

The City of Waltham



**Invites
Interested Parties
To propose the best offer and or bid
For the service or product herewith described:**

**RESURFACING of BITUMINOUS ROADWAYS and SIDEWALK REPAIRS
INDETERMINATE, CHAPTER 90 PROJECT**

The GENERAL BID is due: 1.30 PM WEDNESDAY APRIL 24, 2019

PRE BID Meeting and Briefing on Site: 12.00 Noon, THURSDAY APRIL 18, 2019

Meet in the Conference Room of City Hall, 610 Main Street Waltham, MA 02452

LAST DAY FOR WRITTEN QUESTIONS: 12 Noon APRIL 19, 2019

(Via e-mail ONLY to Jpedulla@city.waltham.ma.us)

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Restricted Street

DIVISION 00

**SECTION 00 02 00
CITY OF WALTHAM
MASSACHUSETTS**

NOTICE TO BIDDERS

**Resurfacing of Bituminous Roadways and
Sidewalk Repairs, Chapter 90, 2019-20**

The City of Waltham, Massachusetts invites sealed bids from Contractors for the **Resurfacing of Bituminous Roadways and Sidewalk Repairs, Chapter 90, 2019-20 , Waltham, Massachusetts** PLANS, SPECIFICATIONS and other Contract Documents may be obtained by visiting the City's Web Site at www.city.waltham.ma.us/bids

Copies of Addenda will be e- mailed to the registered Bidders without charge. Addenda will also be posted on the web site above

Sealed **BIDS** for this project will be accepted from eligible bidders at the Purchasing Department, Waltham City Hall, 610 Main Street, Waltham, MA 02452 until **1:30 pm Wednesday April 24, 2019** at which place and time they shall be publicly opened, read aloud and recorded for presentation to the Awarding Authority.

A **PRE-BID CONFERENCE** will be held for all interested parties at City hall, 610 Main Street Waltham, MA 02452 **12:00 Noon Thursday April 18, 2019**. Attendance at this pre-bid conference is strongly recommended but not mandatory for parties submitting a bid. It will be the only opportunity to visit the site prior to the bid opening.

LAST DAY FOR WRITTEN QUESTIONS is 12 noon April 19, 2019. Questions are to be sent via e-mail only to Jpedulla@city.waltham.ma.us

Each general bid shall be accompanied by a bid deposit in the form of a bid bond, certified check, or a treasurer's or cashier's check issued by a responsible bank or trust company, payable to the City of Waltham in the amount of five percent (5%) of the value of the bid

Bids shall be made on the basis of the Minimum Wage Rates as determined by the Commissioner of Labor and Industries, Pursuant to the Provisions of Chapter 30, 39M of Massachusetts General Laws, a copy of which is found in the City's Web site at www.city.waltham.ma.us/bids .

Bidders' selection procedures and contract award shall be in conformity with the rules of Commonwealth of Massachusetts statute Chapter 30, 39M.

Performance and Labor and Materials payment bonds each in the full amount of the contract price will be required from the successful bidder.

The Awarding Authority reserves the right to reject any or all general bids, if it be in the public interest to do so, and to reject any sub-bid on any sub-trade if it determines that such sub-bid does not represent the sub-bid of a person competent to perform the work as specified or that less than three such sub-bids were received and that the prices are not reasonable for acceptance without further competition.

The successful bidder will be required to furnish a Certificate of Insurance, naming the City of Waltham as an Additional Named Insured with a waiver of subrogation, for General Liability and Vehicle Liability in the amount of \$1,000,000 per occurrence and \$1,000,000 in the aggregate and Worker's Compensation Insurance as prescribed by law.

In accordance with the laws of the Commonwealth of Massachusetts the undersigned certifies that all employees to be employed at the worksite will have successfully completed a course in construction safety and health approved by OSHA that is at least 10 hours in duration at the time the employee begins work and shall furnish documentation of successful completion of said course with the first certified payroll report for each employee.

CITY ORDINANCE. APPROVAL OF CONTRACTS BY MAYOR, SEC. 3-12 OF THE CITY ORDINANCES.

All contract made by any department, board or commission where the amount involved is two thousand dollars (\$2,000) or more shall be in writing, and no such contract shall be deemed to have been made or executed until the approval of the Mayor is affixed thereto. Any construction contract shall, and all other contracts may, where the contract exceed five thousand dollars (\$5,000) be required to be accompanied by a bond with sureties satisfactory to the Mayor.

The city reserves the right to make multiple awards to multiple companies.

ELEGIBLE CONTRACTORS MUST BE DOT PRE-QUALIFIED

CITY OF WALTHAM

Joseph Pedulla, CPO
Purchasing Department
City Hall, 610 Main Street
Waltham, MA 02452

SECTION 00 10 00 - INSTRUCTION TO BIDDERS

PART 1 - GENERAL

1.01 SCHEDULE OF DATES

- A. Advertisement appears in Central Register, Plans and Specifications ready for Bidders at the Offices of the Waltham Purchasing Agent after 8:30 P.M. on November 8, 2017.
- B. **Pre-bid meeting: April 18, 2019 at 12:00 Noon. Meet in the Conference Room of City Hall, 610 Main Street Waltham, MA 02452**
- C. **Questions** and requests for interpretations may be submitted in writing via e-mail ONLY to Jpedulla@city.waltham.ma.us up to **12:00 noon April 19, 2019.**
- D. Addenda will be issued with interpretations as determined by the Purchasing Department only via e-mail and posting on the web site.
- E. **General Bids Deadline**: Submit your bid response no later than **1:30 pm. Wednesday April 24, 2018** to Joseph Pedulla, CPO, City of Waltham Purchasing Department 610 Main Street Waltham, MA 02452

1.02 BIDDING PROCEDURE

- A. Bids for the work are subject to the provisions of General Laws, Chapter 30, 39M, as amended. Regulations governing the bidding procedures as set forth in the above mentioned amended General Laws must be followed.
- B. In the event of any inconsistencies between any of the provisions of these Contract Documents and of the cited statute, anything herein to the contrary notwithstanding, the provisions of the said statute shall control.
- C. No General Bid received by the Awarding Authority after the time respectively established herein for the opening of General Bids will be considered, regardless of the cause for the delay in the receipt of any such bid.

1.03 WITHDRAWAL OF BIDS

- A. Bids may be withdrawn prior to the time respectively established for the opening of General Bids only on written request to the Awarding Authority.
- B. **The city reserves the right to make multiple awards to multiple companies.**

1.04 INTERPRETATION OF CONTRACT DOCUMENTS

- A. No oral interpretation will be made to any bidder. All questions or requests for interpretations must be made in writing to the Architect.
- B. Every interpretation made to a bidder will be in the form of an Addendum to the drawings and/or specifications, which will be made available to all persons to whom Contract Documents have been issued.
- C. Failure of the Awarding Authority to send, or of any bidder to receive any such Addendum shall not relieve any bidder from obligation under his bid as submitted.
- D. All such Addenda shall become a part of the Contract Documents.

1.05 EXAMINATION OF SITE AND CONTRACT DOCUMENTS

- A. Each bidder may visit the site of the proposed work and fully acquaint himself with conditions as they exist, and may also thoroughly examine the Contract Documents. Failure of any bidder to visit the site and acquaint himself with the Contract Documents shall not relieve any bidder from any obligation with respect to his bid.
- B. By submitting a bid, the bidder agrees that the Contract Documents are adequate and that the required result for a full and complete installation can be produced. The successful bidder shall furnish any and all labor, materials, insurance, permits and all other items needed to produce the required result to the satisfaction of the Awarding Authority.

1.06 BID SECURITY

- A. The General Contractor's bid must be accompanied by bid security in the amount of five percent (5%) of the bid.
- B. At the option of the bidder, the security may be bid bond, certified, treasurer's or cashier's check issued by a responsible bank or trust company. No other type of bid security is acceptable.

Bid Bonds shall be issued by a Surety Company qualified to do business under the laws of the Commonwealth of Massachusetts.

- C. Certified, Treasurer's or Cashier's check shall be made payable to the City of Waltham, Massachusetts.

- D. The bid security shall secure the execution of the Contract and the furnishing of a Performance and Payment Bond by the successful General Bidder for 100% of the contract value.
- E. Should any General Bidder to whom an award is made fail to enter into a contract therefore within five (5) days, Saturdays, Sundays and Legal Holidays, excluded, after notice of award has been mailed to him or fail within such time to furnish a Performance Bond and also a Labor and Materials or Payment Bond as required, the amount so received from such General Bidder through his Bid Bond, Certified, Treasurer's or Cashier's check as bid deposit shall become the property of the City of Waltham, Massachusetts as liquidated damages; provided that the amount of the bid deposit, which becomes the property of the City of Waltham, Massachusetts, shall not in any event exceed the difference between his bid price and the bid price of the next lowest responsible and eligible bidder; and provided further that, in case of death, disability, bona fide clerical error or mechanical error of a substantial nature, or other unforeseen circumstances affecting the General Bidder, his deposit shall be returned to him.

1.07 BID FORM

- A. General Bids shall be submitted on the "FORM FOR GENERAL BID" enclosed. Erasures or other changes must be explained or noted over the signature of the bidder.
- B. Bid forms must be completely filled in. Bids which are incomplete, conditional, or obscure, or which contain additions not called for will be rejected.
- C. General Bidders shall submit one set of executed bid forms to the Awarding Authority.

1.08 SUBMISSION OF BIDS AND BID SECURITIES

- A. Each bid submitted by a General Contractor shall be enclosed in a sealed envelope that shall be placed with the bid security in an outer envelope. The outer envelope shall be sealed and clearly marked as follows:

(Firm Name): _____

Resurfacing of Bituminous Roadways and Sidewalk Repairs, Chapter 90, 2019-20

1.09 AWARD OF CONTRACT

- A. The Contract shall be awarded to the lowest responsible and eligible General Bidder on the basis of competitive bids in accordance with the procedure set
- A1. **The city reserves the right to make multiple awards to multiple companies.**

forth in the provision of Chapter 30, §39M of the General Laws of the Commonwealth of Massachusetts.

- B. If the bidder selected as the General Contractor fails to perform his agreement to execute a contract in accordance with the terms of his General Bid, and furnish a Performance Bond and also a Labor and Materials or Payment Bond, as stated in his General Bid an award shall be made to the next lowest responsible and eligible bidder.
- C. The words “lowest responsible and eligible bidder” shall be the bidder whose name is the lowest of those bidders possessing the skill, ability and integrity necessary for the faithful performance of the work and who shall certify that he is able to furnish labor that can work in harmony with all other elements of labor employed, or to be employed, on the work. Essential information in regard to such qualifications shall be submitted in such form as the Awarding Authority may require.
- D. Action on the award will be taken within sixty (60) days, Saturdays, Sundays and Legal Holidays excluded after the opening of the bids.

1.10 SECURITY FOR FAITHFUL PERFORMANCE

- A. The successful bidder must deliver to the Awarding Authority simultaneously with his delivery of the executed contract, an executed Performance Bond, and also a Labor and materials or Payment Bond, each issued by a surety company qualified to do business under the laws of the Commonwealth and satisfactory to the Awarding Authority and each in the sum of One Hundred Percent (100%) of the Contract Price, as surety for the faithful performance of his contract, and for the payment of all persons performing labor or furnishing materials in connection therewith. Said bonds shall provide that, if the General Contractor fails or refuses to complete the Contract, the Surety Company will be obligated to do so.
- B. Premiums are to be paid by the General Contractor, and are to be included in the Contract Price.

1.11 EQUAL OPPORTUNITY

- A. The City of Waltham is an Equal Opportunity employer and will require compliance with the minority business enterprise plan (MBE) on file in the Purchasing Department

1.12 PRE-BID MEETING

- A. A pre-bid conference will be held at the site on **April 18, 2019 at 12:00 Noon. Meet in the Conference of City Hall, 610 Main street Waltham, MA 02452.** Interested parties are encouraged to attend given that this will be the only time the site is available prior to the submission of bids. Further, prior to the bid opening, potential bidders may not go onto the site any time other than the aforementioned pre-bid conference.

1.13 SITE VISITS

- A. Prospective bidders are prohibited from going onto the site prior to the Bid Opening or any time other than as set forth in Section 1.12 above, unless authorized by the Architect in an Addendum to the bid documents.

1.14 CONTRACT DOCUMENTS

- A. The Awarding Authority shall make available the bid documents and addenda in the City Web site at www.city.waltham.ma.us/bids. No plans will be mailed.

1.141 TERMINATION FOR CONVENIENCE

The City of Waltham may, in its sole discretion, terminate all or any portion of this Agreement or the work required hereunder, at any time for its convenience and/or for any reason by giving written notice to the Contractor thirty (30) calendar days prior to the effective date of termination or such other period as is mutually agreed upon in advance by the parties.

If the Contractor is not in default or in breach of any material term or condition of this Agreement, the Contractor shall be paid its reasonable, proper and verifiable costs up to the of termination to the extent previous payments made by the City of Waltham to the Contractor have not already done so. Such payment shall be the Contractor's sole and exclusive remedy for any Termination for Convenience, and upon such payment by the City of Waltham to the Contractor, the City of Waltham shall have no further obligation to the Contractor.

The City of Waltham shall not be responsible for the Contractor's anticipatory profits or overhead costs attributable to unperformed work.

1.15 EQUALITY

- A. Except where otherwise specifically provided to the contrary, the words “or approved equal” are hereby inserted immediately following the name or description of each article, assembly, system, or any component part thereof in the Contract Documents. It is the Contractor’s responsibility to provide all the research and documentation that would prove a product or assembly is “equal”. Failure to provide research or documentation does not alleviate the Contractor’s responsibility to meet the schedule.

1.16 TAX FREE NUMBER

- A. The City of Waltham has a tax-free number.

1.17 SCHEDULE

- A. The work of the Contract shall be Substantially **Completed by no later than November 1, 2019**

1.18 INTENTIONALLY LEFT BLANK

1.19 WEEKLY JOB MEETINGS

- A. There will be a weekly job meeting at the site on the same agreed-upon day and time. Time will be provided to discuss and view the progress of the work and to answer questions. The Contractor’s job Superintendent and Project Manager shall attend each meeting. The City reserves the right to have job meetings conducted in the location of its choosing.

1.20 PROJECT SUPERINTENDENT

- A. The Contractor shall provide the same person as Superintendent for the entire duration of the project. Failure to maintain the same person in this position shall result in a One Thousand Dollar (\$1,000.00) penalty per incident which shall cover the Architect’s time to re-orient new personnel.

1.21 AWARD

- A. The Awarding Authority reserves the right to reject any or all bids if it be in the public interest to do so, and to act upon the bids and make its award in any lawful manner.

1.22 PREVAILING WAGE SCHEDULE

- A. Bids shall be made on the basis of the Prevailing Wage Schedule, as determined by the Commissioner of Labor and Industries, pursuant to the provision of the Massachusetts General Laws. The Prevailing wage Schedule for this project can be found in the City's web Site at www.city.waltham.ma.us/bids

1.23 CONFLICT OF INTEREST

- A. A bidder filing a proposal thereby certifies that the proposal is made in good faith, without fraud, collusion, or connection of any kind with any other bidder for the same work, and that the bidder is competing solely on its own behalf without connection with, or obligation to, any undisclosed person or firm.

1.24 PROCEED ORDERS

- A. No bidder is to proceed without a proceed order as set out in the contract.

1.25 INTENTIONALLY LEFT BLANK

1.26 COMPLIANCE WITH MASSACHUSETTS GENERAL LAWS

- A. Pursuant to Massachusetts General Laws, Chapter 62C, Section 49A, I certify under the penalty of perjury that I, to the best of my knowledge and belief have filed all state tax returns and paid all the state taxes required under law.

1.27 CONSTRUCTION BARRICADES

- A. The General Contractor shall provide all barricades to enclose the work area to prevent unauthorized access to the site.
 - 1. The barricades shall provide enough room for all construction activities to be performed while separated from pedestrians, students, and staff on site.
 - 2. Safety is the sole responsibility of the Contractor and any barricades necessary to protect the work and the public shall be provided.
 - 3. Provide entrance protection.

1.28 INSURANCE

- A. The contractor shall purchase and maintain, at his expense all insurance required by the Contract. Documents and all insurance required by the applicable laws of Massachusetts, including but not limited to, General Laws, Chapter 146, in connection with all hoisting equipment.

- B. The Contractor shall purchase and maintain such insurance as will protect him from claims under workmen's compensation acts and from claims for damages because of bodily injury, including death and all property damage including, without limitation, damage to buildings and adjoining the site of construction which might arise from and during operations under this contract, whether such operations be by himself or by any subcontractor or anyone directly or indirectly employed by either of them including:

- 1. Statutory Worker's Compensation and Employer's Liability

The contractor shall provide insurance for the payment of compensation and the furnishing of other benefits under Chapter 152 of the General Laws (so-called Worker's Compensation Act) to all persons to be employed under this contract and shall continue in force such insurance as aforesaid shall be deemed a material breach of this Contract and shall operate as an immediate termination thereof. The contractor shall, without limiting the generality of the foregoing, conform to the provisions of Chapter 30, 39M of the General Laws, which Section is incorporated herein by reference and made a part of hereof.

- 2. Comprehensive General Liability Insurance

Minimum bodily injury limits of \$ 1,000,000 per person and \$ 1,000,000 per accident, and property damage limits of \$ 500,000 per accident and \$ 1,000,000 aggregate during any 12 month period, shall include the following:

- a. Public liability (bodily injury and property damage)
- b. X.C.U. (explosion, collapse, and underground utilities)
- c. Independent contractor's protective liability.
- d. Products and completed operations.
- e. Save harmless agreement for Owner and Architects set forth in ARTICLE 10.11 of the GENERAL CONDITIONS.

- 3. Comprehensive All Risk Motor Vehicle Liability Insurance

Minimum bodily injury limits of \$ 500,000 per person, \$ 1,000,000 per accident, and property damage limit of \$ 1,000,000 per accident.

4. All Risk Insurance

Covering all Contractors' equipment with a provision for Waiver of Subrogation against the Owner.

