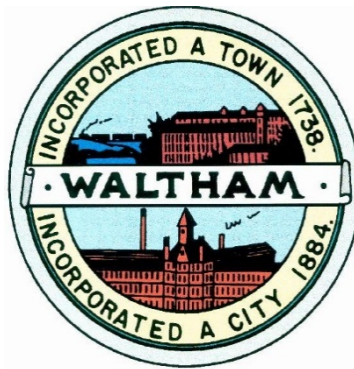


SPECIFICATIONS
AND
CONTRACT DOCUMENTS
FOR
PUMP STATION
OPERATION AND MAINTENANCE
IN
WALTHAM, MASSACHUSETTS



Bid due date: Friday May 12, 2017 at 10:00 am

CITY OF WALTHAM, MASSACHUSETTS
ENGINEERING DEPARTMENT
1 – INVITATION TO BID
FOR
PUMP STATION
OPERATION AND MAINTENANCE
IN
WALTHAM, MASSACHUSETTS

SEALED BIDS for PUMP STATION OPERATION AND MAINTENANCE will be received by the Purchasing Agent at City Hall, Mr. Joseph Pedulla, Chief Procurement Officer, 610 Main Street Waltham, MA 02452-5580 until **10:00 AM EST, Friday May12, 2017** at which time they will be publicly opened and read.

BIDS shall be received only on the Bid forms provided in the Specifications. The Bid forms shall be properly filled out, placed in a sealed envelope addressed to the Purchasing Agent, Waltham, Massachusetts, and endorsed "**BID FOR PUMP STATION OPERATION AND MAINTENANCE**" along with the bidder's name.

No Bid will be received unless accompanied by cash or treasurer's check issued by a responsible bank or trust company, or a bid bond for the sum of five percent (5%) of the contractor's bid price in favor of the City of Waltham. Should the Bidder selected as the Contractor on any such work fail to execute the Contract within five days, Sundays and holidays excluded, from the date of mailing a notice to the undersigned at the address given below that the contract is ready for signature, the amount so received as a bid deposit from such bidder through his cash or treasurer's check issued by a responsible bank or trust company, or bid bond shall become and be the property of the said City of Waltham as liquidated damages; provided, that in the case of death, disability or other unforeseen circumstances affecting the bidder, such bid deposit may be returned to him. An award shall then be made to the next lowest responsible and eligible bidder thereon.

The right is reserved by the City of Waltham to reject any or all bids as may be deemed best for the interests of the City and the City of Waltham reserves the right to waive any informality in the bids.

The successful bidder will be required to furnish a performance bond and labor and materials payment bond of an approved surety company in an amount not less than the full amount of the Contract.

Specifications and Bid forms may be obtained via e-mail request at [jp\[edulla@city.waltham.ma.us](mailto:jp[edulla@city.waltham.ma.us) or by visiting the City of Waltham website: www.city.waltham.ma.us/open-bids after **12 Noon April 26, 2017**.

The successful bidder shall observe faithfully all statutory requirements and local ordinances.

The City of Waltham specifically reserves the right to delete from the Contract any of the items stipulated in the Bid should, in its opinion, such action be necessary. The City of Waltham further reserves the right, should funds be available, to add to the items stipulated in the Bid should, in its opinion, such actions be in the best interest of the City of Waltham.

By: City of Waltham
Mr. Joseph Pedulla, MCPPO
Chief Procurement Officer
610 Main Street
Waltham, MA 02452-5580
Tel: 781-314-3244
Email: jpedulla@city.waltham.ma.us

CITY OF WALTHAM, MASSACHUSETTS
ENGINEERING DEPARTMENT

2 – BID FOR
PUMP STATION
OPERATION AND MAINTENANCE
IN
WALTHAM, MASSACHUSETTS

TO: JOSEPH PEDULLA, PURCHASING AGENT
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 PUMP STATION OPERATION AND MAINTENANCE for the City of Waltham between **July 1, 2017 and June 30, 2020**, as herein specified and will provide therefore all necessary labor, machinery, materials and equipment, and will perform all the work in the manner prescribed and according to the requirements of the City Engineer.

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 (5%) 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.

Scope of Services:

- 1) Perform monthly inspections at each of the seven wastewater pumping stations and at the two water pumping stations to systematically inspect and operate all electrical, control and mechanical equipment. Document operator's inspection and maintenance and other aspects of the pump operation that have been evaluated, using a custom data logging system. Inspections shall include, but are not limited, to the following:
 - a) Interior and exterior of the pump station area
 - b) Electrical panels
 - c) Operation of the electrical system
 - d) Operation of the heating, ventilation and dehumidification systems
 - e) Operation of instrumentation and controls including level controls, alarm functions (local annunciators), call out and telemetry
 - f) Observe an on load test of the stand-by generators to check their operation and inspect for any deficiencies
 - g) Check the operation of the data acquisition units for functionality, troubleshooting as necessary.
 - h) Miscellaneous operations including:
 - i) Pump and motors, including seals
 - ii) Check valves and gate valves
 - iii) Mechanical piping
 - iv) Sump pump

