

# PERMIT MANUAL



## **City of Worcester, MA Department of Public Works Engineering Permits**

**July 1, 1988  
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**I. PURPOSE OF PERMITS**

City highways 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 annoying 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 highways.

**II. DEFINITIONS**

**Excavation**

"Excavation" shall mean any opening in the surface of a 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.

**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 and dedicated to public use.

**City**

"City" shall mean the City of Worcester and/or its Commissioner of Public Works.

**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.

**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.

**Person**

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

**Utility**

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

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

"Newly constructed, reconstructed, or repaved streets" shall mean any street which has been newly constructed, reconstructed, or repaved within the past five (5) years.

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

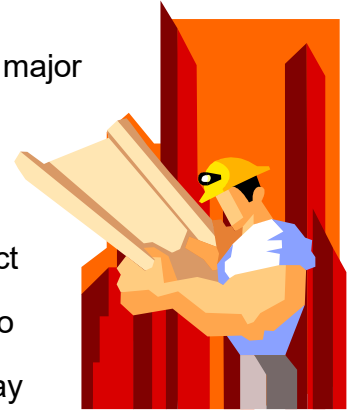
An application for permit must be filed with the City of Worcester before preliminary investigation will be made for permit issue. Standard application forms for this permit may be secured from the Worcester Department of Public Works or on the City of Worcester website ([www.ci.worcester.ma.us](http://www.ci.worcester.ma.us)). Each application form shall be completely filled in, signed, and delivered to the Worcester Public Works Department - Management Services Section. All applications require current dig safe numbers and separate notification to the City of Worcester Water and Sewer 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.

The Applicant will be required to disclose the methods and materials proposed to be used. 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 Worcester 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. The application will include sieve analysis and proctor of proposed backfill material meeting State Spec. M1.03.0 Type B. When service work is proposed for new construction a house numbering slip is required.

### III. **APPLICATION FOR PERMIT (cont.)**

#### **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**

When it appears that the work called for in an application would not conform to City regulations, or cause substantial or needless damage to a highway, or create excessive disturbances to traffic, or exceptionally dangerous conditions not commensurate with the benefits to the Applicant, the request for permit will be denied. 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 deposit with the City a Bond in an amount and form as shall be determined by the Commissioner of Public Works. The bond amount shall be established separately for each permit so that the City will be protected against loss in the event of the failure of the permit holder to complete the work or reimburse the City for restoration involving the work or encroachment authorized by the permit.

**IV. BOND REQUIREMENTS (cont.)**

The amount of bond shall be computed on the basis of cost required to make proper restoration or repairs. An annual blanket bond, acceptable to the Commissioner of Public Works, may be deposited 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. 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 highways 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. These certificates shall contain a provision that the insurance company will notify the certificate holder, by registered mail, at least 15 days in advance of any cancellation or material change.

General Liability:

Includes:	Each Occurrence - \$1,000,000
Comprehensive Form	Aggregate - \$2,000,000
Premises/Operations	
Underground Explosion Collapse	
Hazard	
Products/Completed Operations	
Independent Contractors	
Broad Form Property Damage	
Personal Injury	

**V. INSURANCE REQUIREMENTS (cont.)**

Automobile Liability:

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

Workers Compensation & Employers Liability:

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

**VI. FEES**

The Department of Public Works shall levy charges and fees as determined by the Commissioner of Public Works.



**VII. ISSUANCE OF PERMIT**

Permit shall be issued:

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

A permit 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 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 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 any excavation work is started, the person or utility excavating must contact all utilities and the City for underground facilities.

**IX. REVOCAION OF PERMITS**

Any permit issued by the City of Worcester 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 loaming and seeding must be made at a future date. Otherwise, the permit holder shall request the City to allow him an extension of time. Extension of time may be granted upon written request by the Permittee 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 Worcester, 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.

**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. The portions of the highway, which are excavated or are otherwise unsafe for public travel, shall be adequately protected at all times to avoid the possibility of accidents. Such areas shall be marked at night by barricades or traffic barrels 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.

#### **XIV. PROTECTIVE MEASURES & TRAFFIC CONTROL (cont.)**

##### **Detours**

When, in the opinion of the Commissioner of Public Works, a City highway may be obstructed by the applicant's proposed operations 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 Permittee shall notify the Police, Fire, Ambulance and WRTA of the layout and expected time of the detour. The Permittee shall supply and maintain such signs at his expense as may be necessary to clearly outline the detour. Preliminary to detouring of traffic over a road bypass, an inspection shall be made by the Permittee and a 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 detour 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 detour.



##### **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 pedestrians at intervals of not more than two hundred (200) feet. 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.

#### **XIV. PROTECTIVE MEASURES & TRAFFIC CONTROL (cont.)**

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

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 WRTA, 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 may require that the Permittee give notification to various public agencies and to the general public. In such cases, such written approval shall not be valid until such notice is given. In cases of an emergency on week nights, weekends, 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. 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**

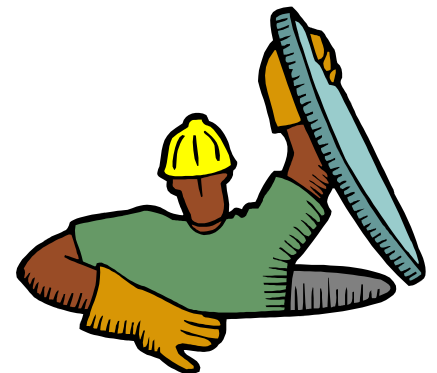
A contractor may temporarily place a structural steel plate(s) over an open trench with the approval of the City of Worcester DPW's representative. Any steel plates must meet ASTM A 36 steel (minimum) with a thickness sufficient for supporting traffic load. Steel plates must completely cover the open 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.

**XIV. PROTECTIVE MEASURES & TRAFFIC CONTROL (cont.)**

The permitted contractor is responsible for any plate movements. He will be charged if the City of Worcester 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 more than three (3) days will require the top of the plate to sit flush with the roadway. Steel plates, in general, will not be allowed if winter weather is expected. In the event that placement of the 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 Worcester DPW warning devices and/or damages incurred from plate movements during winter weather operations.

**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.



**XV. RELOCATION AND PROTECTION OF UTILITIES (cont).**

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 in the street area 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 not to 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**

### **A. IN STREETS:**

1. Where existing bituminous concrete pavement is to be removed to allow for excavation, 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 or 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 subgrade 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 and the area shall be treated as part of the excavation.

**XVIII. CUTTING THROUGH PAVEMENT (cont.)**

**A. IN STREETS:**

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 of 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.

**B. IN SIDEWALKS:**

1. All parts of **Section XVIII, A. IN STREETS** shall apply to sidewalk excavation.

**XIX. BACKFILLING OF EXCAVATION**

1. Backfill material within the streets right of way shall be replacement gravel and comply with State Specification 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 greater than 55.
- d. Material designated in the field by the Field Engineer.



**XIX. BACKFILLING OF EXCAVATION (cont.)**

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.

**XVIII. BACKFILLING OF EXCAVATION (cont.)**

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.

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 provisions of Section XVIII (CUTTING THROUGH PAVEMENT) shall apply to this Section.

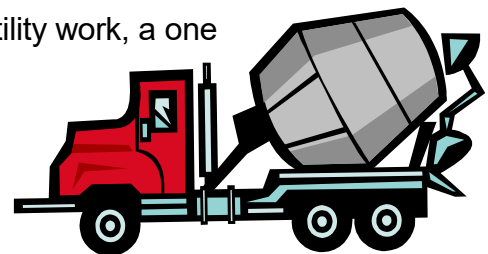
2. All material excavated shall be removed from the project site. No material shall be placed on the roadway. All excavated material shall be loaded directly into a dump truck for disposal off site.