5. Excess Liability Insurance in Umbrella Form with combined Bodily Injury and Property Damage Limit of \$ 1,000,000.

6. **City of Waltham shall be a Named Additional Insured with a Waiver of Subrogation on the insurance policy for this project.**

1.29 SITE ACCESS

A. The General Contractor shall gain access to the site via routes approved by the Owner.

1. The General Contractor as part of the bid price will restore all roads, curbs, driveways, walks and grassed or landscaped areas damaged during construction.

1.30 CONSTRUCTION TRAILER

A. The General Contractor shall locate the construction trailer at locations approved by the Owner.

B. The General Contractor shall locate all on site stored or staged materials within the enclosed area designated by the Owner.

1.31 INTENTIONALLY LEFT BLANK

1.32 COMPLETE BID FORMS

A. Please Note: Each bidder must fill in all the blanks on all the bid forms, even if the information is "zero dollars" or "not applicable". Also, please acknowledge all Addenda issued by the Awarding Authority.

2.00 FUNDS APPROPRIATION and LOAN AUTHORIZATION.

A THE CONTRACT OBLIGATION ON BEHALF OF THE CITY IS SUBJECT TO PRIOR APPROPRIATION OF MONIES FROM THE GOVERNMENTAL BODY AND AUTHORIZATION BY THE MAYOR.

3.0 CITY ORDINANCE. APPROVAL OF CONTRACTS BY MAYOR, SEC. 3-12 OF THE CITY ORDINANCES.

A All contract made by any department, board or commission where the amount involved is two thousand dollars (\$2,000) or more shall be in writing, and no such contract shall be deemed to have been made or executed until the approval of the Mayor is affixed thereto. Any construction contract shall, and all other contracts may, where the contract exceed five thousand dollars (\$5,000) be required to be accompanied by a bond with sureties satisfactory to the Mayor

Signature of Individual or Corporate Name by: _____
(Signature of Corporate Officer)

Print Name: _____ Title: _____

Social Security Number or Federal Identification Number: _____

END OF SECTION

Section 00 31 00

Form for General Bid

TO: Mr. Joseph Pedulla, Chief Procurement Officer
CITY OF WALTHAM, MASSACHUSETTS

The undersigned, as bidder, hereby declares that he has carefully examined the specifications and provisions attached hereto, and that he proposes and agrees, if this Bid is accepted, that he will contract with the CITY OF WALTHAM in the form prescribed for the Resurfacing of Bituminous Roadways and Sidewalk Repairs, Chapter 90, 2019-20 as herein specified and will provide therefore all necessary materials, labor, machinery and equipment, and will perform all the work in the manner prescribed and according to the requirements of the OWNER.

Accompanying this Bid is cash or a treasurer's check payable to the City of Waltham, or a Bid bond in the amount of five percent of the CONTRACTOR'S Bid price

If this Bid shall be accepted and the undersigned shall fail to execute the required contract, in accordance with the terms herein set forth, within five days from the date of mailing a notice to the undersigned at the address given below that the contract is ready for signature, the City of Waltham may, at its option, determine that this Bid shall be null and void, and the aforesaid cash or checks shall become the property of the City of Waltham; otherwise the said cash or checks shall be returned to the undersigned.

BIDDER ACKNOWLEDGES RECEIPT OF THE FOLLOWING ADDENDA:

The undersigned, as Bidder, hereby declares that he will take full payment thereof sums based on the following unit prices as applied to the various quantities ordered by the OWNER from time to time during the life of this contract.

102.000	5 EA	TREE PLANTING (2-INCH CALIPER PIN OAK) _____ PER EA	Unit Price	Extended Price
103.000	5 EA	TREE REMOVED (DIAMETER UNDER 24 INCHES) _____ PER EA	Unit Price	Extended Price
104.000	5 EA	TREE REMOVED (DIAMETER OVER 24 INCHES) _____ PER EA	Unit Price	Extended Price
105.000	10 EA	STUMP REMOVED _____ PER EA	Unit Price	Extended Price
120.100	3,500 CY	UNCLASSIFIED EXCAVATION _____ PER CY	Unit Price	Extended Price
127.000	7,500 SY	CEMENT CONCRETE EXCAVATION _____ PER SY	Unit Price	Extended Price
129.010	140,000 SY	COLD PLANING _____ PER SY	Unit Price	Extended Price
151.220	1,000 CY	GRAVEL BORROW FOR SIDEWALKS _____ PER CY	Unit Price	Extended Price

151.900	2,000 TN	CRUSHER RUN _____ PER TON	Unit Price	Extended Price
154.001	100 TN	SAND FOR RECLAMATION _____ PER TON	Unit Price	Extended Price
220.000	1,000 EA	DRAINAGE STRUCTURE ADJUSTED _____ EACH	Unit Price	Extended Price
220.500	500 VF	DRAINAGE STRUCTURE REMODELED _____ PER VERTICAL FOOT	Unit Price	Extended Price
222.010	10 EA	FRAME AND GRATE OR COVER (IN PLACE) _____ EACH	Unit Price	Extended Price
357.060	10 EA	6" SERVICE GATE BOX _____ EACH	Unit Price	Extended Price
358.100	350 EA	SIDEWALK GATE BOX ADJUSTED _____ EACH	Unit Price	Extended Price
358.200	2,500 EA	ROADWAY GATE BOX ADJUSTED _____ EACH	Unit Price	Extended Price

403.001	30,000 SY	ROADWAY RECLAMATION AND EXCAVATION _____ PER SQUARE YARD	Unit Price	Extended Price
405.000	500 SY	TRENCH REPAIR _____ PER SQUARE YARD	Unit Price	Extended Price
440.000	2,000 LB	CALCIUM CHLORIDE FOR DUST CONTROL _____ PER POUND	Unit Price	Extended Price
460.000	35,000 TN	CLASS I BITUMINOUS CONCRETE (TYPE I-1) (ROADWAY) _____ PER TON	Unit Price	Extended Price
460.100	4,500 TN	CLASS I BITUMINOUS CONCRETE (TYPE I-1) (SIDEWALKS, DRIVES, PERMANENT PATCHING) _____ PER TON	Unit Price	Extended Price
460.300	500 TN	CLASS I BITUMINOUS CONCRETE (TYPE I-1) (ROADWAY NIGHT WORK) _____ PER TON	Unit Price	Extended Price
464.000	9,000 GL	BITUMEN FOR TACK COAT _____ PER GALLON	Unit Price	Extended Price
470.000	1,000 LF	BITUMINOUS CONCRETE CURB (TYPE 2) _____ PER LINEAR FOOT	Unit Price	Extended Price

504.000	500 LF	GRANITE CURB TYPE VA-4 (STRAIGHT) _____ PER LINEAR FOOT	Unit Price	Extended Price
504.100	250 LF	GRANITE CURB TYPE VA-4 (CURVED) _____ PER LINEAR FOOT	Unit Price	Extended Price
514.000	2 EA	GRANITE CURB INLET - STRAIGHT _____ EACH	Unit Price	Extended Price
515.000	1 EA	GRANITE CURB INLET - STRAIGHT _____ EACH	Unit Price	Extended Price
516.000	1 EA	GRANITE CURB CORNER TYPE A (2' RADIUS) _____ EACH	Unit Price	Extended Price
517.000	1 EA	GRANITE CURB CORNER TYPE B (3' RADIUS) _____ EACH	Unit Price	Extended Price
520.000	100 LF	CONCRETE CURB (STRAIGHT) _____ PER LINEAR FOOT	Unit Price	Extended Price
520.100	100 LF	CONCRETE CURB (CURVED) _____ PER LINEAR FOOT	Unit Price	Extended Price

580.000	6,000 LF	CURB REMOVE AND RESET _____ PER LINEAR FOOT	Unit Price	Extended Price
701.050	10,000 SY	4" CEMENT CONCRETE SIDEWALK FIBERMESH REINFORCED _____ PER SQUARE YARD	Unit Price	Extended Price
701.150	10,000 SY	6" CEMENT CONCRETE SIDEWALK FIBERMESH REINFORCED _____ PER SQUARE YARD	Unit Price	Extended Price
702.000	300 EA	DETECTABLE TILE SURFACE FOR HANDICAP RAMPS _____ EACH	Unit Price	Extended Price
711.000	5 EA	STONE BOUND REMOVED AND RESET _____ EACH	Unit Price	Extended Price
711.100	3 EA	STONE BOUND FRAME AND COVER _____ EACH	Unit Price	Extended Price
751.000	1,500 CY	LOAM BORROW _____ PER CUBIC YARD	Unit Price	Extended Price
765.000	3,000 SY	SEEDING _____ PER SQUARE YARD	Unit Price	Extended Price

765.650	3,000 SY	HYDRO SEEDING PER SQUARE YARD	Unit Price	Extended Price
801.300	100 LF	3" TRAFFIC CONDUIT PER LINEAR FOOT	Unit Price	Extended Price
819.837	5,500 LF	LOOP DETECTORS WITH LEAD-IN WIRES PER LINEAR FOOT	Unit Price	Extended Price
819.840	1 EA	TRAFFIC CAMERA EACH	Unit Price	Extended Price
819.850	1 EA	TRAFFIC CAMERA RELATED EQUIPMENT EACH	Unit Price	Extended Price
819.860	25 LF	SENSOR CABLE FOR TRAFFIC CAMERAS PER LINEAR FOOT	Unit Price	Extended Price
850.221	3,000 SF	SAFETY SIGNING FOR CONSTRUCTION OPERATIONS PER SQUARE FOOT	Unit Price	Extended Price
854.014	500 LF	TEMPORARY PAVEMENT MARKINGS – 4" PAINT PER LINEAR FOOT	Unit Price	Extended Price

854.100	20 SF	PAVEMENT MARKINGS REMOVAL PER SQUARE FOOT	Unit Price	Extended Price
864.040	3,000 SF	PAVEMENT ARROWS AND LEGENDS REFLECTORIZED WHITE THERMOPLASTIC PER SQUARE FOOT	Unit Price	Extended Price
864.050	100 EA	SHARROW (PAINTED) EACH	Unit Price	Extended Price
865.100	25,000 SF	CROSSWALKS AND STOP LINES REFLECTORIZED WHITE THERMOPLASTIC PER SQUARE FOOT	Unit Price	Extended Price
866.040	45,000 LF	4" WHITE OR YELLOW REFLECTIVE THERMOPLASTIC LINE PER LINEAR FOOT	Unit Price	Extended Price
870.000	200 DY	PORTABLE MESSAGE BOARD PER DAY	Unit Price	Extended Price
999.001	\$300,000	TRAFFIC POLICE DOLLAR FOR DOLLAR REIMBURSEMENT	\$1.00	\$300,000
	Total Bid price in words:			
Total Bid price written in figures:			\$	

It is understood that the City of Waltham makes no provision for the allowance of price escalation for any reason. It is the responsibility of the contractor to forecast such yearly increases, if any, and make allowances in the prices offered above.

It is understood and agreed that the quantities set forth in the Bid are provided for bid comparison only and the actual quantity of work to be done may vary, as determined by the OWNER. The CONTRACTOR agrees that he shall neither have nor assert any claim for or be entitled to any additional compensation for damages or for loss of anticipated profits on work that is eliminated.

The time for completion of work under this contract shall be one year from the date of the Notice to Proceed. The City of Waltham, at its sole option, may elect to extend the contract period for an additional year.

All unit prices quoted herein shall be firm for the duration of this Contract, regardless of any changes in the cost of materials and labor, with the exception of hot mix asphalt (HMA) mixtures, diesel fuel and gasoline, and Portland cement concrete mixtures. For monthly price adjustments for these items, refer to Mass Highway documents 00811, 00812 and 00814 respectively. Copies of these documents are included in section 8. In accordance with Massachusetts General Laws, the undersigned certifies that the bidder has filed all state tax returns and paid all state taxes required by law. In accordance with Massachusetts General Laws, the undersigned certifies that all employees to be employed at the worksite will have successfully completed a course in construction safety and health approved by OSHA that is at least 10 hours in duration at the time the employee begins work and shall furnish documentation of successful completion of said course with the first certified payroll report for each employee.

BIDDER

SIGNATURE

BUSINESS ADDRESS

TELEPHONE NUMBER

FAX NUMBER

EMAIL ADDRESS

DATE

SECTION 00 33 10

PREVAILING WAGE SCHEDULE

Please visit the City Web Site at www.city.waltham.ma.us/bids for a copy of the schedules

Section 00 50 00

AGREEMENT

CITY OF WALTHAM

ARTICLE 1. This agreement, made this _____ day of _____, 2019 by and between the CITY OF WALTHAM, party of the first part, hereinafter called the CITY, by its MAYOR, and

hereinafter called the CONTRACTOR.

ARTICLE 2. Witnesseth, that the parties to this agreement, each in consideration of the agreement on the part of the others herein contained, do hereby agree, the CITY OF WALTHAM for itself, and said contractor for his heirs, executors, administrators and assigns as follows:

To furnish all equipment, machinery, tools and labor, to furnish and deliver all materials required to be furnished (except as otherwise specified) and deliver in and about the project and to do and perform all work in strict conformity with the provisions of this Contract and of the Notice to Bidders, bid, Project Manual, and Drawings hereto annexed. The said Notice to Bidders, bid, Project Manual, and Drawings are hereby made a part of this contract as fully and to the same effect as if the same had been set forth at length and incorporated in the contracts.

ARTICLE 3. In consideration of the foregoing premises the CITY agrees to pay and the CONTRACTOR agrees to receive as full compensation for everything furnished and done by the CONTRACTOR under this contract, including all work required by not included in the items herein mentioned, and also for all loss or damage arising out of the nature of the work aforesaid, or from the action of the elements, or from any unforeseen obstruction or difficulty encountered in the prosecution of the work, and for all expenses incurred by or in consequence of the suspension or discontinuance of the work specified, and for well and faithfully completing the work, and the whole thereof, as herein provided, such prices as are set forth in the accompanying bid.

This Agreement entered into as of the day and year first written above.

CITY OF WALTHAM, MASSACHUSETTS

FOR THE COMPANY

FOR THE CITY

Jeannette A. McCarthy, MAYOR,
City of Waltham
Date: _____

CONTRACTOR (Signature),
Date: _____

Company

Address

John B. Cervone, City Solicitor
Date: _____
APPROVED AS TO FORM ONLY

Michael Chiasson, Director of Public Works
Date: _____

Joseph Pedulla, CPO Purchasing Agent
Date: _____

Paul Centofanti, Auditor
Date: _____

I CERTIFY THAT SUFFICIENT FUNDS
ARE AVAILABLE FOR THIS CONTRACT

SECTION 00 50 10

PERFORMANCE BOND

CITY OF WALTHAM

KNOW ALL MEN BY THESE PRESENT THAT,

_____ as

principal and _____ as surety, are held and firmly bound unto the CITY OF WALTHAM and to such persons, firms, and corporations, who may furnish materials for or perform labor on the work, construction or improvements contemplated in the Contract hereinafter mentioned, or who may have any suits or claims for injury or damage to persons or property resulting from or arising out of the work done under this Contract, in the

SUM OF _____ DOLLARS (\$ _____)

(lawful money of the United States of America) for the payment whereof the Contractor and the Surety of Sureties bind themselves and their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH, THAT for the above burden (the Contractor) its

_____ heirs, executors, administrators and assigns, shall faithfully perform the Contract, on his part and during the life of any guaranty or warranty, for defective materials and workmanship required under this Contract, and satisfy all claims and demands incurred for the same; and shall fully indemnify and save harmless the City from all cost and damage which it may suffer by reason of failure so to do, and shall fully reimburse and repay the City all outlay and expense which the City may incur in making good any such default, and shall promptly make payment to all persons supplying labor or materials for use in the prosecution of the work provided for in said Contract; and shall indemnify and save harmless the said City, its officers and agents from any and all suits or claims for injury or damage to persons or property resulting from or arising out of the work done under this Contract, then this obligation shall be null and void; otherwise it shall remain in full force and effect.

PROVIDED, HOWEVER, that (except as to the City) no suit, action or proceeding by reason of any default whatever shall be brought on this Bond after two years from the day on which the final payment under the Contract falls due.

AND PROVIDED, that any alterations which may be made in the terms of the Contract or in the work to be done under it, or any assignment, transfer or subletting of any part of the work, or the giving by the City of any extension of time for the performance of the Contract, or any other forbearance on the part of either the City or the Contractor to the other, shall not in any way release the Contractor and the Surety of Sureties, or either or any of them, their heirs, executors, administrators, successors or assigns from their liability hereunder, notice to the Surety or Sureties of any such alterations, assignment, transfer, subletting extension or forbearance being hereby waived.

This Bond is made for the use and benefit of all persons, firms, and corporations who may furnish materials, or perform any labor for or on account of said work, construction or improvements, or who may have any suits or claims for injury or damage to persons or property resulting from or arising out of the work done under this Contract, and they and each of them are hereby made obligees hereunder the same as if their own proper names were written herein as such, and they and each of them may sue hereon in their own names for their own use and benefit.

And the Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the Contract or to the work to be performed hereunder, or the Specifications accompanying the same, shall in any way affect its obligations on this Bond, and it does hereby waive notice of any such changes, extension of time, alteration or addition to the terms of the Contract or to the work, or to the Specifications.

IN WITNESS WHEREOF, said Contractor and Surety have hereunto set their respective names this

_____ day of _____, 20_____.

WITNESSES:

(CONTRACTOR) (SEAL)

NAME _____ BY _____
(SIGNATURE AND TITLE)

ADDRESS _____
(SURETY) (SEAL)

NAME _____ BY _____
(SIGNATURE AND TITLE)

ADDRESS _____ BY _____
(ATTORNEY-IN-FACT)

POWER OF ATTORNEY

Attorneys-in-fact who sign bonds must file with each bond a certified copy of their power of attorney to sign said bonds.

