necessary excavations, those sidewalks and curbs shall be reinstalled per American Disabilities Act (ADA) specifications. Perpendicular pedestrian ramps (and reciprocals) are required to be installed to complement existing or newly constructed crosswalks. Pedestrian ramps must be constructed where applicable, in accordance with Federal Law.



**14.** Grading and drainage shall be designed to minimize pooling of water, accumulation of ice, or flow of water across the base of the curb cut.

**15.** All work shall be in compliance with the City of Lowell Standard Specifications and Details. After completion of permanent patch repairs, the Permittee will file a Certificate of Permanent Restoration Form attesting that the pavement repair has been completed in full compliance with these regulations.

**16.** The contractor is required to have metal plates to cover the excavation if needed, per 14.00 CMR 520.

**17.** The date used to determine the age of the street shall be the date of final paving.

***E. SPECIAL CONDITIONS OF PERMIT FOR STREETS PAVED 5 YEARS OR LESS: This will be granted for emergencies only.***

**1.** All material excavated within the right of way shall be removed. Storage of material will not be allowed within the right of way. No material shall be placed on the roadway- shall be cast directly into a dump truck for disposal off site. The roadway shall be cleared and wept of all debris at the end of each day.

**2.** The road pavement shall be precut in a neat straight line with all corners squarely cut. Also, the width of the excavation shall not be less than twenty-four (24) inches. Before paving, road shall be saw cut to a minimum width of 4 feet.

**3.** Upon completion of the water, sewer or utility work, and placement of protective envelope, the trench shall be filled with Excavatable Controlled Density Fill Type 2E (CDF). For rigid base roads the trench shall be placed through the concrete up to the 1-1/2 inch top of course. For non-rigid base roads CDF shall be poured to a depth of four (4) inches below the road surface, 2-1/2 inches of compaction binder, 1-1/2 inches of top course on top of the CDF, then bituminous 2-1/2 inches of binder, and 1-1/2 inches top course.

**4.** Multiple trenches within fifteen (15) feet of each other shall be combined and paved as one permanent patch. The permanent patch shall be in place within seven (7) days. The method employed shall be as follows:

**5.** The outer edges of the water and sewer trenches shall be squarely saw cut and extended a minimum of twelve (12) inches each side of the trench. The pavement between the adjacent trenches shall then be removed. A tack coat shall be applied with a brush to the vertical faces. If the existing trench is within five (5) feet of the curb or berm, the cut shall extend to the granite curbing or one (1) foot from the berm. Trench ends shall be straight and square.

**67.** A permanent patch shall be applied, a minimum of four (4) inches of hot mix asphalt pavement, 2-1/2 inches of binder course and 1-1/2 inches of top course after being

compacted. Should a rigid roadway base exist or existing thickness exceed four (4) inches, it must be replaced with an equal thickness of Type I base placed in two (2) inch lifts.

7. After one (1) season, the permanent patch shall be infrared treated by a firm certified in the infrared process. Upon completion, the contractor shall provide to DPW a certificate serving as proof of infrared treatment.

8. All sidewalks excavated must be replaced entirely, in kind, in accordance with City Standards and Specifications. Pedestrian ramps must be installed where applicable, in accordance with ADA regulations.

#### ***F. SPECIAL CONDITIONS FOR PERMANENT RESTORATION FOR LONG TRENCHES OVER 100 FEET***

When trenches are one hundred (100) feet or more in length, permanent repair requirements are as follows:

1. The road pavement shall be pre-cut in a neat, straight line with all corners squarely cut. Also, the width of the excavation shall not be less than twenty-four (24) inches. Maximum length of open trench shall be no greater than 200 feet at any time.

2. The contractor is required to have metal plates to cover the excavation if needed. Two-way traffic must be maintained at all times.

3. The excavation must be backfilled with suitable material and mechanically compacted in eight (8) inch to ten (10) inch lifts.

4. The four (4) inch temporary hot mix asphalt (binder) is required, placed in two (2) inch lifts. The temporary patch must be periodically checked and maintained.