3. 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.

4. All applicable provisions of Section XXI, 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 plant mixed 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 , 3/4" 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, two (2) inch course. This course shall be compacted to match existing pavement so that it is hard enough and smooth enough to be safe for pedestrian travel over it. Likewise, it must be 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.

**XXI. STREET, SIDEWALK, CURB AND TRENCH REPAIRS (cont.)**

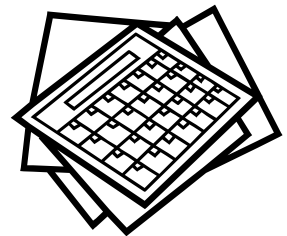
**C. TEMPORARY SURFACE REPAIRS**

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 or 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**

April 1 – April 30	August 1
May 1 – May 31	September 1
June 1 – June 30	October 1
July 1 – July 31	November 1
August 1 – August 31	November 15
September 1 – September 30	November 15
October 1 – October 15	November 15
October 15 – December 30	May 15; following year
December 30 – April 1	May 15

**XXI. STREET, SIDEWALK, CURB AND TRENCH REPAIRS (cont.)**

**D. PERMANENT SURFACE REPAIR**

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 to a maximum 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.

**XXI. STREET, SIDEWALK, CURB AND TRENCH REPAIRS (cont.)**

**D. PERMANENT SURFACE REPAIR**

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 two (2) years after the permanent patch is placed, at the direction of the Field Engineer and the Commissioner. In the event of a failed permanent patch, the Permittee shall be responsible for fully removing the patch, re-grading 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 shall be repaired by the contractor at no cost to the City.

**XXI. STREET, SIDEWALK, CURB AND TRENCH REPAIRS (cont.)**

**D. PERMANENT SURFACE REPAIR**

10. Where cement concrete or paving block is encountered in roadways (either as wearing surface or as 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 four (4) inches or 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 Worcester'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 Worcester'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 Worcester Field Engineer.

**XXI. STREET, SIDEWALK, CURB AND TRENCH REPAIRS (cont.)**

**D. PERMANENT SURFACE REPAIR**

12. Where bituminous concrete is encountered in sidewalks, it shall be replaced at a minimum compacted thickness of one (1) inch of  $\frac{3}{4}$ " binder and one (1) inch of top course (see page 18). 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 Worcester 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.

**XXI. STREET, SIDEWALK, CURB AND TRENCH REPAIRS (cont.)**

**E. SPECIAL CONDITIONS OF PERMIT FOR STREETS PAVED 5 YEARS OR LESS**

1. The contractor is required to have metal plates to cover the excavation if needed.
2. 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 swept of all debris at the end of each day.
3. 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 24 inches. Before paving, road shall be saw cut to a minimum width of 4 feet.
4. 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 filled with CDF to the bottom of the concrete. Binder in 2 inch lifts shall be placed through the concrete up to the 1-1/2 inch top course. For non-rigid base roads CDF shall be poured to a depth of 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.
5. Multiple trenches within 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:
6. The outer edges of the water and sewer trenches shall be squarely saw cut and extended a minimum of 12 inches each side of the trench. The pavement between the adjacent trenches shall than be removed. A tack coat shall be applied with a brush to the vertical faces. If the existing trench is within 5 feet of the curb or berm, the cut shall extend to the granite curbing or 1 foot from the berm. Trench ends shall be straight and square.

**XXI. STREET, SIDEWALK, CURB AND TRENCH REPAIRS (cont.)**

**E. SPECIAL CONDITIONS OF PERMIT FOR STREETS PAVED 5 YEARS OR LESS**

7. A permanent patch shall be applied, a minimum of 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 4 inches, it must be replaced with an equal thickness of Type I base placed in 2 inch lifts.

8. After one (1) seasonal movement 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.

9. 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 State Law.

**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:

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 24 inches. The maximum length of open trench shall be no greater than 200 feet at any time.

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

4. The excavation must be backfilled with suitable material and mechanically compacted in 8 inch to 10 inch lifts.

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

6. The roadway shall be cleared and swept of all debris at the end of each day.

7. 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 State Law.

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

8. 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 12" beyond each side of the trench, a minimum width of 8 feet. The temporary patch and saw cut area shall be removed and replaced with 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 5 feet of the curb or berm the cut shall extend to the granite curbing or 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 4 inch hot mix temporary patch has remained structurally sound then an area within the limits prescribed in Method #1 shall be milled to a 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 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 opening 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 (See typical detail Appendix A).

**XXII. DRIVEWAY OPENING (cont.)**

- 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 feet (60'). Parcels having a frontage from sixty feet (60') to one hundred feet (100') will be permitted two (2) entrances if a minimum of ten feet (10') is used as a channelizing island. Driveway layouts for lots with a frontage greater than one hundred feet (100') for which more than 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 feet (30') (not including splays). Driveways shall be located at least five 5 feet (5') from hydrants, poles, etc. and outside the setback at intersections. Driveways leading to commercial establishments providing over 8 parking spaces shall also have the approval of the City's Planning Board. Driveways leading to commercial establishments providing 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.
- 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 Worcester and must be returned to the City's storage yard. Return receipt must accompany Permanent Restoration form.

**XXII. DRIVEWAY OPENING (cont.)**

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. He shall



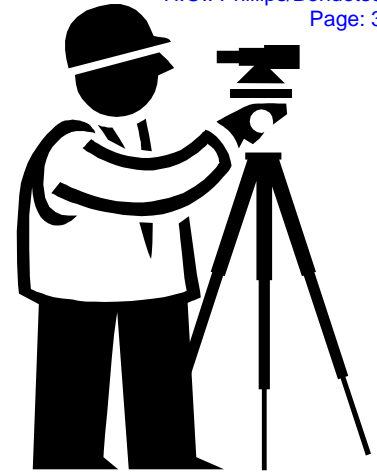
not use, except with the express written permission of the City, or in case of an emergency as herein otherwise provided, any tool, appliance, or equipment producing noise of sufficient volume to disturb the sleep of the neighboring property.

**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 Highways & 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 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.

**XXVII. BITUMINOUS CURB**

Any person or utility damaging bituminous concrete curbing during the course of 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 15th of each year to April 1st 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 as soon as possible 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.

**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 reasons 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 conditions exists or the necessity for making such installation could not reasonably have been foreseen at the time such notice was given.

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

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 \$200.00. 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 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 shall until such time as the City is satisfied that the person or utility shall comply with the terms of this manual.

**XXXII. SMALL WIRELESS FACILITIES WITHIN A RIGHT OF WAY**

Scope of Work – the work under this section shall consist of installing small wireless facilities within a public right of way, by installation of a new piece of infrastructure, and shall be performed in accordance with the provisions herein and those contained in Chapter 12, Section 29 of the Revised Ordinances of 2008, which contains definitions for the terms used herein.