SECTION 00 50 20

PAYMENT BOND

CITY OF WALTHAM

KNOW ALL MEN BY THESE PRESENT THAT,

_____ as

principal and _____ as
surety, are held and firmly bound unto the CITY OF WALTHAM and to such persons, firms, and
corporations, who may furnish materials for or perform labor on the work, construction or
improvements contemplated in the Contract hereinafter mentioned, or who may have any suits
or claims for injury or damage to persons or property resulting from or arising out of the work
done under this Contract, in the

SUM OF _____ DOLLARS (\$ _____)
(lawful money of the United States of America) for the payment whereof the Contractor and the
Surety of Sureties bind themselves and their heirs, executors, administrators, successors and
assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH, THAT for the above burden (the Contractor) its

heirs, executors, administrators and assigns, shall faithfully perform the Contract, on his part and
during the life of any guaranty or warranty, for defective materials and workmanship required under
this Contract, and satisfy all claims and demands incurred for the same; and shall fully indemnify and
save harmless the City from all cost and damage which it may suffer by reason of failure so to do,
and shall fully reimburse and repay the City all outlay and expense which the City may incur in
making good any such default, and shall promptly make payment to all persons supplying labor or
materials for use in the prosecution of the work provided for in said Contract; and shall indemnify
and save harmless the said City, its officers and agents from any and all suits or claims for injury or
damage to persons or property resulting from or arising out of the work done under this Contract,
then this obligation shall be null and void; otherwise it shall remain in full force and effect.

PROVIDED, HOWEVER, that (except as to the City) no suit, action or proceeding by reason of any
default whatever shall be brought on this Bond after two years from the day on which the final
payment under the Contract falls due.

AND PROVIDED, that any alterations which may be made in the terms of the Contract or in the work to
be done under it, or any assignment, transfer or subletting of any part of the work, or the giving by the
City of any extension of time for the payment of the Contract, or any other forbearance on the part of
either the City or the Contractor to the other, shall not in any way release the Contractor and the
Surety of Sureties, or either or any of them, their heirs, executors, administrators, successors or
assigns from their liability hereunder, notice to the Surety or Sureties of any such alterations,
assignment, transfer, subletting extension or forbearance being hereby waived.

This Bond is made for the use and benefit of all persons, firms, and corporations who may furnish
materials, or perform any labor for or on account of said work, construction or improvements, or who

may have any suits or claims for injury or damage to persons or property resulting from or arising out of the work done under this Contract, and they and each of them are hereby made obligees hereunder the same as if their own proper names were written herein as such, and they and each of them may sue hereon in their own names for their own use and benefit.

And the Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the Contract or to the work to be performed hereunder, or the Specifications accompanying the same, shall in any way affect its obligations on this Bond, and it does hereby waive notice of any such changes, extension of time, alteration or addition to the terms of the Contract or to the work, or to the Specifications.

IN WITNESS WHEREOF, said Contractor and Surety have hereunto set their respective names this

_____ day of _____, 20____.

WITNESSES:

(CONTRACTOR)

(SEAL)

NAME _____ BY _____
(SIGNATURE AND TITLE)

ADDRESS _____
(SURETY) (SEAL)

NAME _____ BY _____
(SIGNATURE AND TITLE)

ADDRESS _____ BY _____
(ATTORNEY-IN-FACT)

POWER OF ATTORNEY

Attorneys-in-fact who sign bonds must file with each bond a certified copy of their power of attorney to sign said bonds.

Section 00 50 40

COMPLIANCE FORMS

(PLEASE COMPLETE AND SUBMIT THESE FORMS WITH YOUR RESPONSE)

ORIGINAL "WET" SIGNATURES ARE REQUIRED IN ALL OF THE FOLLOWING DOCUMENTS

NON-COLLUSION FORM AND TAX COMPLIANCE FORM

CERTIFICATE OF NON-COLLUSION

The undersigned certifies under penalties of perjury that this bid or proposal has been made and submitted in good faith and without collusion or fraud with any other person. As used in this certification, the word “person” shall mean any natural person, business, partnership, corporation, union, committee, club, or other organization, entity or group of individuals. The undersigned certifies that no representations made by any City officials, employees, entity, or group of individuals other than the Purchasing Agent of the City of Waltham was relied upon in the making of this bid

_____, _____
(Signature of person signing bid or proposal) Date

(Name of business)

TAX COMPLIANCE CERTIFICATION

Pursuant to M.G.L. c. 62C, & 49A, I certify under the penalties of perjury that, to the best of my knowledge and belief, I am in compliance with all laws of the Commonwealth relating to taxes, reporting of employees and contractors, and withholding and remitting child support.

_____, _____
Signature of person submitting bid or proposal Date

Name of business

NOTE

Failure to submit any of the required documents, in this or in other sections, with your bid response package may cause the disqualification of your proposal.

CERTIFICATE OF VOTE AUTHORIZATION

Date:

I _____, Clerk of _____ hereby certify that at a meeting of the Board of Directors of said Corporation duly held on the _____ day of _____ at which time a quorum was present and voting throughout, the following vote was duly passed and is now in full force and effect:

VOTED: That _____ (name) is hereby, authorized, directed and empowered for the name and on behalf of this Corporation to sign, seal with the corporate seal, execute, acknowledge and deliver all contracts and other obligations of this Corporation; the execution of any such contract to be valid and binding upon this Corporation for all purposes, and that this vote shall remain in full force and effect unless and until the same has been altered, amended or revoked by a subsequent vote of such directors and a certificate of such later vote attested by the Clerk of this Corporation.

I further certify that _____ is duly elected/appointed _____ of said Corporation whose signature appears below as an officer

Signature of Officer

SIGNED:

Clerk of the Corporation: (Corporate Seal)

Print Name: _____

COMMONWEALTH OF MASSACHUSETTS

County of _____

Date:

Then personally appeared the above named and acknowledged the foregoing instrument to be his/her free act and deed before me, and provided to me through satisfactory evidence of identification which were _____ to be the person whose name is signed on the preceding or attached document in my presence.

Notary Public;

My Commission expires: _____

CORPORATION IDENTIFICATION

The bidder for the information of the Awarding Authority furnishes the following information.

If a Corporation:

Incorporated in what state _____
President _____
Treasurer _____
Secretary _____
Federal ID Number _____

If a foreign (out of State) Corporation – Are you registered to do business in Massachusetts?

Yes _____, No _____

If you are selected for this work you are required under M.G.L.ch. 30S, 39L to obtain from the Secretary of State, Foreign Corp. Section, State House, Boston, a certificate stating that you Corporation is registered, and furnish said certificate to the Awarding Authority prior to the award.

If a Partnership: (Name all partners)

Name of partner _____
Residence _____
Name of partner _____
Residence _____

If an Individual:

Name _____
Residence _____

If an Individual doing business under a firm's name:

Name of Firm _____
Name of Individual _____
Business Address _____
Residence _____
Date _____
Name of Bidder _____
By _____

Signature _____

Title _____

Business Address _____ (POST OFFICE BOX NUMBER NOT ACCEPTABLE)

City _____ State _____ Telephone Number _____ Today's Date _____

CERTIFICATE OF AUTHORITY LIMITED LIABILITY COMPANY

The undersigned, being (a/the) duly elected, qualified and active (member / manager) of _____, a Massachusetts limited Liability Company (hereinafter “the Company”)

Does Hereby Certify that

1. The Articles of Organization of the Company were duly filed with the Office of the Secretary of State of the State of Massachusetts on _____, and the Articles of Organization have not been (further) amended.
2. The Company has complied with the publication requirements contained in Section 67 of the Limited Liability Company Law.
3. There exists an Operating Agreement of the Company and that the said Operating Agreement has not been amended or repealed and that the said Operating Agreement remains in full force and effect as of this date.
4. Neither the Articles of Organization nor the Operating Agreement (as amended) require any further act to be taken or a meeting to be held by its members other than as follows:
5. All said requirements, whether as contained in the Articles of Organization or in the Operating Agreement or by operation of law as to the transaction of _____, 20____ have been met.
6. The following person or persons has/have been duly authorized by the Company to execute all documents in connection with said transaction and that the signature appearing to the right of their name(s) is his/her genuine signature.

NAME	OFFICE HELD	SIGNATURE
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

IN Witness Whereof, the undersigned has executed this Certificate of Authority this _____ day of _____, 20____.

(Signature)

STATE OF MASSACHUSETTS, COUNTY OF _____

On the ____ day of _____, 20____, before me, the undersigned personally appeared _____, personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name(s) is (are) subscribed to the within instrument and acknowledged to me that he/she/ they executed the same in his/her/their capacity(ies), and that by his/her/their signature(s) on the instrument, the individual(s), or the person upon behalf of which the individual(s) acted, executed the instrument.

Notary Public: _____

My Commission Expires: _____

Notary Stamp:

RIGHT TO KNOW LAW

Any vendor who receives an order or orders resulting from this invitation agrees to submit a Material Safety Data Sheet (MSDS) for each toxic or hazardous substance or mixture containing such substance, pursuant to M.G.L. c. 111F, §§8,9 and 10 and the regulations contained in 441 CMR 21.06 when deliveries are made. The vendor agrees to deliver all containers properly labeled pursuant to M.G.L. c. 111F §7 and regulations contained in 441 CMR 21.05. Failure to furnish MSDS and/or labels on each container may result in civil or criminal penalties, including bid debarment and action to prevent the vendor from selling said substances, or mixtures containing said substances within the Commonwealth. All vendors furnishing substances or mixtures subject to Chapter 111F or M.G.L. are cautioned to obtain and read the laws, rules and regulations referenced above. Copies may be obtained from the State House Bookstore, Secretary of State, State House, Room 117, Boston, MA (617) 727-2834.

Authorized Signature Indicating Compliance with the Right-to-know laws:

Signature

Date

Print Name

NOTE

Failure to submit any of the required documents, in this or in other sections, with your bid response package may cause the disqualification of your proposal.

WEEKLY PAYROLL RECORDS REPORT & STATEMENT OF COMPLIANCE

In accordance with Massachusetts General Law c. 149, §27B, a true and accurate record must be kept of all persons employed on the public works project for which the enclosed rates have been provided. A Payroll Form is available from the Department of Labor Standards (DLS) at www.mass.gov/dols/pw and includes all the information required to be kept by law. Every contractor or subcontractor is required to keep these records and preserve them for a period of three years from the date of completion of the contract.

On a weekly basis, every contractor and subcontractor is required to submit a certified copy of their weekly payroll records to the awarding authority; this includes the payroll forms and the Statement of Compliance form. The certified payroll records must be submitted either by regular mail or by e-mail to the awarding authority. Once collected, the awarding authority is required to preserve those records for three years from the date of completion of the project.

Each such contractor and subcontractor shall furnish weekly **and** within 15 days after completion of its portion of the work, to the awarding authority directly by first-class mail or e-mail, a statement, executed by the contractor, subcontractor or by any authorized officer thereof who supervised the payment of wages, this form, accompanied by their payroll:

STATEMENT OF COMPLIANCE

_____, 20____

I, _____,
(Name of signatory party) (Title)

do hereby state:

That I pay or supervise the payment of the persons employed by

_____ on the _____
(Contractor, subcontractor or public body) (Building or project)

and that all mechanics and apprentices, teamsters, chauffeurs and laborers employed on said project have been paid in accordance with wages determined under the provisions of sections twenty-six and twenty-seven of chapter one hundred and forty nine of the General Laws.

Signature _____

Title _____

05/14

00 50 40-9

DEBARMENT CERTIFICATION

In connection with this bid and all procurement transactions, by signature thereon, the respondent certifies that neither the company nor its principals are suspended, debarred, proposed for debarment, declared ineligible, or voluntarily excluded from the award of contracts, procurement or non procurement programs from the Commonwealth of Massachusetts, the US Federal Government and /or the City of Waltham. "Principals" means officers, directors, owners, partners and persons having primary interest, management or supervisory responsibilities with the business entity. Vendors shall provide immediate written notification to the Purchasing Agent of the City of Waltham at any time during the period of the contract of prior to the contract award if the vendor learns of any changed condition with regards to the debarment of the company or its officers. This certification is a material representation of fact upon which reliance will be placed when making the business award. If at any time it is determined that the vendor knowingly misrepresented this certification, in addition to other legal remedies available to the City of Waltham, the contract will be cancelled and the award revoked.

Company Name _____

Address _____

City _____, State _____, Zip Code _____

Phone Number (____) _____

E-Mail Address _____

Signed by Authorized Company Representative: _____

_____ Print name. Date _____

10 HOURS OSHA TRAINING CONFIRMATION

Chapter 306 of the Acts of 2004

CONSTRUCTION PROJECTS

AN ACT RELATIVE TO THE HEALTH AND SAFETY ON PUBLIC

The undersigned hereby certifies that all employees to be employed at a worksite for construction, reconstruction, alteration, remodeling, repair, installation, demolition, maintenance or repair of any public work or any public building estimated to cost more than \$10,000.00 have successfully completed a course in construction safety and health approved by the United States Occupational Safety and Health Administration that is at least 10 hours in duration at the time the employee begins work and who shall furnish documentation of successful completion of said course with the first payroll report for each employee and will comply with all laws and regulations applicable to awards of subcontracts subject to section 44F.

Company Name: _____

Address: _____

Signature: _____

Title: _____

Print Name _____

Date _____

See following Chapter 306 of the Acts of 2004

NOTE

Failure to submit any of the required documents, in this or in other sections, with your bid response package will be cause for the disqualification of your company.

DIVISION 01
Technical Specifications

CLEARING AND GRUBBING

General: This work shall consist of clearing, grubbing, cutting, removal and disposal of all vegetation and debris from areas either within or outside of the Right-of-Way as shown on the plans or designated by the Engineer. The work shall also include the preservation from injury or defacement of all vegetation and objects designated by the Engineer to remain.

The burning of trees, brush, stumps, etc., will not be permitted. The Contractor shall provide other satisfactory methods of disposal without additional compensation.

Quality of Work: Quality of work must conform to all accepted tree trimming practices. All trimming and pruning shall conform to recognize tree surgery practices, and particular note should be made that painting with an approved tree dressing or paint, will be required on all cuts 2 inches or over in diameter.

The dressing or paint shall be applied no later than two days after the cuts are made.

Recognized tree surgery practices include among others, the fact that all limbs and branches which require removal and all stubs regardless of age must be cut flush either to a union with the next larger sound limb or branch or flush to the trunk of the tree.

The cutting shall be performed by experienced woodsmen. Trained tree climbers are required for pruning of tall growth. Care shall be exercised by the Contractor to prevent injury to trees and shrubs designed to be preserved. Any injury to limbs, bark or roots of such plants shall be repaired by the Contractor, as directed, or the plants replaced without additional compensation for such repair or replacement.

Disposal of Trees: All trees to be cleared shall become the property of the Contractor, and the satisfactory disposal of the wood in such trees outside the Right-of Way shall become his responsibility.

The tress, including cuttings and slash shall be disposed after cutting as soon as practicable and in such a manner as not to distract from the appearance of the roadside.

If the existing ground in the area is disturbed by any of the work or equipment, the Contractor shall rough-grade and loam and seed if necessary the disturbed areas, if so directed, without additional compensation.

Payment Items

103.000	Tree removed (diameter under 24 Inches)	Each
104.000	Tree removed (diameter Over 24 Inches)	Each

DISPOSAL OF STUMPS AND BRUSH

General

Disposal of Stumps and Brush: After removal, all stumps including the major root system shall be disposed by the Contractor at his own responsibility outside the layout where the material will not cause obstructions to streams and will not detract from the appearance of the roadside.

Disposal of Dutch Elm Diseased Wood: Dutch Elm diseased wood shall be disposed of in accordance with the provisions of General Law, Chapter 87, Section 5 and Chapter 132, Sections 8 and 11, as amended; and in accordance with any additional local regulations.

Where the work includes the removal of elm trees or the limbs of elm trees, such trees or limbs thereof shall be disposed of immediately after cutting or removal and in such a manner as to prevent the spread of Dutch elm disease. This shall be accomplished by covering them with earth to a depth of at least 6-inches in areas outside the highway location where the Contractor has arranged for disposal.

Where the work includes the removal and disposal of stumps of elm trees, such stumps shall be completely disposed of immediately after cutting in the manner specified above.

Method of Measurement: Only such trees as have a shortest diameter of at least 9-inches and less than 24-inches shall be included in the item of Trees Removed (Diameter Under 24-Inches). Only such trees as have a shortest diameter of 24- inches or more shall be included in the item of Trees Removed (Diameter 24 Inches and Over).

The item of Stumps Removed shall include the removal and satisfactory disposal of all tree stumps which remain in their original position and 9 –inches or more in shortest diameter at the cutoff point, where the trees have been previously removed by others. A stump shall not be construed as a tree under these specifications unless the trunk extends over 6-feet above the average ground.

Trees or stumps to be removed which have the shortest diameter specified for payment will be measured in place by the following procedure.

Where the tree consists of a single trunk extending more than a 3-foot vertical height above the average natural ground line, the shortest diameter shall be measured at the 3-foot level above the average elevation of the original ground.

Any tree whose main trunk separates into multiple trunks or which has limbs or branches growing out from the main trunk below the 3-foot level defined hereinbefore shall have its shortest diameter measure at the lowest point on the main trunk where multiple growths or branching out begins.

Measurement for payment under the respective items shall be such that any individual growth to be classed as a tree stump shall be measured in a manner to limit payment to one single tree or stump at each particular location of the individual growth. When multiple trunks with a common root system are

separated at ground level each separate trunk shall be considered as an individual growth under these specifications.

The quantity of trees or stumps to be paid for will be the number actually removed by the Contractor in the completed and accepted work as determine by count.

The removal of trees, including the stumps thereof and required spray material will be paid for at the contract unit price each for the particular kind of work involved, as defined hereinbefore when a quantity is given in the Proposal under their respective items, otherwise this work will be paid for at the contract unit price for excavation or at the contract unit price per acre of Clearing and Grubbing or Selected Clearing and Thinning, whichever is applicable. The contract unit price shall include the cost of all arrangements and methods required to protect from harm all existing overhead or underground installations. The contract unit price for the respective items shall not include any tees or stumps removed from the area paid for under the item of Clearing and Grubbing or Selected Clearing and Thinning.

Only such trees or stumps as have a shortest diameter of 9-inches and over, measured as stipulated in Sub-section 101.80 shall be included for payment.

Payment Items

105.000	Stump Removed	Each
---------	---------------	------

UNCLASSIFIED EXCAVATION

GENERAL: This work shall consist of the necessary excavation and removal of various materials as shown on the contract drawings or as required by the OWNER. All work shall be done by the CONTRACTOR. All excavated material shall be disposed of in a proper manner. All material shall be cleaned up by the CONTRACTOR as the work progresses. No material or waste shall be left on the street overnight and no driveways or sidewalks shall be left in a rough or unsafe condition unless lighted and guarded by the CONTRACTOR at his expense. Where abutting lawns are cut, the CONTRACTOR must properly adjust and reseed the lawn to the new grade. Where abutting surfaces of blacktop or other material are disturbed beyond the limit of adjustment, the CONTRACTOR shall replace same at his own expense.