5. The roadway shall be cleared and swept of all debris at the end of each work shift.

6. All sidewalks excavated must be replaced entirely in kind, in accordance with City Standards and Specifications and may require adjustment of curbing or the installation of asphalt berm. Pedestrian ramps must be installed where applicable, in accordance with ADA regulations.

7. Ninety (90) days after work is completed the trench shall be rebuilt by one of two methods:

**METHOD #1**-the trench shall be saw cut in a straight line a minimum of twelve (12) feet beyond each end of the trench, a minimum width of eight (8) feet. The temporary patch and saw cut area shall be removed and replaced with four (4) inches of hot mix asphalt pavement, 2-1/2 inches of binder course and 1-1/2 inches of top course. If any side of the trench is within five (5) feet of the curb or berm the cut shall extend to the granite curbing

or one (1) foot out from the berm. Trench ends shall be straight and square. The edges of the trench shall be thoroughly cleaned and shall be completely coated with an approved emulsion.

**METHOD #2** – If, in the opinion of the City Inspector, the four (4) inch hot mix temporary patch has remained structurally sound then an area within the limits prescribed in Method #1 shall be milled to depth of 1-1/2 inches. A tack coat or CRS-1 of RG-1 asphalt emulsion shall be applied and 1-1/2 inches hot mix top course shall be laid and rolled to meet pre-existing grades and original profile of street.

9. Permanent paving shall be applied with a self-propelled mechanical spreader and rolled with a power driven steel wheeled roller. A minimum width of repair will be eight (8) feet. After completion of the permanent patch the Permittee will file Certificate of Pavement Restoration form attesting that his pavement has been completed in full compliance with these regulations.

## **XXII. DRIVEWAY OPENING**

The approval of a permit application for driveway construction shall be contingent on the following conditions:

- a. That the driveway approval shall be used strictly to provide access to adjoining property and not for the purpose of parking or servicing vehicles within the City right-of-way.
- b. The driveway shall be constructed in accordance with standard details for driveway openings and standard specifications on file in the Office of the Engineering Division and such changes as may be necessary to fit a particular condition.
- c. Existing driveway openings fronting the property and which will not be in use shall be reconstructed to a normal sidewalk and curb cross section where such sidewalk and curb exists.
- d. No more than one combination entrance and exit shall be allowed for any property frontage of which is less than sixty (60) feet. Parcels having a frontage from sixty (60) feet to one hundred (100) feet will be permitted two (2) entrances are considered shall be reviewed separately by the Commissioner of Public Works and a decision made based on the circumstances of each case. Driveways shall not have a greater width than thirty (30) feet (not including splays). Driveways shall be located at least fifteen (15) feet from hydrants, poles, etc. and outside the setback at intersections. Driveways leading to commercial establishments providing over fourteen (14) parking spaces shall also have the approval of the City's Planning Board. Driveways leading to commercial establishments providing eight (8) parking spaces or less shall require a plan approved by the Department of Public Works.
- e. The driveway within the limits of the City right-of-way shall slope towards the gutter as noted in City standards.

- f. Drainage ditches or gutters shall not be altered or impeded in any way. Where a driveway shall cross an open ditch, the Applicant shall provide suitable drainage structures as determined by the Commissioner of Public Works. All commercial and industrial properties require drainage design with the driveway permit.
- g. When existing sidewalk or curbing has to be removed to construct a driveway, such sidewalk or curbing shall be removed for its full depth and to formed joints. The breaking and removal of parts of sidewalk slabs or parts of curbing will not be permitted. All curbing removed is the property of the City of Lowell and must be returned to the City's storage yard. Return receipt must accompany Permanent Restoration Form
- h. Under unusual circumstances as decided by the Commissioner of Public Works, the above regulations may be varied.
- i. If, in the opinion of the Commissioner of Public Works a proposed driveway will jeopardize public safety the request may be denied.

### **XXIII. PROMPT COMPLETION OF WORK**

After an excavation has commenced, the Permittee shall prosecute with diligence and expedition all excavation work covered by the excavation permit, and shall promptly complete such work and as specified herein. The Permittee shall perform such work so as not to obstruct, impede, or create a safety hazard to either pedestrian or vehicular traffic.