- v) Pressure gauges
- vi) Stand-by generators and automatic transfer switches
- vii) Inspection of wet wells for leaks, floating debris and need for cleaning
- viii) Test alarm functions

- 2) Prepare and submit an electronic report to the Engineering Department summarizing the monthly inspections of the pumping stations. Include recommendations for changes in the operation and/or maintenance practices, followed by the personnel responsible for the pumping station operation. Include recommendations, preliminary cost estimates for equipment, and pump station system upgrades as required. The letter report shall be due within 15 calendar days of the inspection. This report shall be submitted electronically to the City Engineer, the Assistant City Engineer, the Water-Sewer Superintendent and the Pump Station Operator.
- 3) Maintain and service pumping equipment following manufacturer recommendations and requirements. Maintenance shall include, but is not limited to, lubrication, exercise and testing of pumping equipment and controls.
- 4) Organize and conduct a preventive maintenance program at the pumping stations that will include:
 - a) Control and instrumentation inspection of relay, contact, and pressure sensing equipment involved with the controls and instrumentation and mechanical valve equipment.
 - b) Inspection of electric motors and service equipment within the station. Motors will be checked for amperage draw and connections.
 - c) Bi-annual cleaning of the wet wells at each sewer pumping station.
- 5) Perform a scheduled operation and maintenance (O&M) program for the stand-by generators that will consist of two service calls, annually to each of six stand-by generators. The following tasks shall be performed:
 - a) Annually (once per year) change the oil, oil filters, and fuel filters where applicable. Engine safety systems will be mechanically failed to verify operation where possible. Automatic transfer switches will be inspected and exercised. Observe an on load for the generator service to check operations and inspect for any deficiencies. Provide a complete report of the services performed after each visit, and communicate these in electronic format to the City Engineer, Assistant City Engineer, the Water-Sewer Superintendent and the Pump Station Operator.
 - b) Annually (once per year) a system check will be performed to check proper lubrication and cooling of the stand-by units. Refill (top off) all fluids as necessary. Observe an on load test after each generator service to check operations and inspect for any deficiencies. Provide a complete report in electronic format of the services performed after each visit to the City Engineer, Assistant City Engineer, the Water-Sewer Superintendent and the Pump Station Operator.
- 6) Perform annual preventive maintenance per manufacturers' recommendations on the three Parco pneumatic actuated valves at the Cedarwood Pumping Station, the check valves at the Brandeis and Prospect Hill vaults and the 5 pressure reducing valves located across the city. Costs shall not exceed \$10,000 per year without written permission from the OWNER.
- 7) Once per contract term (36 months) calibrate and test the flow metering devices at each sewer pump station and the Cedarwood water pumping station.

8) Provide 24-hour on-call service for the pumping stations and generators on an as requested basis. All repair maintenance, if necessary, will be performed according to the schedule of fees in the bid. Costs shall not exceed \$40,000 per year without written permission from the OWNER.

Facilities included in this contract:

Wastewater Pumping Facilities					
Location	Type	Pump 1 Model	Pump 2 Model	Pump 3 Model	Generator Model
356 Second Ave	Concrete Custom Flooded-suction	Cornell 12NHTM-VF18	Cornell 12NHTM-VF18	Cornell 12NHTM-VF18	Kohler 125REZGC
1531 Trapelo Rd	Concrete Custom Flooded-suction	Ingersoll Dresser 6MFC11 FR-3	Ingersoll Dresser 6MFC11 FR-3	Worthington 6MFC-11	Kohler 30 REZG
22 Spencer St	Concrete Custom Flooded-suction	Cornell 4NHTA-VF16	Cornell 4NHTA-VF16	Cornell 4NHTA-VF16	Kohler 30 REZG
38 Wimbledon Cir	Concrete Custom Flooded-suction	Crane	Crane	NONE	
40 Edgewater Dr	Fiberglass Packaged suction-lift	Gorman Rupp T4A3	Gorman Rupp T4A3	NONE	Kohler 30 REZG
47 Woerd Ave	Concrete Custom Flooded-suction	Worthington 4MFV-11FR.3	Worthington 4MFV-11FR.3	NONE	Kohler 30 REZG
Cedarwood Wastewater Ejector Pump	Fiberglass Packaged suction-lift	Out of Service - to be replaced	NONE	NONE	NONE
Water Pumping Facilities					
Location	Type	Pump 1 Model	Pump 2 Model	Pump 3 Model	Generator Model
Cedarwood (246 South St)	Custom Pump House	Aurora 411BF	Aurora 411BF	Aurora 411BF	NONE
Warwick Ave @ Abbott Rd	in line booster pump		NONE	NONE	NONE
Other Water Facilities					
Location	Type				
Prospect Hill (Prospect Hill Tanks)	Check Valve in Vault				
Brandeis University (Cedarwood Tank)	Check Valve in Vault				
South Street (driveway to Cedarwood Pump Sta)	Pressure Reducing Valve in Vault				
Lexington Street (@Beaver St)	Pressure Reducing Valve in Vault				
Bacon Street	Pressure Reducing Valve in Vault				
Trapelo Road (@ Manning Rd)	Pressure Reducing Valve in Vault				
Lunda Street (@Prospect Hill Rd)	Pressure Reducing Valve in Vault				