Excavation shall include the removal and disposal of bituminous, earth, curbing, signposts, and/or any incidental items as indicated on the contract drawings or as required by the OWNER. Items and/or materials that are classified for payment under some other unit item within this contract shall not be considered as part of ITEM 120.100.

The edges of existing concrete surfaces that are to receive new replacement materials shall be saw-cut along even lines and shall be cut back to obtain clean, sound vertical edges of the abutting material.

The edges of bituminous concrete shall be saw-cut or cut with pneumatic tools along even lines and shall be cut back to obtain clean, sound vertical edges of the abutting material. All edges shall be coated with an approved bituminous material for proper bonding of new pavement construction with the existing pavements. All preparation of edges of existing pavements shall be provided as specified herein and shall be subject to approval by the OWNER.

The City of Waltham, at its own discretion, may retain the right to the excavated gravel and the OWNER may select a site for said gravel to be placed. On-site gravel, if requested by the OWNER, shall be saved for re-use on the job. The gravel shall be excavated separately from the bituminous, stored (if required) and/or relocated on the site or at a site within the city selected by the OWNER, at no additional cost to the City of Waltham. All work shall be done by the CONTRACTOR.

If requested by the OWNER, any suitable excess material (as determined by the OWNER) excavated from the site shall be re-used to fill areas below subgrade. This shall be done at no extra cost to the City.

All saw-cutting of materials shall be done at no extra cost and shall be considered as incidental to the item unless there is a separate and/or specific pay item listed for saw-cutting in the Contract.

CONTRACTOR shall avoid damage to trees that have parts of their root system in the roadway, sidewalk or planting areas that are selected for excavation. Said excavation shall be accomplished as carefully as possible or as required by the OWNER.

NOTE: Material excavated during reclamation or cold planing operations is not included in this item.

MEASUREMENT: Measurement for unclassified excavation shall be the number of cubic yards of material removed and legally disposed of. This quantity shall be based on the OWNER'S field measurements and/or office calculations.

Failure to allow ample time for the OWNER to make the required measurements will forfeit the CONTRACTOR'S right of claim to any excavation other than that allowed by the OWNER.

PAYMENT: Payment for unclassified excavation shall be made for the number of cubic yards of material removed and disposed of as determined above at the contract unit Bid price for ITEM 120.100 as set forth in the Bid. Unless it is classified for payment under some other unit item within this contract, saw-cutting of pavements shall be considered as incidental to the work and shall be included within the unit price for unclassified excavation.

Payment Items

120.100	Unclassified Excavation	Cubic Yards
121.000	Class A Rock Excavation and Refill	Cubic Yards
123.200	Muck Excavation & Refill (trench)	Cubic Yards
127.000	Concrete Excavation	Square Yards

CONCRETE SIDEWALK EXCAVATION

GENERAL: This work shall consist of all necessary excavation and disposal of existing concrete surfaces as shown on the Contract Drawings or as specified by the OWNER. All work shall be done by the CONTRACTOR and the material shall be cleaned up as the work progresses. No material or waste shall be left on the street overnight and no driveway or sidewalk shall be left in an unsafe condition unless lighted and guarded by the CONTRACTOR at his expense. Where abutting surfaces of concrete or material are disturbed beyond the limits of adjustment or beyond the limits of contract, the CONTRACTOR shall replace the same at his own expense. If reinforced concrete walks and/or drives are encountered during removal, they shall be included as part of this item. The edges of existing concrete surfaces that are to receive new replacement materials shall be saw-cut along even lines and shall be cut back to obtain clean, sound vertical edges of the abutting material.

All saw-cutting of concrete shall be done at no extra cost and shall be considered as incidental to the work within this item unless there is a separate and/or specific pay item listed for saw-cutting elsewhere in this contract.

MEASUREMENT: Measurement shall be the number of square yards removed and disposed, regardless of the depth of concrete excavated, in a manner satisfactory to the OWNER. This quantity shall be measured in the field by the OWNER.

Failure to allow ample time for the OWNER to make the required measurements will forfeit the CONTRACTOR'S right-of-claim to any concrete excavation other than that allowed by the OWNER.

PAYMENT: Payment shall be made for the number of square yards of concrete removed, regardless of depth, based on the OWNER'S field measurements. Payment shall be at the Contract unit price for ITEM 127.000 as set forth in the Bid. Saw-cutting shall be considered as incidental to the work within this item. No separate payment shall be made for saw-cutting concrete unless otherwise specified elsewhere within this contract.

Payment Items

127.000	Concrete Sidewalk Excavation	Square Yards
120.100	Unclassified Excavation	Cubic Yards

COLD PLANING

GENERAL: This work shall consist of the cold planing of bituminous concrete roadway surfaces to various depths up to 6 inches to produce a uniform surface for the application of a bituminous overlay as required by the OWNER. The CONTRACTOR shall cold plane the bituminous concrete surface to the depths, widths, grades and cross sections as indicated and/or as required by the OWNER. Material removed shall be disposed of legally and off the site.

METHOD: Catch basins shall be protected during the cold planing process by inserting silt fabric between each frame and grate. The fabric shall be removed immediately after all cuttings have been removed. Any cuttings that fall into the catch basin shall be removed by the CONTRACTOR.

The bituminous concrete surface shall be planed and profiled by a power operated planing machine or a grinder capable of removing, in one pass, a layer of bituminous concrete nine feet. The equipment shall be self-propelled with sufficient power traction and stability to maintain accurate depth of cut and slope and shall be equipped with all necessary safety devices such as flashing lights and back-up signals so as to operate in traffic with complete safety. The equipment will be capable of accurately and automatically establishing profile grades along each edge of the machine by referencing from the existing pavement or from an independent grade control and shall have an automatic system for controlling cross slope at a given rate.

All planing machinery shall be equipped with dust control devices to prevent any dust produced in the cutting operation from escaping into the air. Dust control equipment must comply with EPA air quality standards.

The CONTRACTOR shall also have the necessary auxiliary grinding or milling machinery to perform the required cutting and trim cutting around castings. Pneumatic rubber-tire mounted equipment shall be used only for trimming and edging operations.

The cold plane cuttings from the operation shall be discharged directly from the planer into the CONTRACTOR'S trucks and legally disposed of off the site by the CONTRACTOR in a manner acceptable to the OWNER. Unless otherwise specified by the OWNER, the materials shall become the property of the CONTRACTOR. Loose materials left on the roadway surface as a result of the cold planing operations shall be removed and disposed of by the CONTRACTOR in the same manner as the planed material.

All excess material shall be removed from the site as part of this item. **There is no additional measurement or payment for excavation.**

MEASUREMENT: Measurement for cold planing shall be for the number of square yards of material removed and disposed of, regardless of depth, as accepted and measured by the OWNER.

PAYMENT: Payment for cold planing shall be made for the number of square yards of materials cold planed and removed and properly disposed of, regardless of depth, as determined above at the contract unit price for ITEM 129.010 as set forth in the Bid. Said price and payment shall be full compensation for furnishing all equipment, labor, materials, tools, and all else incidental and necessary for the satisfactory completion of this work.

Payment Item

129.010

Cold Planing

Square Yards

GRAVEL BORROW

GENERAL: This work shall consist of furnishing and placing ordinary gravel borrow in accordance with these Specifications, and/or as required by the OWNER.

MATERIALS: Gravel borrow shall consist of hard durable stone and coarse sand free from loam and clay, well graded and containing no stone having any dimension greater than two (2) inches (type C), as per Section M1.03.0 of the Commonwealth of Massachusetts Standard Specifications, including any and all addenda. The gravel borrow shall conform to the following sieve requirements:

<u>SIEVE</u>	<u>% PASSING</u>
1/2"	50 - 85
#4	40 - 75
#50	08 - 28
#200	0 - 08

The gravel shall be tested for sieve analysis at the plant prior to delivery on the job site. The written results shall be given to the inspector for the city for approval prior to delivery. Failure to do so may result in the refusal of the material by the City. All costs incurred shall be paid for by the CONTRACTOR at no cost to the City.

The gravel borrow shall be placed in six inch (maximum) layers and then compacted to not less than 95% of maximum optimum density as determined by AASHTO Test Designation: T99-57, Method C.

Crusher run may be substituted in place of gravel borrow if desired by the CONTRACTOR and so approved by the OWNER. Crusher run shall be paid for at the same unit price as gravel borrow. The conversion factor used in determining the quantity of crusher run substituted shall be one and one-half tons of crusher run is equivalent to one cubic yard of crusher run.

MEASUREMENT: Measurement for gravel borrow shall be the number of cubic yards furnished, placed, and accepted in accordance with these specifications and/or as required by the OWNER. The number of cubic yards in place and accepted shall be measured or calculated by the OWNER. Fifteen percent shall be added to the figure for compaction. Only gravel borrow placed within the established pay limit necessary to complete the work as required by the OWNER shall be considered for payment. If, in the opinion of the OWNER, the CONTRACTOR has excavated areas to an excessive width and/or depth, either through error or for his own convenience, the gravel borrow used to refill trenches beyond said reasonable width or depth shall be paid for by the CONTRACTOR with no cost to the City.

Failure to allow the OWNER ample time to make the required measurements will forfeit the CONTRACTOR'S right of claim to any gravel borrow other than that which is allowed by the OWNER.

PAYMENT: Payment for gravel borrow shall be made for the number of cubic yards furnished, placed, and accepted as determined above at the contract unit prices for ITEMS 151.000 & 151.220 as set forth in the Bid. Said price and payment shall be full compensation for furnishing and placing all materials, all equipment, tools, labor, backfilling operations and all else incidental thereto. Fine grading and compaction shall be paid for under the applicable item of finish material (bituminous concrete or cement concrete).

On-site gravel, if requested by the OWNER, shall be saved for re-use on the job. The gravel shall be excavated, stored (if required), and/or relocated on the site, all at no additional cost to the City. All work shall be done by the CONTRACTOR.

Payment Items

151.220	Gravel Borrow (Trench Repair, Sidewalks & Drives)	Cubic Yards
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CRUSHER RUN

GENERAL: This work shall consist of the furnishing and placing of a one-inch leveling layer of crusher run as required by the OWNER. Depth of crusher run shall be measured after compaction. Crusher run may also be provided as a base for granite curb if required by the OWNER.

MEASUREMENT: All crusher run used will be paid for on the basis of weight and shall be measured by tickets delivered with each load. The tickets shall clearly show the total, tare, and net weights. Loads represented by tickets not showing the weights as specified above will not be accepted for payment. Only crusher run placed at the required depth and within the limits specified will be accepted for payment.

PAYMENT: Payment for crusher run shall be made for the number of tons as determined above at the contract unit price for ITEM 151.900 as set forth in the Bid. Said price and payment shall be full compensation for furnishing and placing of crusher run, and for furnishing all tools, labor, equipment and all else incidental thereto. Fine grading and compaction of crusher run shall be paid for under the applicable item of finish material (bituminous or cement concrete).

Payment Item

151.900

Crusher Run

Tons

SAND BORROW

GENERAL: This work shall consist of furnishing and mixing sand borrow as an additive for reclamation applications.

MEASUREMENT: Sand borrow will be paid for on the basis of weight and shall be measured by tickets delivered with each load. The tickets shall clearly show the total, tare, and net weights. Loads represented by tickets not showing the weights as specified above will not be accepted for payment.

PAYMENT: Payment for sand shall be made for the number of tons as determined above at the contract unit price for ITEM 154.001 as set forth in the Bid. Said price and payment shall be full compensation for furnishing and placing of sand, and for furnishing all tools, labor, equipment and all else incidental thereto.

Payment Item

154.001

Sand Borrow

Tons

DRAINAGE STRUCTURE ADJUSTED

GENERAL: This work shall consist of adjusting OWNER’S existing frames and grates or covers of manholes and catch basins to newly proposed line and/or grade changes. This item shall not apply to any new castings installed under item 222.010 or castings for new structures. When the line and/or grade of an existing structure require a change of more than one foot vertically and/or horizontally, the structure shall be remodeled under ITEM 220.500.

METHOD: Frames shall be set in full mortar beds true to the lines and grades established by the OWNER. All voids beneath the bottom flange shall be entirely filled to make a water-tight fit. A ring of mortar at least one inch thick shall be placed around the outside of the bottom flange and shall extend to the outer edge of the masonry structure.

After frames have been set and mortared, a cement concrete collar shall be constructed to the dimensions shown on the detail plans of the contract drawings. Cement concrete shall be 3000 psi with ¾ inch stone. All work shall be done under the direction of the OWNER.

PAYMENT: Measurement for drainage structures adjusted shall be made based on a complete and accepted unit as determined from actual count by the OWNER.

Payment shall be made for each completed unit as determined above at the contract unit price for ITEM 220.000 as set forth in the Bid. Said price and payment shall be full compensation for all work including labor, materials, tools, equipment, mortar, brick, gravel, collars and all else necessary for final and satisfactory completion of the work within this item.

Payment Items

220.000	Drainage Structure Adjusted	Each
220.500	Drainage Structure Remodeled	Vertical Foot
222.010	Frame and Grate or Cover	Each

DRAINAGE STRUCTURE REMODELED

GENERAL: This work shall consist of remodeling existing drainage structures, as required, to conform to newly proposed line and/or grade changes. The work shall be in accordance with these specifications or as required by the OWNER. This item shall not apply to new castings for new structures

When the line and/or grade of an existing drainage structure require a change of more than one foot vertically and/or horizontally, the structure shall be remodeled unless otherwise specified by the OWNER.

METHOD: Closing blocks and/or bricks shall be removed to expose the barrel portion of the structure. The barrel portion shall then be altered according to the new line and/or grade. Closing blocks and/or bricks shall then be reset to the structure. All masonry work shall be completed to the satisfaction of the OWNER. The CONTRACTOR shall be held responsible for the protection of the castings and the materials during construction operations. Any materials or castings damaged by the CONTRACTOR shall be replaced at his own expense and at no cost to the City.

Frames shall be set in full mortar beds true to the lines and grades established by the OWNER. All voids beneath the bottom flange shall be entirely filled to make a water-tight fit. A ring of mortar at least one inch thick shall be placed around the outside of the bottom flange and shall extend to the outer edge of the masonry structure.

MEASUREMENT: Measurement for drainage structures remodeled shall be made for the number of vertical feet the structure has been altered. Limits of measurement shall be from the top of the undisturbed row of blocks or barrel portion up to one foot below proposed finished rim grade of the casting. Final adjustment of the casting to finished grade shall be done under ITEM 220.000 or item 222.010 and shall not be considered for measurement or payment under this item. Measurement shall be made in the field by the OWNER.

PAYMENT: Payment for drainage structures remodeled shall be made as determined above at the contract unit price for ITEM 220.500 as set forth in the Bid. Said price and payment shall be full compensation for all materials required, all tools, labor, equipment, excavation, backfill & backfilling operations and all else incidental to complete the work within this item. All work is subject to final approval by the OWNER.

Payment Items

220.500	Drainage Structure Remodeled	Vertical Foot
220.000	Drainage Structure Adjusted	Each
222.010	Frame and Grate or Cover	Each

FRAME & GRATE OR COVER (IN-PLACE)
(MUNICIPAL STANDARD or MHD CASCADE TYPE)

GENERAL: This work shall consist of furnishing, setting and adjusting to final grade any new castings as required.

When existing castings, in the opinion of the OWNER, are found to be defective through no fault of the CONTRACTOR, they shall be removed and disposed of by the CONTRACTOR. A new complete casting shall then be furnished, installed and adjusted to final grade by the CONTRACTOR as required by the OWNER.

Any casting damaged by the CONTRACTOR through his own negligence shall be replaced by him at no additional cost to the City.

MATERIALS: For catch basins, the frames shall conform to East Jordan Iron Works (EJIW) type 5546Z FLG3 (3 flange when curbing is present, 4 flange if there is no curbing) or the equivalent. Grates shall conform to EJIW type 5520M5 for standard grates.

For manholes, the frames shall conform to EJIW type 1246 or the equivalent. Covers shall conform to EJIW type 1248A or the equivalent. When ordering the covers, specify whether the top is to be lettered as "SEWER" or "DRAIN".

METHOD: Frames shall be set in full mortar beds true to the lines and grades established by the OWNER. All voids beneath the bottom flange shall be entirely filled to make a water-tight fit. A ring of mortar at least one inch thick shall be placed around the outside of the bottom flange and shall extend to the outer edge of the masonry structure.

MEASUREMENT AND PAYMENT: Measurement for frames and grates or covers shall be made for the number of units furnished, placed, adjusted to final grade and accepted as determined from actual count by the OWNER. Payment shall be made based on the number of completed units as determined above at the contract unit price for ITEMS 222.010 & 222.030 as set forth in the Bid. Said price and payment shall be full compensation for furnishing, setting and adjusting all castings, for materials including mortar, bituminous, red clay bricks, gravel, and for all tools, labor, equipment and all else incidental to the work within this item. There shall be no payment under this item for existing castings or for new or proposed castings that are being paid for as part of some other item within this contract.

Payment Items

222.010	Frame and Grate or Cover (In-Place)(Municipal Standard)	Each
222.030	Frame and Grate or Cover (In-Place)(MHD Cascade Type)	Each

GATE BOXES

GENERAL: This work shall consist of furnishing and installing gate boxes as shown on the contract drawings or as required by the OWNER.

Gate boxes shall be two section, cast iron, heavy pattern, adjustable type with cast iron cover. The upper section shall have a bottom flange of sufficient bearing area to prevent settling. The bottom section shall enclose the valve stuffing box and operating nut. Boxes shall be of lengths adapted to five foot pipe cover or more and have a minimum of six inch overlap in the most extended position. Covers shall have the word "WATER" cast in the top.

The box shall be installed vertically and centered over the gate so that the gate wrench may be easily attached onto the gate. After installation, the box shall be cleaned out of all residue. Also included with this item shall be the final adjustment to proposed grade of the new gate box.

MEASUREMENT: Measurement for gate boxes shall be for the number of units furnished, installed and accepted as measured by the OWNER.