- A. Each small wireless facility within the public right of way will require wireless facility owner to maintain an annual license for each location. A separate permit is also required to install or modify each currently licensed small wireless facility. A modification shall be defined as any change in equipment or equipment upgrade at a location, excluding repairs to existing equipment.
- B. License – Small wireless facility owners will be required to enter into license agreement with the city in the form provided by the city. An annual rate and Facility Owner Update Form will be required at the end of each calendar year. Any license not updated annually will be considered abandoned.
- C. Permit – Small wireless facility owners will be required to pay the applicable fee and obtain a separate permit from the DPW&P for each location.
- D. Fees – Fee amounts can be found on the DPW&P Fee Schedule. All License Application and Permit Application fees and rates are non-refundable.
- E. Insurance - The owner of a small wireless facility shall carry, at its own cost and expense, not less than the following insurance;
  - (1) \$2,000,000 in occurrence basis commercial general liability coverage for bodily injury and property damage and shall include the City as an additional insured
  - (2) \$500,000 workers' compensation insurance, as required by Mass law;
  - (3) \$1,000,000 automobile liability
  - (4) Property damage liability insurance shall include coverage for the following hazards: X - Explosion, C - Collapse, U – Underground;
  - (5) The owner shall maintain not less than required coverage unless and until the small wireless facility and all related equipment and appurtenances have been fully removed and the City's property has been fully restored.

**XXXII. SMALL WIRELESS FACILITIES WITHIN A RIGHT OF WAY cont.**

- F. Application Submittal Requirements - Owners of the new small wireless facilities shall submit a completed City of Worcester Small Wireless Facility application with the required application fees, rates and the following materials:
1. Site plan and construction drawings prepared by a Massachusetts licensed structural engineer, as that term is defined in Section 4 of the Structural Engineering Practice Act of 1989, for each proposed small wireless facility will include the following:
    - a. Property address with dimensions and scale
    - b. Existing conditions with dimensions, including but not limited to, street and sidewalk layout, structures, cabinets, poles, utilities above and below ground, curbing and pavement markings.
    - c. Proposed structures with dimensions including but not limited to, pole, light, antenna, free standing equipment, cabinet, and screening.
    - d. Proposed power and data feed lines (even if owned by others) for the small wireless facility
    - e. Details of equipment including size, shape, height, color, and volumetric (in cubic feet) for each component and antenna.
    - f. Longitude and Latitude (NAD 83) for location and any other applicable GIS data.
    - g. Line of sight traffic analysis.
    - h. Structural analysis by a structural engineer licensed by the Commonwealth of Massachusetts showing how the proposed equipment attaches to the pole and complies with all applicable local, state and federal codes and regulations.

**XXXII. SMALL WIRELESS FACILITIES WITHIN A RIGHT OF WAY cont.**

2. The location where each proposed small wireless facility or utility pole would be installed and photographs of the location and its immediate surroundings depicting where utility poles or structures would be installed.
3. Specifications and drawings prepared by a structural engineer, as that term is defined in Section 4 of the structural engineering Practice Act of 1989, for each proposed small wireless facility covered by the application as it is proposed to be installed.
4. The equipment type and model numbers for the antennas and all other equipment associated with the small wireless facility.
5. A proposed schedule for the installation and completion of each small wireless facility covered by the application.
6. Certification by a qualified radio engineer that the new small wireless facility application complies with; (i) the Interference with Public Safety Communications provisions of Chapter 12, Section 29 of the Revised Ordinances of 2008; (ii) the applicable City of Worcester, Department of Public Works & Parks, Standard Specifications & Details (iii) any agreement between the City and a private property owner concerning design standards for infrastructure in the right of way; (iv) the spacing requirement for ground mounted equipment to be located within the right of way as provided in this Section; (v) applicable undergrounding requirements as provided for in this Section; (vi) all other construction and public safety regulations contained in any federal, state or local building, electrical, structural codes or ordinances; (vii) all FCC rules and standards regarding human exposure to Radio Frequency Energy as defined in OET 65; and (viii) concealment requirements contained in this Section and/or the Standard Specifications & Details.
7. Certification by a Massachusetts licensed engineer that the small wireless facility is in compliance with Federal Aviation Administration (FAA) regulations pertaining to airport airspace protections.
8. A city-wide map with GIS data showing all applicant's other existing Wireless Facilities in the City.

**XXXII. SMALL WIRELESS FACILITIES WITHIN A RIGHT OF WAY cont.**

9. A list of all frequencies to be used by the proposed small wireless facility, the number of channels, the maximum allowable output levels pursuant to the applicable FCC license for the proposed location, and the type of traffic the proposed facility will carry (voice, data, or a combination of both).

G. Special Conditions

- (1) New utility/light poles shall utilize design and materials as set forth in the Standard Specifications and Details as concealed facilities designed to replicate either standard or decorative street lights (as applicable for the subject location as determined by the City). All new poles shall be of the same material, size, color, and style as existing poles in the area.
- (2) New small wireless facilities on a new or replacement utility pole shall be designed to contain all antenna and ancillary equipment and wiring inside the pole.
- (3) New small wireless facility towers or replacement private or City utility poles shall not exceed the height of existing utility poles located in the same right-of-way.
- (4) All new utility poles or replacement utility poles installed for the purpose of installing a small wireless facility shall be designed as a concealed dual-purpose facility designed to replicate either standard or decorative street lights. Where applicable, new poles shall include a street light matching existing lights within the same right of way. The street light shall be provided by the applicant and shall be operated by the licensee at the expense of the licensee.
- (5) Vaulting underground freestanding equipment is required. Equipment incapable of being vaulted for demonstrable technical reasons shall be placed on the ground within a cabinet instead of attached to the structure supporting the antenna, and screened in accordance with the buffering provisions below.
- (6) All new small wireless facilities utilizing new utility/light poles or replacement utility/light poles shall have equipment mounted within such poles. No equipment shall be mounted on the outside of the pole. Freestanding equipment will be vaulted underground.

**XXXII. SMALL WIRELESS FACILITIES WITHIN A RIGHT OF WAY cont.**

- (7) Any equipment shelters or cabinets incapable of being vaulted shall be screened from public view by using landscaping, fencing or materials and colors consistent with the surrounding backdrop within 500 feet of the proposed installation. The buffering/screening shall be consistent with the general character of the neighborhood/zoning district and historic character if applicable. When screening is not possible due to location, equipment cabinets shall be painted either a solid color or multi-color scheme consistent with the general character of the neighborhood, to be specified by the City. Such cabinet shall be placed so as not to impede travel, create any unsafe condition or obstruct the uses of the right of way by the City or other authorized entities.
- (8) All private poles, vaults, and equipment cabinets shall bear identification labels indicating the contact name and number of an applicant representative to be contacted in the event of an emergency.
- (9) Each small wireless facility shall have its own power source, independent of any existing service at the said location.
- (a) The owner of a collocating small wireless facility shall not under any circumstance connect any portion or aspect of its equipment to City electrical service or meter. All owners of small wireless facilities shall separately and independently of the City make arrangements directly with Massachusetts Electric Company (d/b/a National Grid) to furnish electrical service for their equipment.
- (b) The owner of a collocating small wireless facility on any City infrastructure shall comply with all existing agreements between the City and National Grid regarding such existing infrastructure within a right of way, to the extent such agreements impact or affect the use of the City infrastructure for a collocated small wireless facility.
- (c) Any and all charges assessed to the City by any utility, including National Grid, arising from the collocation of a small wireless facility on any City infrastructure shall be borne by the owner of the small wireless facility, who shall indemnify and hold harmless City from any such expense.
- (10) Depiction - A photo rendering shall be provided of the proposed antenna that depicts aesthetic features including, but not limited to, the use of colors, concealment, screening and buffering.
- (11) Assignment/Sub-Licensing – no license or permit holder and no small wireless facility owner shall have the right to assign, transfer or convey or to sub-license any license or permit issued by the City without the City's prior written consent.