### **XXIV. NOISE, DUST, DEBRIS**

Each Permittee shall conduct and carry out excavation work in such manner as to avoid unnecessary inconvenience and annoyance to the general public and occupants of the neighboring property. The Permittee shall take appropriate measure to reduce, to the fullest extent practicable, noise, dust, and unsightly debris between the hours of 7:00 p.m. and 7:00 a.m. They shall not use, except with the express written permission of the City, or in case of an emergency as herein otherwise provided, any tool, appliance, or equipment producing noise of sufficient volume to disturb the sleep of the neighboring property during the hours of 7:00PM to 7:00AM.

### **XXV. PRESERVATION OF MONUMENTS**

Any monument set for the purpose of locating or preserving the lines of any street or property subdivision, or a precise survey reference point, or a permanent survey bench mark within the City, shall not be removed or disturbed without first obtaining permission, in writing, from the City to do so. If the work result in a monument being moved, shifted or broken it must be reset as located by a Registered Land Surveyor at the Permittee's expense (see Commonwealth of Mass. Standard Spec. for Highway & Bounds, pg. 180, Sect. 710.61 Bounds Removed & Reset). Permission to remove or disturb such monuments, reference points, or bench marks shall be granted only when no alternate route for the proposed substructure or conduit is available. If the City Engineer is satisfied that no alternate route is available, permission shall be granted only upon

condition, by agreement in writing, that the person or utility applying for such permission shall pay all expenses incidental to the proper replacement of the monument by the City.

## **XXVI. GRANITE CURB**

No person or utility shall remove, damage, haul away, or cause misalignment of any granite curbing, including radius curb and catch basin stones, or cobblestones, for any reason whatsoever without first receiving permit from the Commissioner of Public Works, or his designee.

## **XXVII. BITUMINOUS CURB**

Any person or utility damaging bituminous concrete curbing during the course of the excavation, or for any other reason, shall be charged for the replacement of the bituminous concrete curbing.

## **XXVIII. EXCAVATION DURING WINTER**

No person or utility shall be granted a permit to excavate or open any street or sidewalk from November 15<sup>th</sup> of each year to April 1<sup>st</sup> of the next year unless an emergency or special condition exists and permission is obtained, in writing, from the Commissioner of Public Works.

Any person or utility wishing to obtain an excavation permit between the aforementioned dates shall first explain fully, in writing, the nature of the emergency situation to the City before permission is granted. If a hazardous condition, which would endanger life and/or property, exists, excavation work shall not be delayed by this section of the manual. However, a written explanation shall be delivered to the City the next business day and an excavation permit obtained for the opening made.

## **XXIX. INSPECTIONS**

The City shall make such inspections as are reasonably necessary in the enforcement of these regulations. The City shall have the authority to promulgate and cause to be enforced such rules and regulations as may be reasonably necessary. It is the responsibility of the applicant to contact the City Engineer's office to schedule inspections.

## **XXX. EXCAVATION ON A RESURFACED STREET**

Whenever the City has developed plans to reconstruct a street, the City, or its representative, shall give written notice thereof to all abutting property owners, the City department, and to all public utilities which have, or may wish to lay pipes, wires, or other facilities in or under the highway. Upon receipt of such written notice, such person or utility shall have sixty (60) days in which to install or lay any such facility. If an extension of time is needed by a person or utility for the installation of such facilities, the

person or utility shall make a written application to the City explaining fully the reason for requesting such an extension of time. At the expiration of the time fixed and after such street has been reconstructed, no permit shall be granted to open such street for a period of five (5) years, unless an emergency condition exists or the necessity for making such installation could not reasonably have been foreseen at the time such notice was given.

If a permit is granted, the City may impose extraordinary conditions on the Permittee to preserve the structural condition of the pavement and to blend the permanent patch with the existing pavement.

### **XXXI. PENALTY**

Any person, firm or corporation who violates any of the regulations of this manual shall be guilty of a misdemeanor and upon conviction thereof, shall be fined not less than three-hundred (\$300.00). Each day such violation continues shall constitute a separate offense. If the work, or any part thereof, mentioned in the preceding sections shall be unskillfully or improperly done, the City shall cause the same to be skillfully and properly done and shall keep an account of the expense thereof; and, in such case, such person or utility shall pay the City an amount equal to the whole of said expense incurred by said City with an additional amount of fifty (50%) to cover indirect costs. Thereafter, upon completion of the work and the determination of the costs thereof, the City shall issue no further permits to any person or utility until it shall receive payment of said costs.