PAYMENT: Payment for gate boxes shall be made for the number of units furnished, installed and accepted as determined above at the contract unit prices for ITEMS 357.040, 357.041, 357.060 and 357.061 as set forth in the Bid. Said price and payment shall be full compensation for furnishing and installing gate boxes and all related work including excavation, pumping, backfill, cement concrete collars, cleaning out the gate box, all tools, labor, equipment, materials and all else incidental to complete the work within this item. There shall be no separate payment for adjustment of new gate boxes and sleeves. That work shall be considered as incidental to the work within this item.

Payment Items

357.040	4" Service Gate Box	Each
357.041	4" Service Gate Box (Upper Sleeve Only)	Each
357.060	6" Service Gate Box	Each
357.061	6" Service Gate Box (Upper Sleeve Only)	Each

ADJUSTMENT OF GATE BOXES

GENERAL: This work shall consist of raising the OWNER'S existing water gate and water service gate boxes to newly proposed grades. Prior to adjustment of the gate boxes, the vertical alignment of the box over the center of the gate shall be checked. If needed, the gate box shall be re-aligned over the top of the gate before it is adjusted. Gravel base around the gate boxes shall be thoroughly compacted. For gate boxes in the traveled roadway, the excavated area shall be refilled with gravel, compacted, and set in a cement concrete collar as shown on the detail section of the contract drawings. The final elevations of the structures shall be determined in the field by the OWNER at the time of construction. All work shall be done under the direction of the OWNER. After the boxes are adjusted, they shall be air blown to remove all debris from the inside.

If, during the course of the work, a defective gate box is encountered, the CONTRACTOR shall remove it as required by the OWNER. A new gate box and/or sleeve shall be furnished and installed by the CONTRACTOR. This shall not include any gate boxes and/or sleeves damaged by the CONTRACTOR. Any damage as a result of the CONTRACTOR'S negligence shall be repaired or replaced by him at no cost to the City. Furnishing, installation and adjustment to final grade of any new gate boxes and/or sleeves shall be included as part of ITEMS 357 and shall not be considered as part of ITEMS 358.100 or 358.200.

MEASUREMENT: Measurement for gate boxes adjusted shall be for the number of units completed and accepted as determined from actual count by the OWNER.

PAYMENT: Payment for gate boxes adjusted shall be made based on the number of completed units as determined above at the contract unit prices for ITEMS 358.100 & 358.200 as set forth in the Bid. Said price and payment shall be full compensation for all work in adjusting gate boxes and/or sleeves including all tools, labor, equipment, cement concrete collars, gravel, compaction, and all else incidental to satisfactorily complete the work within this item. Not included for payment within this item shall be the furnishing, installation, and final adjustment to grade of any new gate boxes and/or sleeves that are required. They shall be measured and paid for under ITEMS 357.

Payment Items

358.100	Adjustment of Gate Boxes (Sidewalk)	Each
358.200	Adjustment of Gate Boxes (Roadway)	Each

PAVEMENT RECLAMATION

GENERAL: This work will consist of in-place rehabilitation of the existing pavement structure. Existing pavement shall be scarified, pulverized and reshaped into a processed asphalt stabilized base.

MATERIALS: If additional fine material is required to attain the specified gradation, it will be added as required by the OWNER and paid under item 154.001.

METHODS: The existing asphalt structure shall be scarified and mixed with equal amounts of gravel base from the existing roadway foundation to a maximum depth of 16". The pulverization shall be accomplished by means of a traveling pulvimiller/hammermill or equivalent machine capable of scarifying/milling to a depth of 16" in one pass and conveying this material to a stationary hammermill mounted on the machine. This machine shall be self-propelled and equipped with an adjustable grading blade thus leaving its path generally smooth for traffic. The key element in this process is the fractioning of the existing asphalt pavement by the high speed hammers of the hammermill. Equipment such as road planers/cold milling machinery will not be acceptable as they produce larger asphalt particle size that defeats the objective of this process. The above mentioned process shall produce a uniformly blended base material with a minimum asphalt content of 2% that will conform to the following gradation requirements:

<u>Sieve Designation</u>	<u>Percentage by Weight Passing</u>
3"	100%
1 1/2"	70-100%
3/4"	55-90%
#40	10-30%
#200	1-3%

After the material has been accepted by the OWNER, it shall be shaped, graded and rolled to true grades, the prescribed number of inches below and parallel to the finish pavement grade of the roadway as shown on the plans or as required by the OWNER. Material not required in the roadway shall be deposited and spread on the sidewalk by the CONTRACTOR as required at no additional cost to the City. Excess material that is not needed on this project shall be removed and properly disposed of by the CONTRACTOR at no additional cost to the City.

Water shall be applied during the operation in sufficient quantities to insure optimum moisture content at the time of compaction. Water may be taken from City hydrants provided an approved hydrant wrench and control valve are used, and that water is not wasted.

MEASUREMENT: Measurements shall be taken by the OWNER with the process material in place and properly graded and compacted. Measurement shall be the number of square yards reclaimed for any depth up to sixteen inches.

All excess material shall be removed from the site as part of this item. **There is no additional measurement or payment for excavation.**

PAYMENT: Payment shall be made for the number of square yards reclaimed as determined above, up to a depth of sixteen inches, at the contract unit price for ITEM 403.001 as set forth in the Bid. Said price and payment shall be full compensation for reclaiming, processing, rough grading, compacting, depositing and grading on sidewalk, removal of excess material, labor, materials, tools and equipment and all incidentals necessary to complete the work under this item as shown on the plans, as required by the OWNER, and as specified herein.

Payment Items

403.001	Reclamation	Square Yards
154.001	Sand	Tons

TRENCH REPAIR

GENERAL: This work shall consist of repairing temporary trench patches throughout the city which were previously installed by others. Work shall include saw cutting and excavation of the temporary patch, compacting the sub grade, applying a 1½" binder course and returning on the following day to apply a 1½" wearing course. Trenches are generally 100 to 400 square feet and a located throughout the city.

MATERIALS: Class I bituminous concrete pavement, Type I-1, shall conform to the requirements of Section 560.00 of the current Edition of the "Standard Specifications for Highways and Bridges," Commonwealth of Massachusetts, Department of Public Works, including any addenda or amendments thereto.

Bituminous concrete shall be spread at a temperature of not less than 225 degrees Fahrenheit and all initial rolling or tamping shall be performed when the temperature of the mixture is such that the sum of the air temperature plus the temperature of the mixture is between 300 and 375 degrees Fahrenheit. All mixtures shall be placed only when the atmospheric temperature is above 40 degrees Fahrenheit.

Bituminous concrete for wearing surfaces and base courses shall be spread in individual layers and compacted to the required lines, grades and cross section. Each completed surface shall be thoroughly compacted, smooth and free from ruts, humps, depressions, or irregularities. Where new bituminous meets existing bituminous surfaces, an emulsifying agent shall be applied to seal the joint. A sand overcoat shall then be applied over the emulsifying agent.

MEASUREMENT: All bituminous used for trench repair shall be paid for on the basis of square yards as measured by the OWNER. Only bituminous concrete placed at the required depth and within the limits specified by the OWNER will be accepted for payment.

PAYMENT: Payment for Trench Repair shall be made for the number of square yards as determined above at the Contract unit price for ITEM 405.000 as set forth in the Bid. Said price and payment shall be full compensation for all saw cutting, excavation and disposal, fine grading and compaction, spreading and compacting bituminous concrete, emulsifying and sanding of all joints, and for furnishing all tools, labor, materials, equipment, and all else incidental thereto.

Payment Item

405.000

Trench Repair

Square Yard

CALCIUM CHLORIDE FOR DUST CONTROL

GENERAL: This work shall consist of furnishing and applying approved dust control material to the surface of the sub grade or elsewhere as required by the OWNER.

MATERIALS: Calcium Chloride shall conform to the requirements of AASHO M144, Type I or Type II.

APPLICATION: Calcium Chloride shall be uniformly applied at the rate of three-quarters pounds per square yard or as required by the OWNER.

MEASUREMENT: Calcium Chloride will be measured by the pound and the quantity to be paid for shall be the actual weight of the material furnished and applied in place.

PAYMENT: Payment shall be made for the amount of Calcium Chloride furnished and placed as determined above at the Contract price for ITEM 440.000 as set forth in the Bid.

	<u>Payment Item</u>	
440.000	Calcium Chloride	Pounds

CLASS I BITUMINOUS CONCRETE (ASPHALT)

GENERAL: This work shall consist of fine grading and compaction of gravel base material and/or crusher run base material prior to placing mix, and furnishing, spreading and compacting bituminous concrete base courses and wearing surfaces in accordance with the details shown on the Contract Drawings, as specified in these Specifications, or as required by the OWNER.

MATERIALS: Class I bituminous concrete pavement, Type I-1, shall conform to the requirements of Section 560.00 of the current Edition of the "Standard Specifications for Highways and Bridges," Commonwealth of Massachusetts, Department of Public Works, including any addenda or amendments thereto. The City of Waltham has the option of requesting a modified state top when deemed necessary.

Bituminous concrete shall be spread at a temperature of not less than 225 degrees Fahrenheit and all initial rolling or tamping shall be performed when the temperature of the mixture is such that the sum of the air temperature plus the temperature of the mixture is between 300 and 375 degrees Fahrenheit. All mixtures shall be placed only when the atmospheric temperature is above 40 degrees Fahrenheit.

Bituminous concrete for wearing surfaces and base courses shall be spread in individual layers and compacted to the required lines, grades and cross section.

Rolling shall commence at the lower edges and shall progress toward the highest portion. Under no circumstances shall the center be rolled first. Each completed surface shall be thoroughly compacted, smooth and free from ruts, humps, depressions, or irregularities.

Where new bituminous meets existing bituminous surfaces, an emulsifying agent shall be applied to seal the joint. A sand overcoat shall then be applied over the emulsifying agent.

MEASUREMENT: All bituminous used for roadway and sidewalk bases and surfaces will be paid for on the basis of weight and shall be measured by tickets delivered with each load. The tickets shall be signed by a certified weigher and shall be countersigned by the OWNER. The tickets shall clearly show the total, tare, and net weights. Loads represented by tickets not showing the weights as specified above will not be accepted for payment. Only bituminous concrete placed at the required depth and within the limits specified by the OWNER will be accepted for payment.

PAYMENT: Payment for bituminous concrete shall be made for the number of tons as determined above at the Contract unit price for ITEMS 460.000, 460.100 and 460.300 as set forth in the Bid. Said price and payment shall be full compensation for all fine grading and compaction, for furnishing, spreading and compacting bituminous concrete, emulsifying and sanding of all joints, and for furnishing all tools, labor, materials, equipment, and all else incidental thereto.

Payment Items

460.000	Class I Bituminous Concrete Type I-1 (Roadway)	Tons
460.100	Class I Bituminous Concrete Type I-1 (Sidewalks, Drives, Permanent Patching & Adjustment. Areas)	Tons
460.300	Class I Bituminous Concrete Type I-1 (Roadway) Night Work	Tons

BITUMEN FOR TACK COAT

GENERAL: This work shall consist of furnishing and placing of a bituminous tack coat prior to the placement of Class I bituminous concrete for resurfacing. All work and materials shall be furnished and placed by the CONTRACTOR.

MATERIALS AND METHODS: Bituminous tack material shall conform to the requirements of Section M3.03.0 of the current Edition of the "Standard Specifications for Highways and Bridges," Commonwealth of Massachusetts.

The application shall be done by means of an approved mechanical pressure distributor tanker truck only with a heating device capable of heating the material evenly up to a temperature of 425° Fahrenheit. It shall also be equipped with a distribution spray bar of a type that will distribute the bituminous tack material uniformly under a pressure of not less than 30 lbs. per square inch, without streaks and/or spots, so as to provide an equal and uniform coverage on the existing surface. The tanker truck shall be equipped with a gauge to accurately measure the gallons applied. The tanker truck shall also be so designed as to enable the operator to control the rate of flow and to provide a positive cut-off to prevent dripping of the nozzles when shut off. The bitumen shall be applied at a rate as described above.

The application rate for the bitumen shall be 15 square yards per gallon.

MEASUREMENT: Measurement for bitumen for tack coat shall be for the number of gallons actually furnished, placed and accepted as determined by the OWNER and/or his representative. The OWNER and/or his representative may elect to use the measured amount from printout slips of actual gallons used as received from the tanker truck.

PAYMENT: Payment for bitumen for tack coat shall be made for the number of gallons furnished, placed and accepted as determined above at the Contract unit price for ITEMS 464.000 as set forth in the Bid. Said price and payment shall be full compensation for furnishing and placing all materials and for furnishing all tools, equipment, labor, and all else incidental thereto to complete the work within this item.

Payment Item

464.000

Bitumen for Tack Coat

Gallons

BITUMINOUS CONCRETE CURB

GENERAL: This work shall consist of furnishing and placing bituminous concrete curb in accordance with these specifications or as required by the OWNER.

MATERIALS: Bituminous concrete curb, Class I, Type 2, shall conform to Commonwealth of Massachusetts SD106.2.0.

METHODS: On newly constructed roadways, the bituminous concrete curb shall be placed on a bituminous concrete roadway binder course. On existing roadways, the bituminous concrete curb shall be placed on a bituminous concrete pad of top course mix one foot wide by three inches deep at the gutter line in the existing roadway. The bituminous concrete curb shall be placed and compacted by machine. If, at anytime before the acceptance of the work, any soft or imperfect spots develop in the exposed surface of the curb, such material placed shall be removed and replaced with new material and compacted, at no additional cost to the OWNER.

PAYMENT: Payment shall be made for the number of linear feet of bituminous curb placed and accepted by the OWNER as determined above at the Contract unit price for ITEM 470.000 as set forth in the Bid. Said price and payment shall be full compensation for all materials, including bituminous concrete curb mix, all labor, tools, equipment, and related work and all else incidental thereto with the exception of the pad for the curb. The bituminous concrete binder course or the bituminous concrete shall be measured and paid for as part of ITEM 460.000 (binder course) or ITEM 460.100 (bituminous pad), whichever item applies.

Payment Item

470.000	Bituminous Concrete Curb (Class I - Type 2)	Linear Feet
460.000	Class I Bituminous Concrete Type I-1 (Roadway)	Tons
460.100	Class I Bituminous Concrete Type I-1 (Sidewalks, Drives, Permanent Patching & Adjustment Areas)	Tons

GRANITE CURBING

GENERAL: Under these items, the CONTRACTOR is to furnish and install new granite curbing, inlet stones, granite edging and curb corners. Curb shall be set on undisturbed earth to the lines and grades indicated on the Contract drawings and/or as required by the OWNER.

MATERIALS: All new granite curb, curb corners, and inlet stones and granite edging shall conform to the applicable requirements of the "Standard Specification for Highways and Bridges," Commonwealth of Massachusetts, including any addenda or amendments thereto with the exception of payment for crusher run. Crusher run for curbing shall be included as part of the applicable curb item. All granite curbing shall consist of at least ninety percent of six feet minimum lengths unless otherwise required by the OWNER.

Granite curb shall be hard, durable, fine to medium grain and free from seams that impair structural integrity. Color shall be light gray, highlighted by black flakes, similar to that installed on recent projects in Waltham. Curb for each location shall be fabricated from the same parent material by one manufacturer to give a uniform appearance. Natural variations characteristic of the deposit will be permitted. The top of the curb shall be polished. The sides shall be cut square, most specifically the top 6" of the face that faces the street.

Cement concrete shall be 2,500 psi, 3/4" stone.

METHOD: Granite edging shall be set in accordance with the "Commonwealth of Massachusetts Standard Specifications for Highways and Bridges."

A trench shall be excavated to a width of eighteen inches to the bottom of the proposed curb. Unless otherwise required by the OWNER, curb shall be set to the lines and grades shown on the plans and fitted together as closely as possible. Curb shall be saw cut, not broken, to required lengths. If requested by the OWNER, crusher run shall be added and hand tamped to fill any voids between the undisturbed earth and the bottom of the curb so the curb is supported along two points of its entire length. The center and both ends of each curb length shall be left open for cement concrete. On the day of the curb installation, 6" x 6" beds of cement concrete shall be poured front and back, and the concrete shall flow under the curb. Care shall be taken not to affect the line and/or grade of the curb. Joints between curbstones shall be filled with mortar and exposed surfaces shall be neatly pointed. At completion of work, curb shall be clean and free of cement spills. If curb is not clean, the OWNER may request that the curb be pressure washed, at no additional cost to the City.

Care should be taken to avoid placing concrete in areas selected for future placement of trees.

MEASUREMENT: Granite curb to be paid for will be the length actually furnished, set, completed and accepted in accordance with the Specifications and Contract Drawings and as measured along the outer radius of the curb. The quantity of new granite curb corners and inlet stones shall be on a unit basis for the actual number furnished and set in accordance with the Specifications and Contract Drawings.

PAYMENT: Payment for granite curb shall be made as determined above at the Contract unit prices for ITEMS 504.-- as set forth in the Bid. Said price and payment shall be full compensation for furnishing and setting new Type VA4 granite curb, furnishing and setting new Type A curb corners, furnishing and setting new inlet stones, all excavation, backfilling, cement concrete, and for furnishing all labor, tools, equipment, etc., and all else incidental to the satisfactory completion of the work included within these items.

Payment Items

504.000	Granite Curb Type VA4 Straight	Linear Foot
504.100	Granite Curb Type VA4 Curved	Linear Foot
504.110	Granite Curb Type VA4 Curved (Less than 10' radius)	Linear Foot
506.000	Granite Curb Type VB (5"x18")	Linear Foot
506.100	Granite Curb Type VB (5"x18") Curved	Linear Feet
514.000	Granite Inlet Stone Straight	Each
516.000	Granite Curb Corner-Type A (2'-0"radius)	Each
517.000	Granite Curb Corner-Type B (3'-0"radius)	Each
121.000	Class A Rock Excavation	Cubic Yard
151.900	Crusher Run	Tons
515.000	Granite Inlet Stone Curved	Linear Feet

CURB REMOVED AND RESET

GENERAL: This work shall consist of removing existing curb and/or curb corners and resetting them to grade in the same location in accordance with these specifications, as shown on the Contract Drawings, and/or as required by the OWNER. The CONTRACTOR assumes full responsibility for any damages incurred in the removal and resetting processes or any damages incurred while executing said work.