**XXXII. SMALL WIRELESS FACILITIES WITHIN A RIGHT OF WAY cont.**

- (12) Hazardous Materials – no small wireless facility owner shall directly or indirectly allow hazardous materials to be stored or used in the right of way.
- (13) Emergency Contact – all small wireless facility owners shall provide the Commissioner of the Department of Public Works & Parks with current emergency contact information to facilitate 24/7 contact. Information shall include the names and contact information for two individuals with authority to act immediately in the event of an emergency involving that owner’s small wireless facility, updated as needed.

H. Locating small wireless facilities

- 1. Attachment to an existing privately owned pole will not be permitted without consent from pole owner authorizing the small wireless facility owner to do so and the owner of the right of way, whether the city or any other owner.
- 2. To enhance physical safety and minimize the adverse visual impacts associated with the proliferation and clustering of antennas and associated above-ground small wireless facility, no new small wireless facility in the right of way shall be located within one hundred (120) feet of any existing utility pole or existing wireless support structure which the applicant has the right to use on reasonable terms and conditions and which does not impose technical limitations or material additional costs on the applicant. If an applicant is unable to meet this requirement, it shall provide written certification as to the unavailability of the existing alternative, the unreasonable terms and conditions, the technical limitations or material additional costs precluding use of the existing alternate structure.
- 3. No small wireless facility shall be permitted to be located in a public right-of-way in such a manner that it will obstruct or interfere with the normal uses of such public right of way, including but not limited to interference with the normal flow of pedestrian traffic; creation or exacerbating a safety hazard; causing the right of way to be in violation of the requirements of the ADA; will obscure or interfere with vehicular traffic views of pedestrians occupying the right of way; or where the City has or plans to have underground utility structures which would be adversely affected by installation of a small wireless facility. This includes poles, cabinets, shelters, meters or any other small wireless facility equipment not specifically identified.
- 4. Existing City owned cabinets for street light, traffic signals or other purposes, cannot be utilized for small wireless facilities.

**XXXII. SMALL WIRELESS FACILITIES WITHIN A RIGHT OF WAY cont.**

5. Small wireless facilities within the rights of way shall be placed on arterial streets identified in appendix 5 as a first preference. Placement on city collector, cul-de-sacs, locals and marginal access street shall not be permitted unless the applicant can adequately demonstrate to the City the unavailability or non-feasibility of use of an arterial street right of way.
- I. Completion and Activation - New small wireless facilities shall be completed and activated for use by a wireless services provider within six (6) months of approval, unless the City and the wireless services owner agree in writing to extend this period or a delay is caused by a lack of commercial power at the proposed site, in which case the applicant shall request an extension of time within sixty (60) days of initial permit issuance to accommodate lack of commercial power and the site shall be completed and activated or use by a wireless services owner within one (1) year of approval. The applicant must return a Certificate of Completion accompanied by a photograph and as-built drawing of the small wireless facility to the City upon completion for final inspection.
- J. All small wireless facility equipment including but not limited to antenna, vaults, cabinets, buffering, fencing, painting or screening in the right of way shall be maintained by the owner of such facilities at its own cost.
- K. Restoration of Damaged Small Wireless Facilities in Rights of Way, Maintenance.
  1. The owner of a small wireless facility, whether a wireless infrastructure provider or wireless services provider, shall immediately remove any structure or portion thereof damaged by a vehicle or other third party or act of God from the right of way or roadway and ensure that electrical service to the damaged facility is terminated. In the event the owner fails to timely effect such remedial efforts such that the presence of the damaged facility is a hazard to pedestrians and/or vehicular traffic, the City shall be entitled to effect such efforts to secure the public safety and the owner shall indemnify and hold harmless the City for all such actions and shall reimburse the City for all reasonable costs associated with same.
  2. The owner of a small wireless facility, whether a wireless infrastructure provider or wireless services provider, shall be exclusively responsible for the maintenance of all of its equipment, and in the case of new small wireless facilities, its infrastructure and shall be responsible for ensuring its facilities at all times remain compliant with all safety regulations regarding physical, electrical, or radio frequency hazards.

**XXXII. SMALL WIRELESS FACILITIES WITHIN A RIGHT OF WAY cont.**

3. The owner of a small wireless facility shall be responsible to ensure that the appearance of all equipment remain acceptable to the City.
- L. Many existing city owned poles have attachments such as street lights, traffic signals, signs, hangers, auxiliary electric, etc. Small wireless facility owners shall propose, install, maintain and operate their small wireless facilities so as to avoid interfering with such attachment or creating an unsafe condition on such utility poles. When existing city owned poles are replaced with poles belonging to the small wireless facility, the new pole must be capable of supporting the same attachments. The small wireless facility owner is responsible for the replacement and re-mount of same. Once mounted the city reserves the right to maintain/replace these attachments.
- M. Removal - Abandoned small wireless facilities shall be removed within 90 days of abandonment. Should the wireless services owner fail to remove the facility within this time period, the City may have facility removed and may recover the actual cost of such removal, including legal fees, if any, from the wireless service owner. A wireless facility shall be deemed abandoned if annual update of license agreement is not filed with DPW&P, unless the wireless services provider gives the City reasonable evidence that it is diligently working to place such wireless facility back in service. It is the responsibility of the owner to notify city when a small wireless facility has been abandoned. Removal for any other purpose shall be in accordance with the applicable license agreement between the City and the applicant.
- N. Public Safety Communications Interference – Any small wireless facility causing interference (as determined by the city) with the city’s or other public safety agency’s communications equipment shall be given written notice from the city and shall make immediate corrections to resolve the interference, including but not limited to powering down. The city may terminate the small wireless facility license based on such interference if the wireless facility owner has failed to remedy problem.

**XXXII. SMALL WIRELESS FACILITIES WITHIN A RIGHT OF WAY cont.**

- O. Compliance with Other Regulations Regarding Installation, Construction and Maintenance - In addition to compliance with the standards, specifications and details in this Permit Manual and the department's Standard Specifications, the regulations in Chapter 12, Section 29 of the Revised Ordinances of 2008, and the obligations of the applicable license agreement with the City, the owner of a small wireless facility, whether a wireless infrastructure provider or wireless services provider, shall comply with all other applicable rules, regulations, standards, specifications and details of any federal, state, or local law, code, or regulation regarding installation and construction within a right of way, including, but not limited to; provisions regarding electrical code compliance and safety, provisions regarding engagement of police detail for traffic control during construction, asphalt and concrete patching and paving requirements following construction, and all other applicable safety, construction and maintenance regulations relating to infrastructure within a right of way.

## APPENDIX 1

### **Specifications for Patching Driveways**

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

**Subgrade:** The subgrade 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 subgrade has been prepared, a foundation of gravel shall be placed upon it. After being compacted thoroughly, the foundation shall be at least 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 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 concrete sidewalks and driveways shall be done in accordance with subsection 701.61 of the Standard Specifications for highways and Bridges of the Massachusetts Department of Public Works.

## PERMIT MANUAL APPENDIX #2

### MONITORING WELLS

#### *Monitoring wells located in the city right of ways:*

1. Shall have an access cover mark "Monitoring Wells."
2. Said cover shall be capable of handling H-20 traffic loading.
3. Entire installation shall be maintained for the life of the well.
4. 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.

## PERMIT MANUAL APPENDIX #3

### REQUIREMENTS FOR DUMPSTER OBSTRUCTING THE STREET

1. Street Obstruction permits to be issued to owner of dumpster only
2. 72 hrs. required to review Permit Application.
3. On Arterial streets obstructed area must be lighted by lights mounted on the dumpster.
4. The following information needs to be prominently displayed:
  5. Name of Company
  6. Emergency phone number
  7. Size
  8. Reflective tape on all sides
  9. Certificate of Insurance.
10. Winter Conditions.