Any person or utility who continues to violate any regulation of this manual shall receive no further permits until such time as the City is satisfied that the person or utility shall comply with the terms of this manual.

## APPENDIX 1

**SPECIFICATIONS FOR PATCHING DRIVEWAYS WITHIN THE ROW**

**General:** Any trenching within a driveway or sidewalk will require repaving of the entire apron at the driveway.

**Sub-Grade:** The sub-grade for sidewalks and driveways shall be shaped parallel to the proposed surface of the walks and driveways and thoroughly compacted. All depressions occurring shall be filled with suitable material and again compacted until the surface is smooth and hard.

**Foundation:** After the sub-grade has been prepared, a foundation of gravel shall be placed upon it. After being compacted thoroughly, the foundation shall be at least twelve (12) inches in thickness and parallel to the proposed surface of the walk.

**Patching of Bituminous Concrete Driveways:** Patching of bituminous concrete driveways shall be done in accordance with subsection 701.63 in the latest version of the Standard Specifications for Highways and Bridges of the Massachusetts Department of Public Works.

**Specifications for Patching Cement Concrete Sidewalks and Driveways:** Patching of cement sidewalks and driveways shall be done in accordance with subsection 701.61 in the latest version of the Standard Specifications for highway and bridges of the Massachusetts Department of Public Works.

APPENDIX 2

**MONITORING WELLS**

*Monitoring wells located in the City Right of Ways:*

- Shall have an access cover mark “Monitoring Wells”
- Said cover shall be capable of handling H-20 traffic loading
- Entire installation shall be maintained for the life of the well
- When the well is no longer needed, the well shall be filled to the depth of pavement with Controlled Density Fill (CDF) and permanently paved



## APPENDIX 3

**REQUIREMENTS FOR DUMPSTER OBSTRUCTING THE STREET**

Street obstruction permits to be issued to owner of dumpsters only.

Seventy-two (72) hours required to review Permit Application.

On arterial streets obstructed area must be lighted by lights mounted on the dumpster.

The following information needs to be prominently displayed:

1. Name of Company
2. Emergency phone number
3. Size
4. Reflective tape on all sides
5. Certificate of Insurance
6. Winter conditions (see below)

In conformance with the winter parking ban, containers will only be place on the side of the street where on-street parking is allowed. Container shall always be placed at the curb; any pre-existing snow windrow must be removed by the permittee prior to placement of the container.

Container must be removed prior to the commencement of plowing operations when a plowable storm of two (2) inches or more is predicted. Once plowing operations have ceased, container can be returned, however, snow windrow must be removed to allow placement at curb.

Should the permittee not remove the container as required, DPW shall have the container removed and charge permittee for removal of the container and any snow removal costs.

## APPENDIX 4

**EXPANDED REQUIREMENTS FOR PERMANENT RESTORATION OF  
SIDEWALKS & ROADWAYS**

When your construction project falls into one of the following categories,

- You are building two or more dwelling units, attached or unattached, next to each other, or
- You propose to connect to utilities in a street that was paved or resurfaced within the last five (5) years,

Expanded Pavement Restoration is required.

The requirements listed below are intended to insure proper restoration of the street and sidewalk once all work and utility connections are complete.

In performing work for your project, you will be required to do some or all of the following (at the discretion of the City):

- Provide additional bonding to insure that the work will be performed per these requirements. The drain layers, not the owners, will be responsible for this bonding.
- For the street, perform a curb to curb, grind and overlay that encompasses all utility trenches.
- Replace the sidewalk, full width and in kind, where it has been impacted by construction. Also replace loam and seed in areas impacted by construction.
- Use Excavatable Controlled Density Fill Type 2E (CDF) for trench backfill.
- Construct curb cut openings in accordance with Department of Public Works construction standards.
- Have a certified firm provide infrared treatment for the permanent utility patch.
- Repair all street and sidewalk areas damaged during the course of your project's construction, even if outside the utility trench area.