METHODS: Unless otherwise required by the OWNER, curb shall be set to the lines and grades shown on the plans and fitted together as closely as possible. Crusher run shall be added and hand tamped to fill any voids between the undisturbed earth and the bottom of the curb so the curb is supported along two points of its entire length. The center and both ends of each curb length shall be left open for cement concrete. On the day of the curb installation, 6" x 6" beds of cement concrete shall be poured front and back, and the concrete shall flow under the curb. Care shall be taken not to affect the line and/or grade of the curb. Joints between curbstones shall be filled with mortar and exposed surfaces shall be neatly pointed.

MEASUREMENT: Payment for granite curb removed and reset shall be the number of linear feet of curb actually removed and reset as measured and accepted by the OWNER. The quantity of curved granite curb and granite curb corners removed and reset shall be measured along the outer radius.

PAYMENT: Payment for curb and/or curb corners removed and reset shall be made for the number of linear feet of curb and/or curb corners actually removed and reset as determined above at the Contract unit prices for ITEM 580.000 as set forth in the Bid. Said price and payment shall be full compensation for furnishing all labor, tools, equipment, excavation, gravel borrow, backfill, and all else incidental thereto.

Payment Item

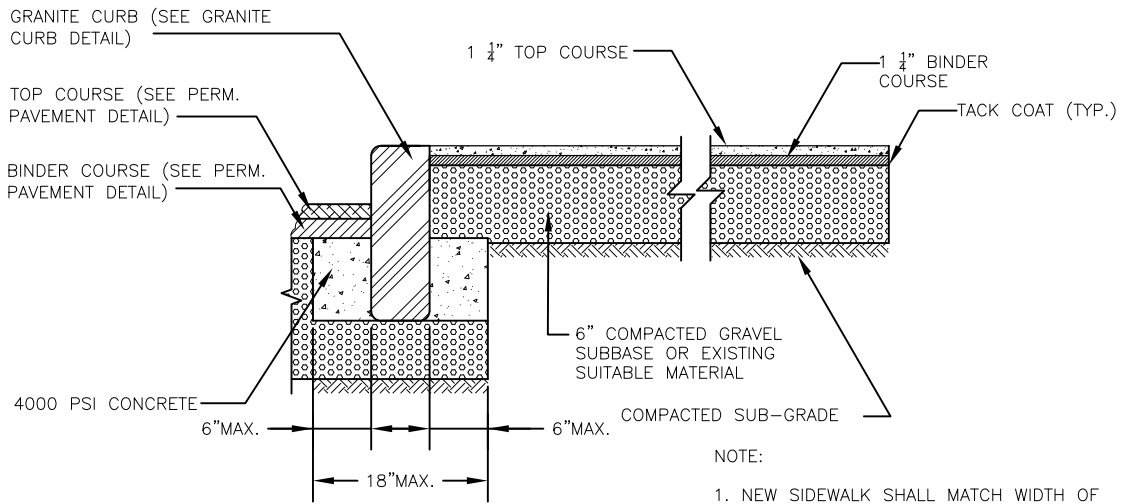
580.000
Foot

Curb Removed and Reset

Linear

DRAWINGS

- ✓ asphalt sidewalk
- ✓ asphalt apron
- ✓ cement apron
- ✓ concrete collars for drains
- ✓ concrete sidewalk expansion
- ✓ crosswalk detail
- ✓ cement concrete sidewalk
- ✓ gate box collar
- ✓ trench details
- ✓ stone bound detail
- ✓ cement concrete collar
- ✓ granite curbing
- ✓ granite curbing detail
- ✓ bitum. concrete pavement
- ✓ wheelchair ramps

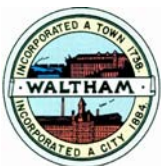


NOTE:
 1. NEW SIDEWALK SHALL MATCH WIDTH OF EXISTING SIDEWALK UNLESS OTHERWISE NOTED.

BITUMINOUS CONCRETE SIDEWALK DETAIL

NOT TO SCALE

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CITY OF WALTHAM, MA.
 ENGINEERING DEPARTMENT

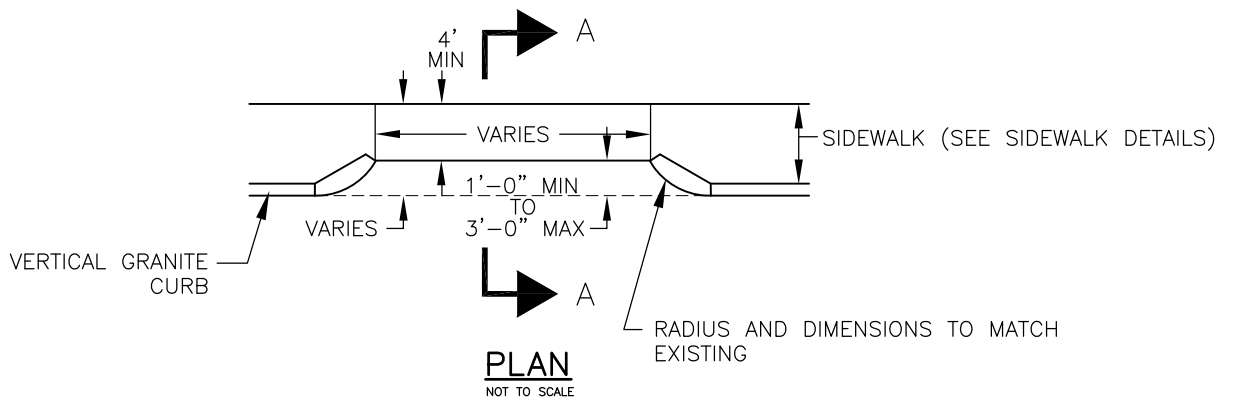
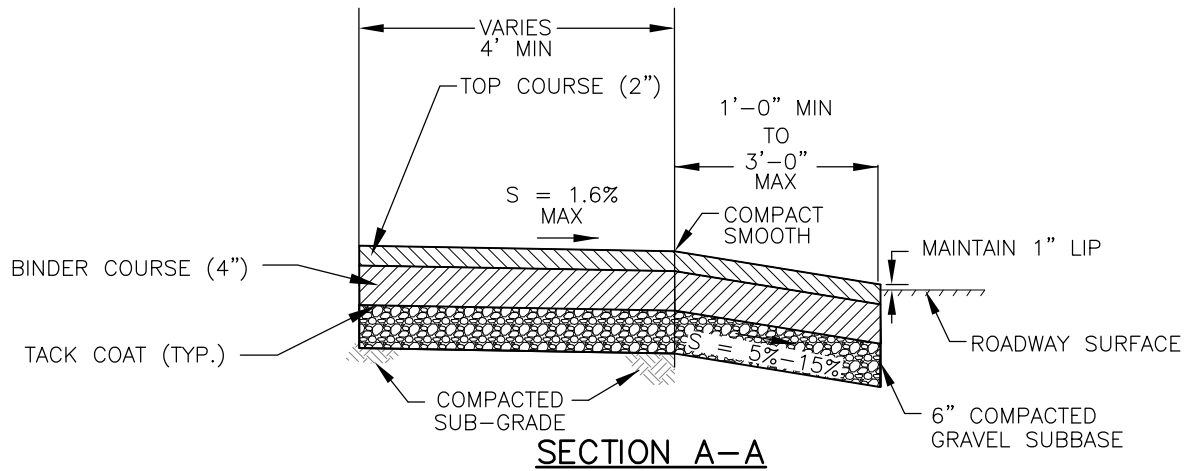
STANDARD DETAILS

BITUMINOUS
 CONCRETE SIDEWALK

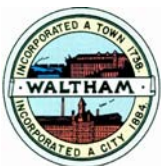
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Sheet No.
 460.001.2

Scale
 NTS



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CITY OF WALTHAM, MA.
ENGINEERING DEPARTMENT

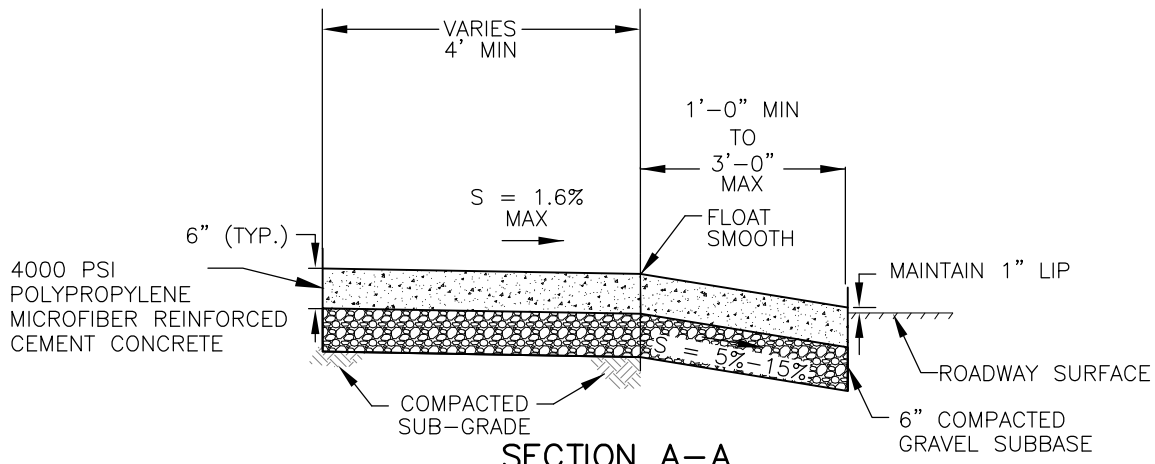
STANDARD DETAILS

BITUMINOUS
CONCRETE APRON

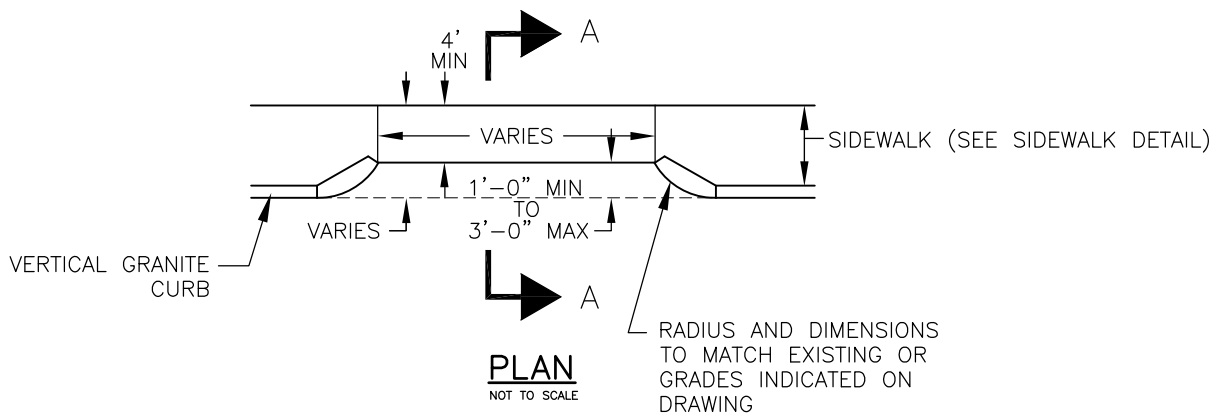
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Scale
NTS



SECTION A-A

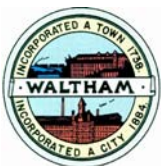


PLAN
NOT TO SCALE

CEMENT CONCRETE DRIVEWAY APRON

NOT TO SCALE

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CITY OF WALTHAM, MA.
ENGINEERING DEPARTMENT

STANDARD DETAILS

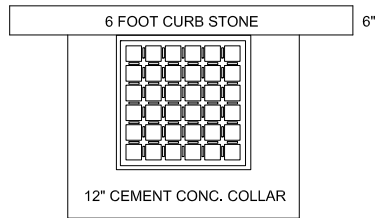
CEMENT CONCRETE
DRIVEWAY APRON

701.002

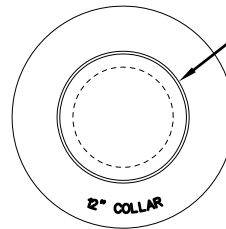
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701.002

Scale
NTS

LEBARON FRAME LF246
3-FLANGE FOR CURBING
INSTALLATION
CASCADE GRATE
(PER SPECIFICATION)

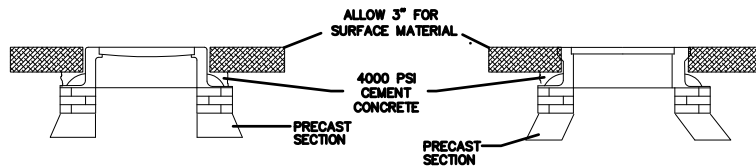


30" MANHOLE COVER WITH 39" FLANGE

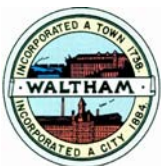


STANDARD FRAME/RING COVER
LEBARON RING LA326
COVER L32C4
COVER SHALL BE IMPRINTED
WITH THE WORD "DRAIN"

ADJUSTMENT TO CASTING
MADE WITH A MAXIMUM
OF THREE COURSES OF
RED HARDENED BRICK



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CITY OF WALTHAM, MA.
ENGINEERING DEPARTMENT

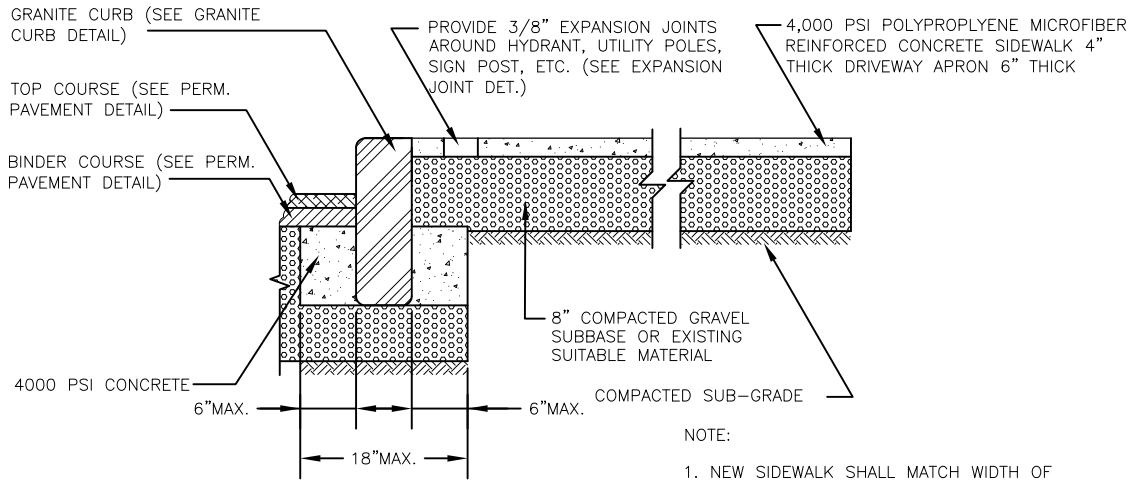
STANDARD DETAILS

CONCRETE COLLARS FOR
DRAIN MHs AND CBs

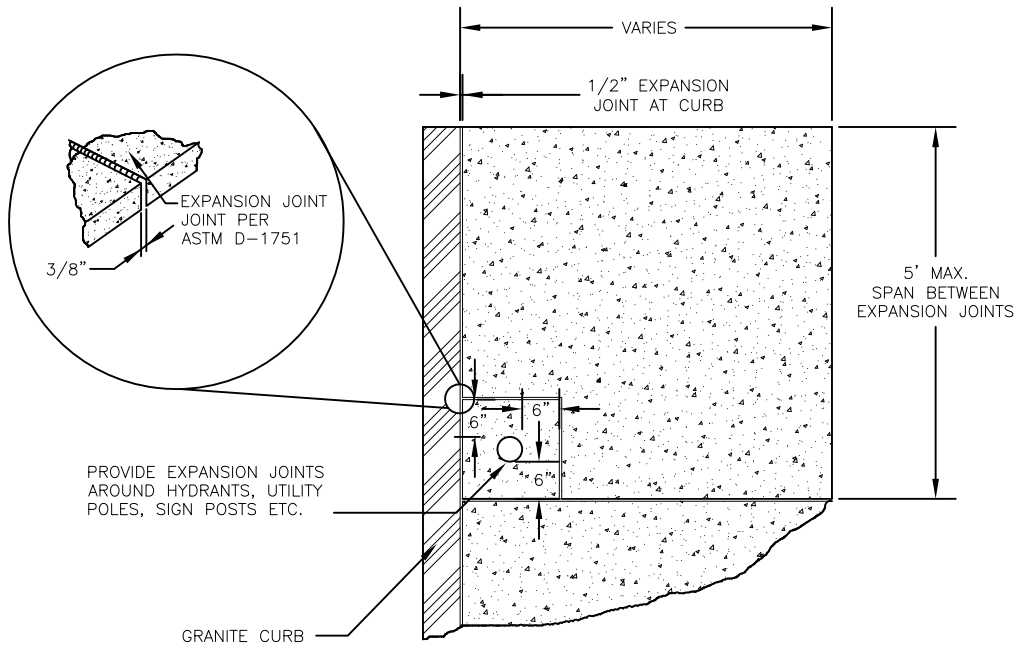
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Sheet No.
201.002