In conformance with the winter parking ban, containers will only be placed 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 permitted prior to placement of the container.

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

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

## PERMIT MANUAL 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,
- You propose to connect to utilities in a street that was paved or resurfaced within the last five (5) years,

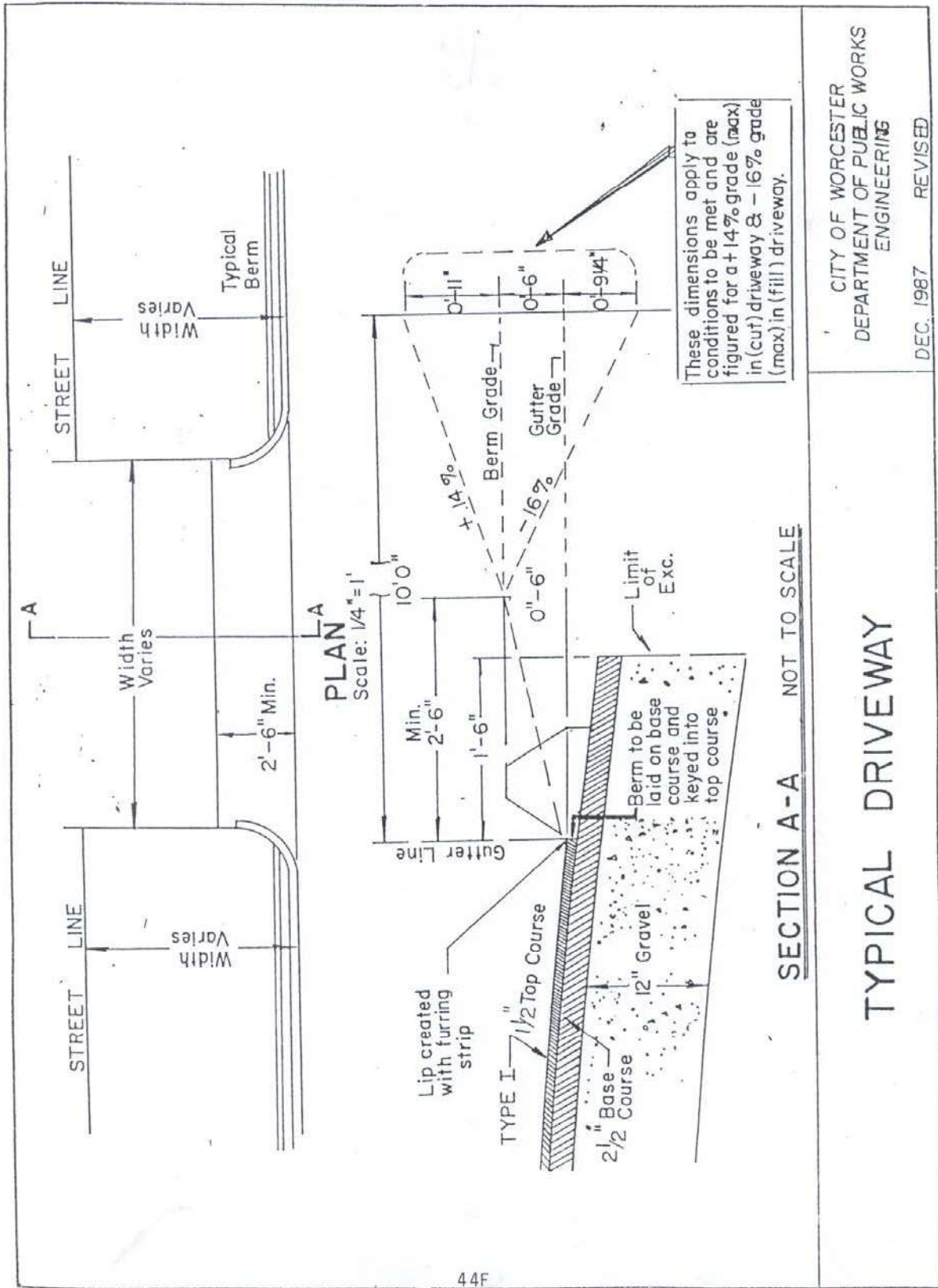
Expanded Pavement Restoration is required.

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

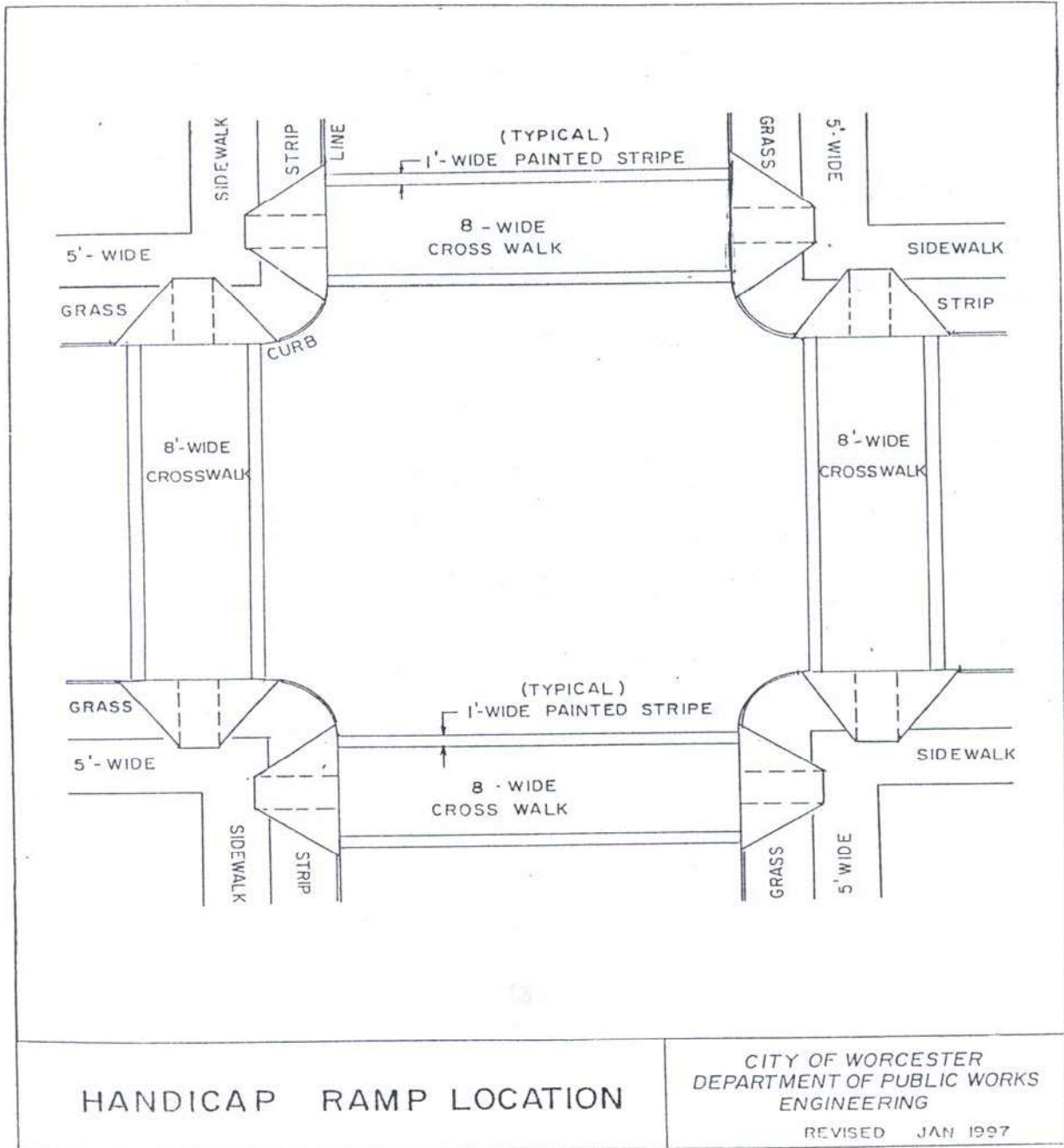
In performing work for your project, you will be required to do some or all of the following:

- Provide additional bonding to insure that the work will be performed per these requirements. The drainlayers, 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.
- Replace the berm or adjust the curb where 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.