Scale
NTS

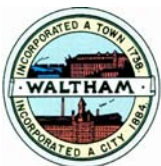


CONCRETE SIDEWALK DETAIL
NOT TO SCALE



CONCRETE SIDEWALK EXPANSION JOINT DETAIL
NOT TO SCALE

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CITY OF WALTHAM, MA.
ENGINEERING DEPARTMENT

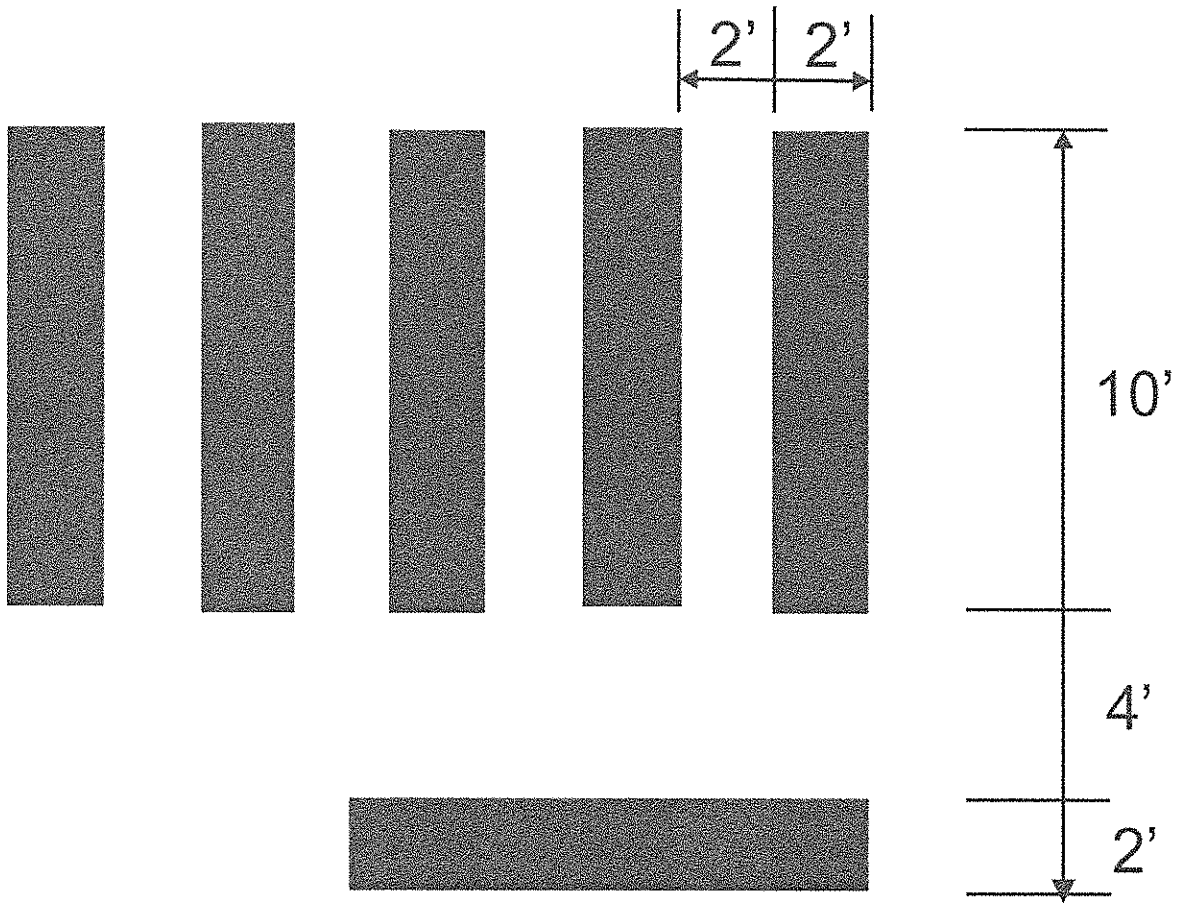
STANDARD DETAILS

CONCRETE SIDEWALK

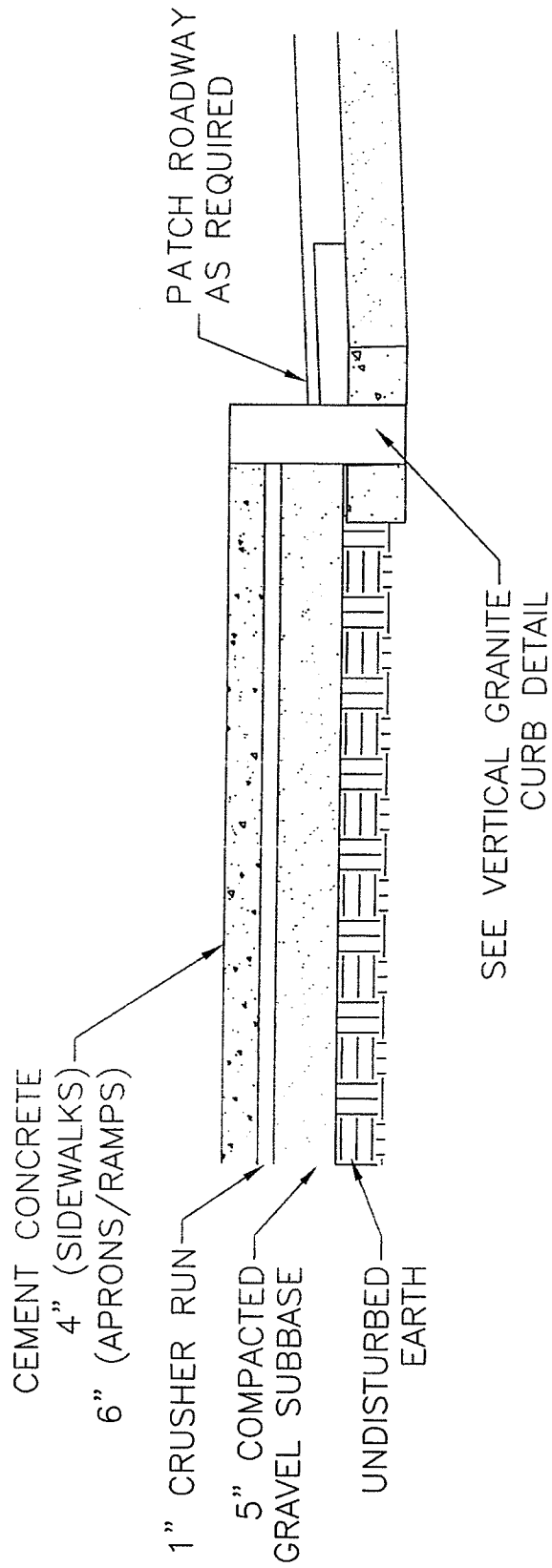
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701.000.1

Scale
NTS



CITY OF WALTHAM STANDARD CROSSWALK



SIDEWALK CROSS-SECTION

FIGURE NAME:

4" / 6" CEMENT CONCRETE SIDEWALK

SCALE:

NOT TO SCALE

CITY OF WALTHAM, MA. - ENGINEERING DEPARTMENT
STANDARD DETAILS

REV. DATE:

3/30/2011

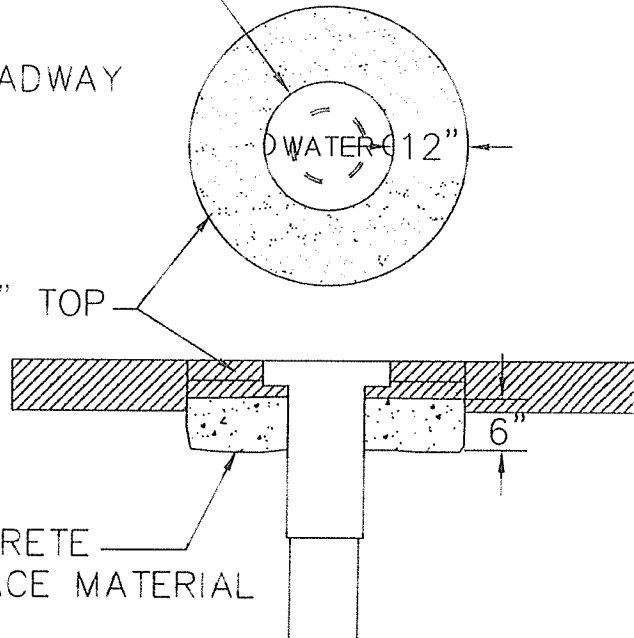


HEAVY DUTY GATE BOX
COVER MARKED "WATER"
SEE NOTE 1.

GATE BOX LOCATED IN ROADWAY

1 1/2" BINDER AND 1 1/2" TOP
PROPERLY COMPACTED

6" CEMENT CONCRETE
ALLOW 3" FOR SURFACE MATERIAL



NOTES:

1. VALVE BOX COVER SHALL BE EJ PRESCOTT PRODUCT NO.45005 600 OR APPROVED EQUAL.
2. VALVE BOX SHALL BE TWO-PIECE, CAST IRON SLIDING TYPE, WITH TOP FLANGE VALVE BOX AND BELL SECTION BASE.

GATE BOX COLLAR DETAIL

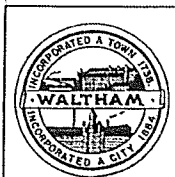


FIGURE NAME:

WATER GATE BOX COLLAR DETAIL

SCALE:

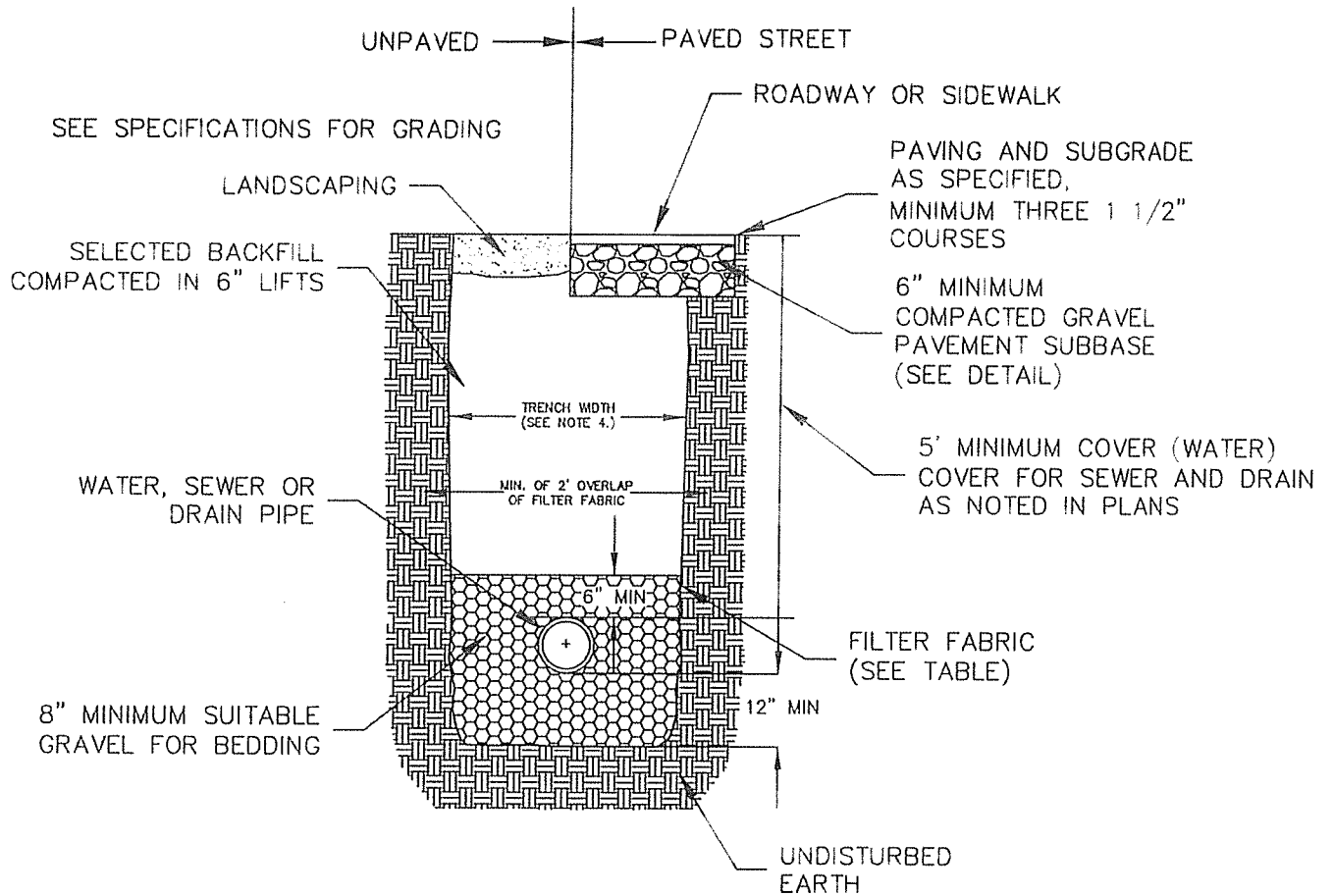
NOT TO SCALE

CITY OF WALTHAM, MA. – ENGINEERING DEPARTMENT
STANDARD DETAILS

REV. DATE:

3/30/2011

85



NOTES:

1. ALL TRENCHES MUST BE JETTED OR PUDDLED AS REQUIRED BY THE ENGINEER.
2. PRIOR TO FINISHING PAVING, CUT SQUARE EDGES AT EXISTING PAVEMENT, AT LEAST 6 INCHES BEYOND OUTERMOST DISTURBED PAVEMENT.
3. NO LEDGE TO BE WITHIN 6" OF PIPE.
4. TRENCH WIDTH:

LEDGE: OUTSIDE DIAMETER OF PIPE PLUS 2 FEET

EARTH: GREATER OF LEDGE VALUE OR 3 FEET (OR AS DETERMINED BY THE ENGINEER)

FILTER FABRIC USE

	SOIL TYPE	
	SILT OR CLAY	GRANULAR SOIL
ABOVE GROUND WATER	FILTER FABRIC NOT REQUIRED	FILTER FABRIC NOT REQUIRED
BELOW GROUND WATER	FILTER FABRIC REQUIRED	FILTER FABRIC NOT REQUIRED

WATER, SEWER, AND DRAIN TRENCH DETAIL

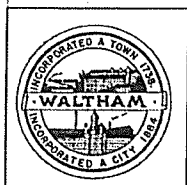


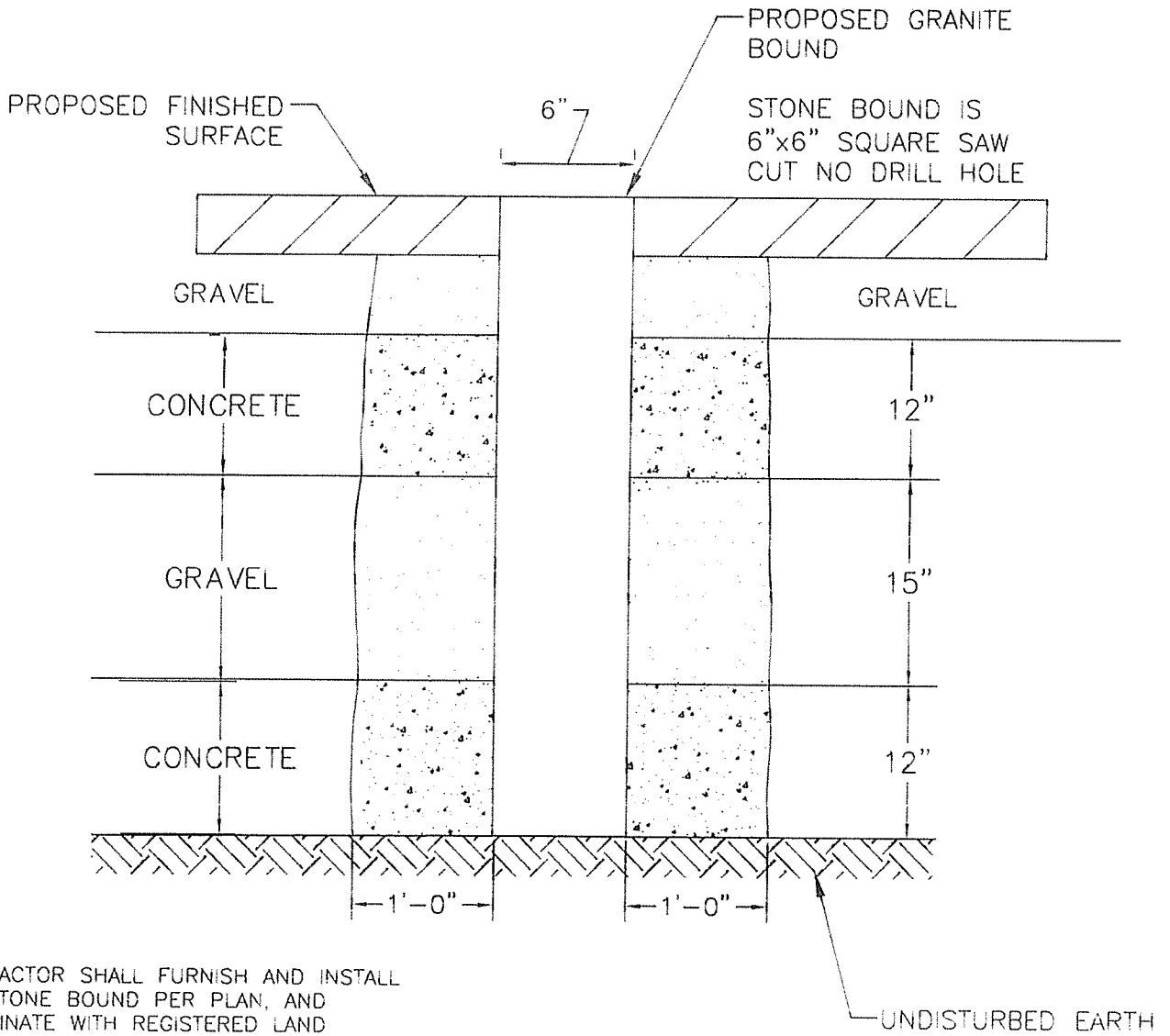
FIGURE NAME: TRENCH DETAIL

CITY OF WALTHAM, MA. — ENGINEERING DEPARTMENT
STANDARD DETAILS

SCALE: NOT TO SCALE

REV. DATE: 3/30/2011


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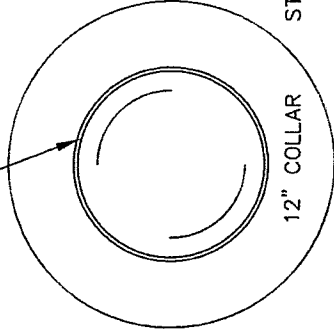
NOTES:

1. CONTRACTOR SHALL FURNISH AND INSTALL NEW STONE BOUND PER PLAN, AND COORDINATE WITH REGISTERED LAND SURVEYOR FOR EACH LOCATION.
2. DRILL HOLES SHALL BE SET BY REGISTERED PROFESSIONAL LAND SURVEYOR.

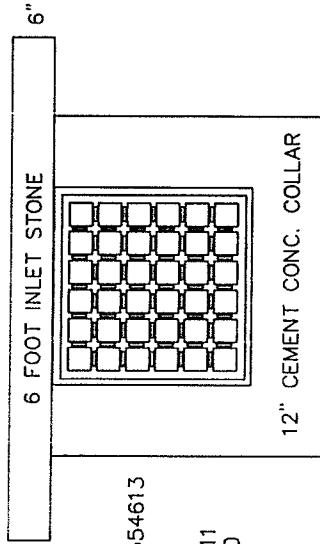
STONE BOUND DETAIL

	<p>FIGURE NAME:</p> <p style="text-align: center;">STONE BOUND DETAIL</p>	<p>SCALE:</p> <p style="text-align: center;">NOT TO SCALE</p>
	<p style="text-align: center;">CITY OF WALTHAM, MA. – ENGINEERING DEPARTMENT STANDARD DETAILS</p>	<p>REV. DATE:</p> <p style="text-align: center;">3/30/2011</p>

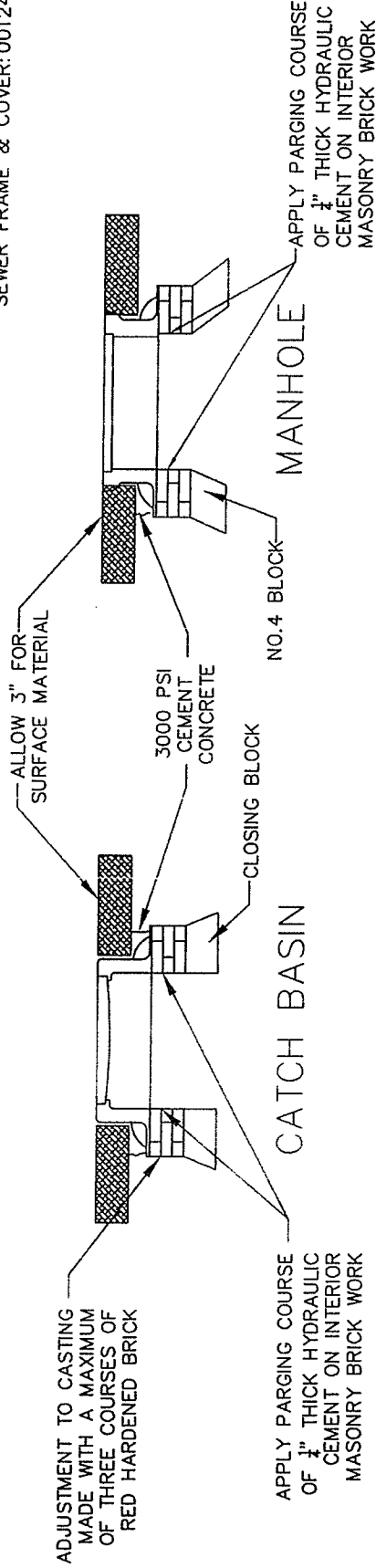
24" MANHOLE COVER WITH 32" FLANGE



12" COLLAR
STANDARD FRAME/RING COVER
EAST JORDAN IRON WORKS
MANHOLE FRAME: 00124611
DRAIN FRAME & COVER: 00124826C02
SEWER FRAME & COVER: 00124825C02



6 FOOT INLET STONE
12" CEMENT CONC. COLLAR
EAST JORDAN IRON WORKS 00554613
3-FLANGE FOR CURBING
INSTALLATION
ALTERNATE GRATE: 00554611
CASCADE GRATE: 00552050



ADJUSTMENT TO CASTING MADE WITH A MAXIMUM OF THREE COURSES OF RED HARDENED BRICK

APPLY PARGING COURSE OF 1/4" THICK HYDRAULIC CEMENT ON INTERIOR MASONRY BRICK WORK

CATCH BASIN

MANHOLE

APPLY PARGING COURSE OF 1/4" THICK HYDRAULIC CEMENT ON INTERIOR MASONRY BRICK WORK

CEMENT CONCRETE COLLARS
FOR MANHOLES AND CATCH BASINS

FIGURE NAME:

FRAMES, GRATES & CONCRETE COLLARS DETAIL

SCALE:

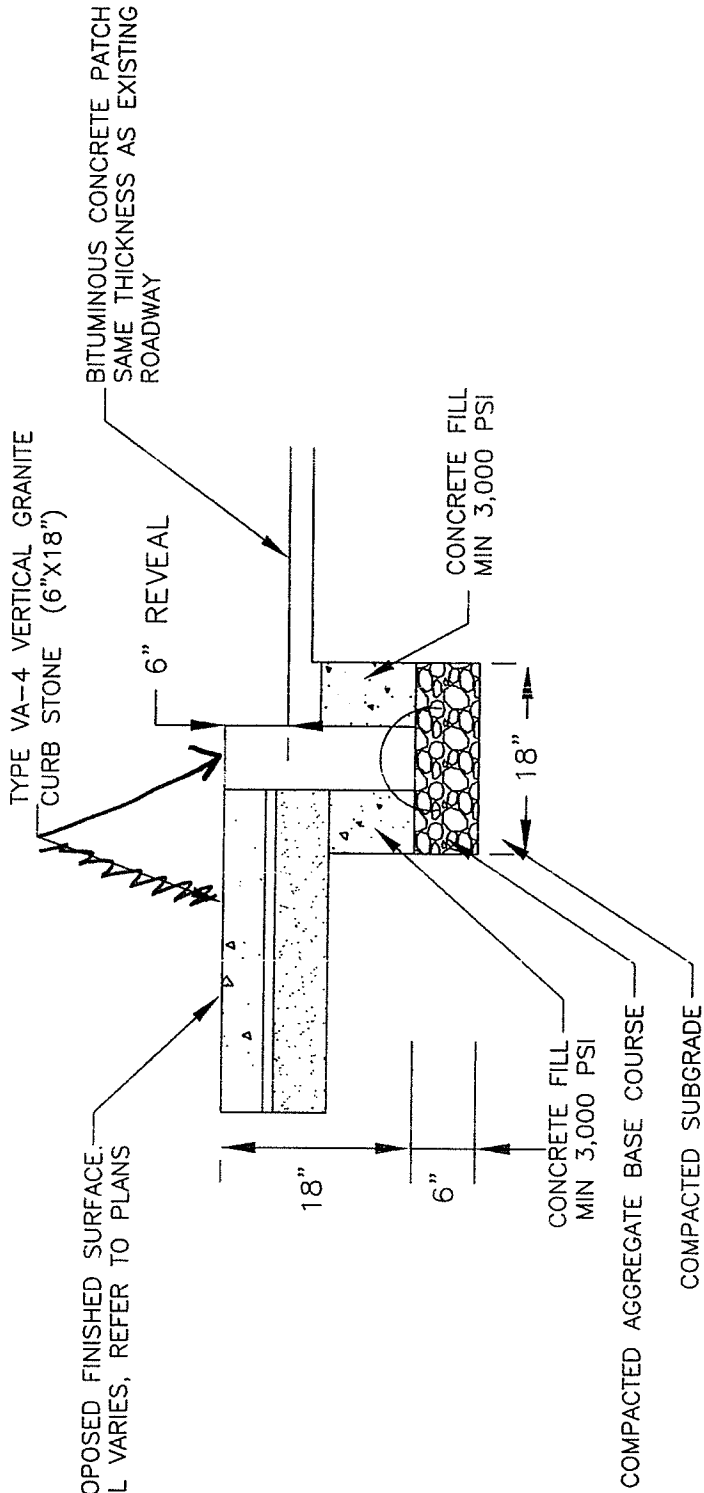
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CITY OF WALTHAM, MA. - ENGINEERING DEPARTMENT
STANDARD DETAILS

REV. DATE:

3/30/2011





TYPICAL VERTICAL GRANITE CURB DETAIL



FIGURE NAME:

TYPICAL VERTICAL GRANITE CURB DETAIL

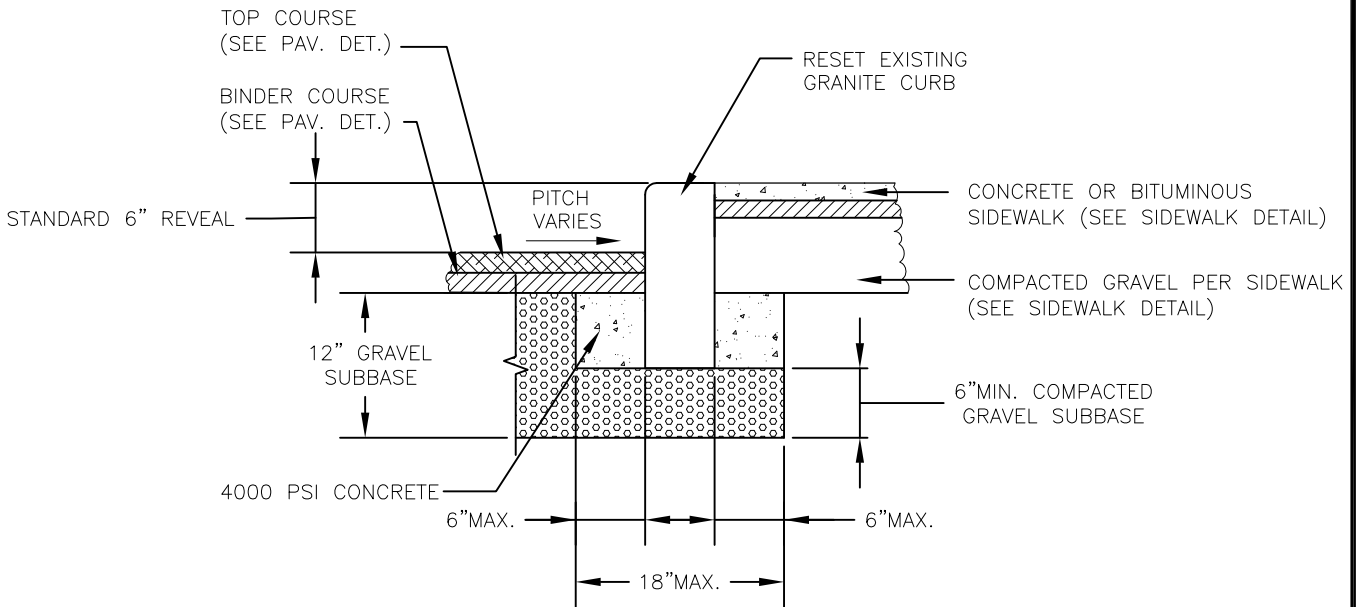
SCALE:

NOT TO SCALE

CITY OF WALTHAM, MA. - ENGINEERING DEPARTMENT
STANDARD DETAILS

REV. DATE:

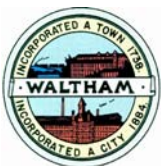
3/30/2011



GRANITE CURB DETAIL

NOT TO SCALE

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CITY OF WALTHAM, MA.
ENGINEERING DEPARTMENT

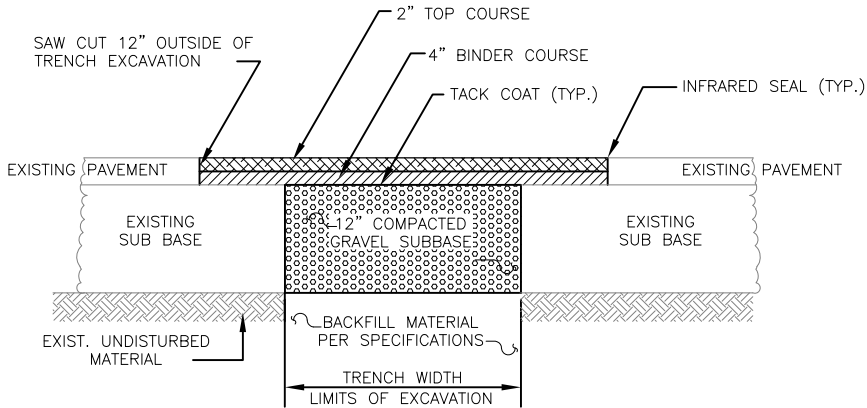
STANDARD DETAILS

GRANITE CURB DETAIL

504.000 - 504.101

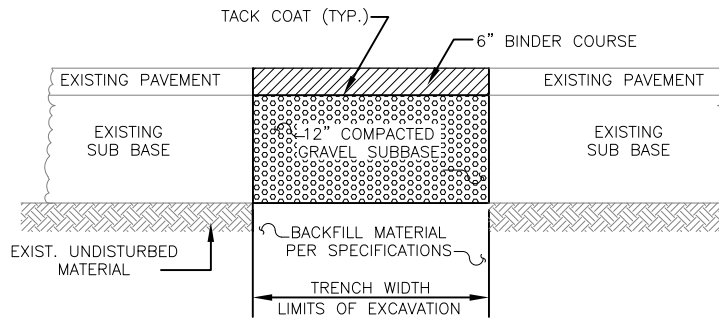
Sheet No.
504.000

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NTS



PERMANENT PAVEMENT DETAIL

NOT TO SCALE



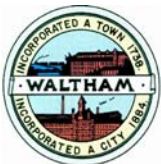
TRENCH PAVEMENT DETAIL

NOT TO SCALE

GENERAL PAVING NOTES:

1. THE CONTRACTOR SHALL MAINTAIN TEMPORARY PAVEMENT FOR A MINIMUM OF 90 DAYS EXCEPT IF TEMPORARY PAVEMENT IS PLACED AFTER OCTOBER 1, THEN IT SHALL BE MAINTAINED UNTIL APRIL 15 OF THE FOLLOWING YEAR.
2. PERMANENT PAVEMENT SHALL BE PLACED BETWEEN APRIL 15 AND NOVEMBER 15 OF EACH CALENDAR YEAR.
3. THE CONTRACTOR SHALL SAW CUT 12" OUTSIDE OF TRENCH EXCAVATION. TEMPORARY PAVEMENT SHALL BE REMOVED AND DISPOSED OF. THE GRAVEL SHALL BE FINE GRADED, EMULSION PLACED ON ALL JOINTS, AND PERMANENT PAVEMENT PLACED IN TWO COURSES.
4. CONTRACTOR SHALL MATCH EXISTING ROADWAY GRADES.
5. INFRARED SEAL SHALL BE PLACED AT ANY JOINT BETWEEN EXISTING PAVEMENT AND PULVERIZED OR COLD PLANED AND OVERLAYED PAVEMENT AND AT ALL PERMANENT TRENCH PATCHES.

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**CITY OF WALTHAM, MA.
ENGINEERING DEPARTMENT**

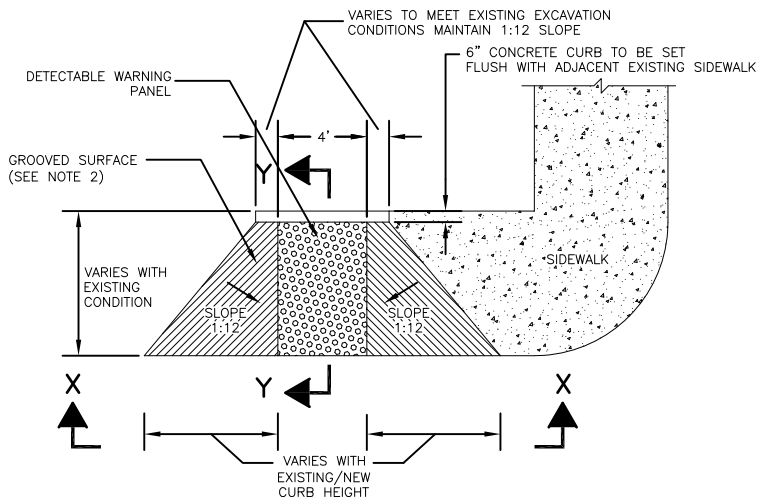
STANDARD DETAILS

BIT. CONCRETE PAVEMENT

460.000

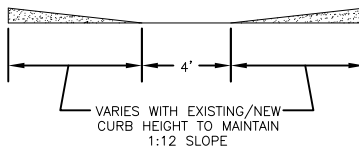
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Scale
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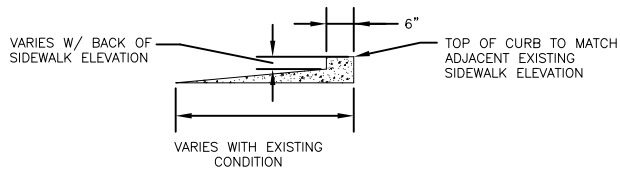


MAINTAIN 1:12 SLOPE TO MEET EXIST/NEW CONDITIONS

PLAN



SECTION X-X



SECTION Y-Y

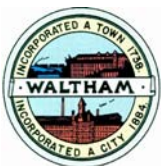
HANDICAP RAMP DETAIL

NOT TO SCALE

GENERAL HANDICAP NOTES:

1. REINFORCEMENT FOR HANDICAP RAMP SHALL BE THE SAME AS MICROFIBER REINFORCED CONCRETE FOR SIDE WALK.
2. THE FINISHED SURFACE OF HANDICAP RAMP IS TO BE GROOVED LATERALLY WITH 1/4" WIDE BY 1/4" DEEP GROOVES, SPACED 2-1/4" AND ROUGHENED WITH NO LESS THAN A BROOM FINISH TO PREVENT SLIPPING AND TO DIFFERENTIATE ITS TEXTURE FROM THAT OF STANDARD SIDEWALK.

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CITY OF WALTHAM, MA.
ENGINEERING DEPARTMENT

STANDARD DETAILS

CONCRETE WHEELCHAIR RAMP

701.000 - 701.101

Sheet No.
701.000.2

Scale
NTS

APPEXDIX A

RESTRICTED STREETS

No work shall be performed on restricted streets between the hours of 7:00 a.m. and 9:00 a.m. and between 4:00 p.m. and 6:00 p.m.

Streets restricted are as follows

Bacon Street

Bear Hill Road

Beaver Street

High Street

Lexington Street

Linden Street

Main Street

Maple Street

Newton Street

Pine Street

Prospect Street

River Street

Second Avenue

Smith Street

South Street

Stow Street

Totten Pond Road

Trapelo Road

Waverly Oaks Road

Weston Street

Winter Street

Wyman Street