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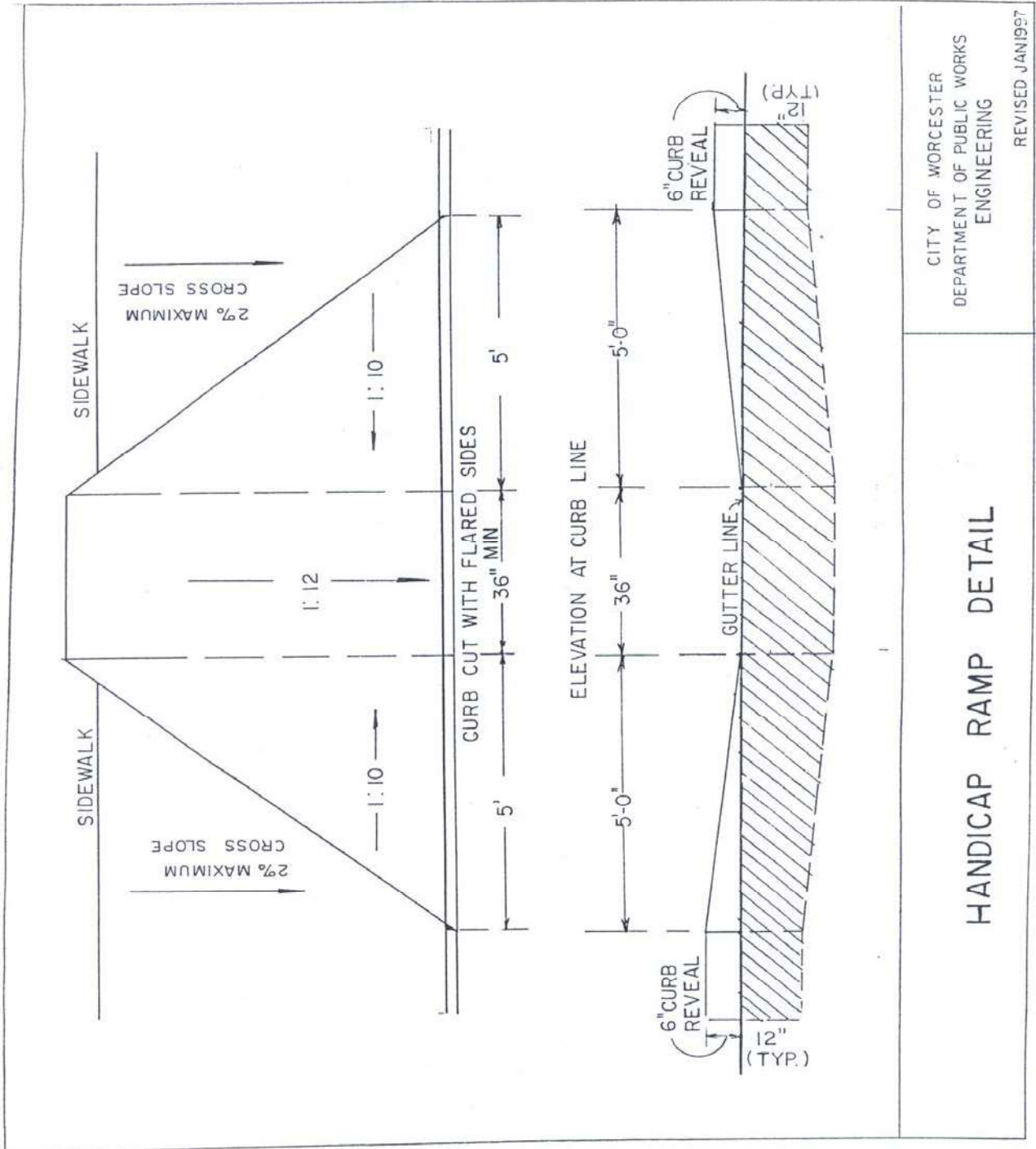


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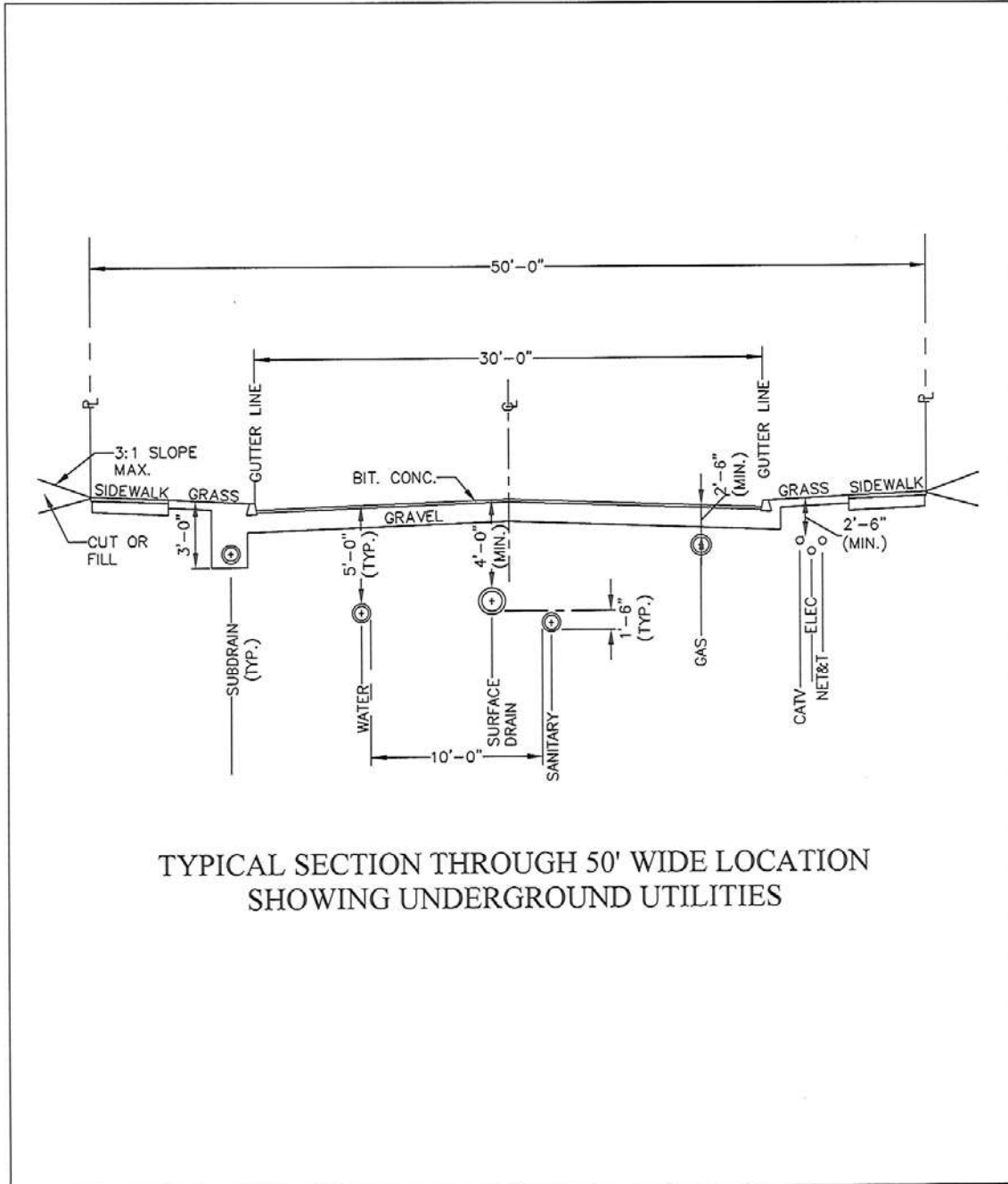
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TYPICAL SECTION THROUGH 50' WIDE LOCATION  
 SHOWING UNDERGROUND UTILITIES

JANUARY 2016 TYP. SECTION THRU 50' LOCATION SHOWING UNDERGROUND UTILITIES		<b>DEPARTMENT OF          PUBLIC WORKS AND PARKS</b> Engineering Division 20 East Worcester St, Worcester MA 01604																			
NOT TO SCALE SHEET 1 OF 1			<table border="1"> <thead> <tr> <th data-bbox="1023 1707 1104 1732">NO.</th> <th data-bbox="1104 1707 1185 1732">DATE</th> <th data-bbox="1185 1707 1347 1732">DESCRIPTION</th> <th data-bbox="1347 1707 1412 1732">BY</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table>	NO.	DATE	DESCRIPTION	BY														
NO.	DATE	DESCRIPTION	BY																		



**CITY OF WORCESTER**  
 Department of Public Works and Parks  
 20 East Worcester Street  
 Worcester MA 01604  
 Phone (508) 799-1450  
 FAX (508) 799-1426

PERMIT FOR

<input type="checkbox"/>	CURB CUT PERMIT
<input type="checkbox"/>	STREET CLOSING PERMIT
<input type="checkbox"/>	ST. OBSTRUCTION PERMIT
<input type="checkbox"/>	STREET OPENING PERMIT

<input type="checkbox"/>	DRAIN PERMIT
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<input type="checkbox"/>	TRENCH PERMIT
--------------------------	---------------

THIS APPLICATION MUST BE FULLY COMPLETED PRIOR TO CONSIDERATION

**PART 1 - GENERAL INFORMATION**

ADDRESS OF PROPOSED WORK:	
ADD'L LOCATION INFO:	
LOT #	DIG SAFE #
ZIP CODE	WATER MARK-OUT CSR#

SITE CLASSIFICATION		STARTING DATE-TIME		
General Com. Est.	Subdivision or PA	ENDING DATE-TIME		
Hotel	Temp. Waste. Dis.			
Industrial	Warehouse			
Modify Existing Est.	1 Family	REQ. APPROVALS	ROAD CLASS	PROJECT TYPE
Nursing Home	2 Family	CITY COUNCIL	ARTERIAL	MHD PROJECT
Office Building	3 Family	CONSERVATION	SECONDARY	COW PROJECT
Other	Apartments	PLANNING BOARD	RESIDENTIAL	PUBLIC UTILITY PROJECT
Parking Lot (only)	Condominium	ZBA		GENERAL CONTRACTING
Restaurant	Duplex			
School	Townhouse			
Shopping Mall				

NAME OF APPLICANT		
ADDRESS		
CITY/TOWN	STATE:	ZIP CODE:
E-MAIL ADDRESS	PHONE #	FAX #
CONTACT NAME	CELL #	

NAME OF EXCAVATOR (If different than Applicant)		
ADDRESS		
CITY/TOWN	STATE:	ZIP CODE:
E-MAIL ADDRESS	PHONE #	CELL #

NAME OF PROPERTY OWNER:		
ADDRESS		
CITY/TOWN	STATE:	ZIP CODE:
E-MAIL ADDRESS	PHONE #	CELL #

**PART 2 - STREET OPENING / OBSTRUCTION PERMIT INFO**  
 (complete for work within public right of way)

PAGE # 2

ADDRESS OF PROPOSED WORK:

PROPOSED WORK FOR				PERMIT FEE:			
<input type="checkbox"/>	BUILDING RENOVATION	<input type="checkbox"/>	SIDEWALK				
<input type="checkbox"/>	CATV UTILITY	<input type="checkbox"/>	STREET FURNITURE & TREES				
<input type="checkbox"/>	ELECTRIC UTILITY	<input type="checkbox"/>	SUBSURFACE EXPLORATION				
<input type="checkbox"/>	EVENT, FESTIVAL OR OUTDOOR CAFÉ	<input type="checkbox"/>	TELECOM UTILITY				
<input type="checkbox"/>	GAS UTILITY	<input type="checkbox"/>	TELEPHONE UTILITY				
<input type="checkbox"/>	ROADWAY	<input type="checkbox"/>	TRAFFIC & PARKING				
<input type="checkbox"/>	SEWER OR DRAINAGE UTILITY	<input type="checkbox"/>	WATER UTILITY				
DESCRIBE PROPOSED WORK IN DETAIL							
FIELD CONDITIONS		TRAFFIC CONTROL		REQUIRED RESTORATION			
<input type="checkbox"/>	Approved Plan Attached.	<input type="checkbox"/>	Asphalt Walk	<input type="checkbox"/>	Police Detail	<input type="checkbox"/>	Flowable Fill
<input type="checkbox"/>	Signals w/i 50 ft	<input type="checkbox"/>	Concrete Walk	<input type="checkbox"/>	Traffic Control Devices	<input type="checkbox"/>	Infrared Treatment
<input type="checkbox"/>	Handicap Ramp	<input type="checkbox"/>	Streetscape Walk	<input type="checkbox"/>	Detour w/attached Plan	<input type="checkbox"/>	Curb to Curb Paving
<input type="checkbox"/>	Parking Meter	<input type="checkbox"/>	Asphalt Berm	<input type="checkbox"/>		<input type="checkbox"/>	8ft Grind & Overlay
<input type="checkbox"/>	Street Tree	<input type="checkbox"/>	Granite Curb	<input type="checkbox"/>		<input type="checkbox"/>	Traffic Markings
<input type="checkbox"/>	Streetscape Furniture	<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>	Traffic Loops

**PART 3 - DRAIN PERMIT INFO** (complete for all sewer and drain work)

MAINTENANCE ITEMS		TYPE OF DRAIN PERMIT		PERMIT FEE:			
<input type="checkbox"/>	GREASE INTERCEPTOR	<input type="checkbox"/>	NEW SANITARY CONNECTION				
<input type="checkbox"/>	HYDRODYNAMIC SEPARATOR	<input type="checkbox"/>	NEW SANITARY CONNECTION (LATERAL ONLY)				
		<input type="checkbox"/>	NEW SURFACE CONNECTION				
DEP CERTIFICATE OF COMPLIANCE REQUIRED		<input type="checkbox"/>	REPAIR SANITARY CONN / MAIN				
<input type="checkbox"/>	MINOR SEWER CONNECTION OR MAIN EXT	<input type="checkbox"/>	REPAIR SURFACE CONN / MAIN				
<input type="checkbox"/>	MAJOR SEWER CONNECTION OR EXTENSION	<input type="checkbox"/>	SEWER CAPPING				
NEW SANITARY CONNECTIONS ONLY		<input type="checkbox"/>				<input type="checkbox"/>	# OF GALLONS OR
<input type="checkbox"/>	NEW CONSTRUCTION	<input type="checkbox"/>				<input type="checkbox"/>	# OF BEDROOMS
<input type="checkbox"/>	TRANSFER OFF SEPTIC	<input type="checkbox"/>		<input type="checkbox"/>	\$ ASSESSMENT		
<input type="checkbox"/>	REHAB / CHANGE OF USE	<input type="checkbox"/>		<input type="checkbox"/>			
WYE LOCATION: INCH ON		SIDE		FT OF MH #			
CONNECTION ENTERS		STREET					

**PART 4 - INSPECTION PERMIT INFORMATION** (complete for all main line and roadway work)

TYPE OF PERMIT		FROM (enter street name)	LENGTH	PERMIT FEE
<input type="checkbox"/>	CONST NEW OR RE-LAY EXISTING SEWER MAIN			
<input type="checkbox"/>	CONST NEW OR RELAY EXISTING DRAIN MAIN			
<input type="checkbox"/>	CONST NEW OR RELAY EXISTING WATER MAIN			
<input type="checkbox"/>	CONST NEW OR RE-CONSTRUCT EXIST ROADWAY			

**PART 5 - TRENCH PERMIT INFORMATION**

PAGE # 3

ADDRESS OF PROPOSED WORK:
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DESCRIPTION, LOCATION, AND PURPOSE OF PROPOSED TRENCH:	PERMIT FEE
Please describe the exact location of the proposed trench and its purpose (include a description of what is (or is intended ) to be laid in proposed trench (eg; water pipes, electric conduit, etc.) Please use reverse side if additional space is needed.	

NAME OF COMPETENT PERSON: (as defined by 520 CMR 7.02)	
NAME OF PERSON PERFORMING EXCAVATION:	
MASSACHUSETTS HOISTING LICENSE #	EXPIRATION DATE:
LICENSE GRADE	

NAME OF INSURER:		
INSURANCE CERTIFICATE #	EXPIRATION DATE:	
NAME OF AGENT		
ADDRESS	PHONE #	FAX #
CITY/TOWN	STATE:	ZIP CODE:

**PART 6 - FEES AND COMMENTS**

TOTAL PERMIT FEES	PERMIT AMT
CREDIT / EXEMPTION EXPLANATION	CREDIT AMOUNT
FINANCING EXPLANATION	FINANCED AMT
TOTAL AMOUNT DUE	TOTAL AMT DUE
	CHECK #
INSPECTOR'S COMMENTS	DATE APPROVED
	EXPIRATION DATE
	SEWER ASSESSMENT
	CHECK #

**PART 7 - SIGNATURES**

PAGE # 4

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<b>ADDRESS OF PROPOSED WORK:</b>	<b>PERMIT #</b>
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BY SIGNING THIS FORM, THE APPLICANT, OWNER, AND EXCAVATOR ALL ACKNOWLEDGE AND CERTIFY THAT THEY ARE FAMILIAR WITH, OR, BEFORE COMMENCEMENT OF THE WORK, WILL BECOME FAMILIAR WITH, ALL LAWS AND REGULATIONS APPLICABLE TO WORK PROPOSED, INCLUDING OSHA REGULATIONS, G.L. c. 82A, 520 CMR 7.00 et seq., AND ANY APPLICABLE MUNICIPAL ORDINANCES, BY-LAWS AND REGULATIONS AND THEY COVENANT AND AGREE THAT ALL WORK DONE UNDER THE PERMIT ISSUED FOR SUCH WORK WILL COMPLY THEREWITH IN ALL RESPECTS AND WITH THE CONDITIONS SET FORTH BELOW.

THE UNDERSIGNED OWNER AUTHORIZES THE APPLICANT TO APPLY FOR THE PERMIT AND THE EXCAVATOR TO UNDERTAKE SUCH WORK ON THE PROPERTY OF THE OWNER, AND ALSO, FOR THE DURATION OF CONSTRUCTION, AUTHORIZES PERSONS DULY APPOINTED BY THE MUNICIPALITY TO ENTER UPON THE PROPERTY TO MONITOR AND INSPECT THE WORK FOR CONFORMITY WITH THE CONDITIONS ATTACHED HERETO AND THE LAWS AND REGULATIONS GOVERNING SUCH WORK.

THE UNDERSIGNED APPLICANT, OWNER AND EXCAVATOR AGREE JOINTLY AND SEVERALLY TO REIMBURSE THE MUNICIPALITY FOR ANY AND ALL COSTS AND EXPENSES INCURRED BY THE MUNICIPALITY IN CONNECTION WITH THIS PERMIT AND THE WORK CONDUCTED THEREUNDER, INCLUDING BUT NOT LIMITED TO ENFORCING THE REQUIREMENTS OF STATE LAW AND CONDITIONS OF THIS PERMIT, INSPECTIONS MADE TO ASSURE COMPLIANCE THEREWITH, AND MEASURES TAKEN BY THE MUNICIPALITY TO PROTECT THE PUBLIC WHERE THE APPLICANT OWNER OR EXCAVATOR HAS FAILED TO COMPLY THEREWITH INCLUDING POLICE DETAILS AND OTHER REMEDIAL MEASURES DEEMED NECESSARY BY THE MUNICIPALITY.

THE UNDERSIGNED APPLICANT, OWNER AND EXCAVATOR AGREE JOINTLY AND SEVERALLY TO DEFEND, INDEMNIFY, AND HOLD HARMLESS THE MUNICIPALITY AND ALL OF ITS AGENTS AND EMPLOYEES FROM ANY AND ALL LIABILITY, CAUSES OR ACTION, COSTS, AND EXPENSES RESULTING FROM OR ARISING OUT OF ANY INJURY, DEATH, LOSS, OR DAMAGE TO ANY PERSON OR PROPERTY DURING THE WORK CONDUCTED UNDER THIS PERMIT.

AS THE APPLICANT, I AM FAMILIAR WITH THE RULES, REGULATIONS AND ORDINANCES OF THE CITY OF WORCESTER AND ATTEST THAT I WILL DO ALL WORK IN CONFORMANCE WITH SAID RULES, REGULATIONS AND ORDINANCES.

THE APPLICANT SHALL INDEMNIFY AND SAVE HARMLESS THE CITY OF WORCESTER AND ALL OFFICERS, AGENTS AND EMPLOYEES AGAINST ALL SUITS, CLAIMS, OR LIABILITY OF EVERY NAME, NATURE, AND DESCRIPTION ARISING OUT OF OR IN CONSEQUENCE OF THE ACTS OR OMISSIONS OF THE APPLICANT IN THE PERFORMANCE OF THE WORK AUTHORIZED BY THIS PERMIT AND/OR THE APPLICANT'S FAILURE TO COMPLY WITH THE TERMS AND CONDITIONS HEREOF, AND WILL AT HIS OWN COST AND EXPENSE DEFEND ANY AND ALL SUCH SUITS AND ACTIONS.

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<b>APPLICANT SIGNATURE</b>	<b>DATE</b>
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<b>EXCAVATOR SIGNATURE (IF DIFFERENT)</b>	<b>DATE</b>
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<b>OWNER'S SIGNATURE (IF DIFFERENT)</b>	<b>DATE</b>
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<b>PERMIT APPROVED BY</b>	<b>DATE</b>
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**PART 8 - SKETCH**

PAGE # 5

ADDRESS OF PROPOSED WORK:	PERMIT #

*Above sketch should show location and extent of proposed work. Indicate relationship to existing poles, hydrants, trees, traffic signals, nearest intersection, etc. Include north arrow.*