Schedule:

Commencement shall be **July 1, 2017, or** the date of the notice to proceed, whichever is later.

Fees:

Costs associated with tasks 1 – 7 in the Scope of Services shall be included in one lump sum. Payments shall be prorated over the 36 month contract period.

Costs associated with task 8 shall be paid using the Following schedule of values and the actual hours for a mechanic/instrumentation specialist/electrician. Estimated hours are for comparison of bids only.

Tools, transportation, telephone and office overhead shall be included in the above work and fixed fees.

ITEM NO.	QTY.	ITEM WITH UNIT BID PRICE OR PERCENTAGE WRITTEN IN WORDS	UNIT PRICE	AMOUNT
1	1 LS	Tasks 1 through 7 (Based on Thirty-six [36] monthly inspections) _____ Lump Sum	\$ _____	\$ _____
2	150 hours	Instrumentation Controls Specialist, Task 8 7:00 am to 4:30 pm weekdays _____ Hourly Rate	\$ _____	\$ _____
3	30 hours	Instrumentation Controls Specialist, Task 8 4:30 pm to 7 am weekdays, and weekends and holidays _____ Hourly Rate	\$ _____	\$ _____
4	150 hours	Electrician, Task 8 7:00 am to 4:30 pm weekdays _____ Hourly Rate	\$ _____	\$ _____
5	30 hours	Electrician, Task 8 4:30 pm to 7 am weekdays, and weekends and holidays _____ Hourly Rate	\$ _____	\$ _____
6	300 hours	Mechanic, Task 8 7:00 am to 4:30 pm weekdays _____ Hourly Rate	\$ _____	\$ _____
7	45 hours	Mechanic, Task 8 4:30 pm to 7 am weekdays, and weekends and holidays _____ Hourly Rate	\$ _____	\$ _____
8	T.B.D.	Percentage Markup on materials _____ Per Cent _____% (words) (figures)	Markup Value \$ _____	Markup Value \$ _____

Total bid price for Labor Only Written in words: <hr/>	Total bid price for Labor Only, <i>(excluding % markup),</i> written in figures: \$ <hr/>
<hr/>	<hr/>

BIDDER ACKNOWLEDGES RECEIPT OF THE FOLLOWING ADDENDA:

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

It is understood and agreed that the quantities set forth in the Bid are approximate and the actual quantity of work to be done may be more or less, as determined by the ENGINEER. 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.

BIDDER

SIGNATURE

BUSINESS ADDRESS

TELEPHONE NUMBER

FAX NUMBER

DATE

EMAIL ADDRESS

PROOF OF CONTRACTOR'S RESPONSIBILITY

Before a contract will be awarded to any bidder, he will be required to furnish evidence satisfactory to the Owner that he has all of the following qualifications:

- A. Ability, equipment, organization, and financial resources sufficient to enable him to provide monthly and emergency water and wastewater pump station maintenance and operation and complete the work successfully within the time required.
- B. Experience during the past three (3) years in the successful maintenance and operations of similar facilities, the magnitude of which shall be not less than one-half (1/2) the work herein specified. In this connection, the attention of the bidder is directed to the bidder's experience form attached, which shall be used in determining the responsibility of the bidder. The Owner may require additional information whenever, in his judgment, such information is necessary to determine the responsibility of the bidder.

An experienced bidder shall be construed to mean that the bidder has a minimum of three (3) individuals within his organization who each have the experience to supervise a job of this nature and magnitude. Their experience shall include previous work in pump station maintenance and operations.

- C. The contractor shall have a primary shop location within twenty (20) miles of the City of Waltham.
- D. The contractor shall have a response time to an alarm call within forty-five (45) minutes of the call, twenty-four (24) hours per day, seven (7) days per week.
- E. The contractor shall have mechanical, electrical and instrumentation staff on hand to perform these repairs. The contractor shall not subcontract the normal repair work.

In the event the bidder fails, refuses, or neglects to submit any required information within the reasonable time stated in any request or fails to qualify as a responsible bidder; his bid guaranty shall be forfeited to the use of the owner, not as a penalty, but as liquidated damages.

The determination of whether a bidder is responsible shall rest solely with the Owner.

BIDDER'S EXPERIENCE

The following is a list of the facilities similar in character and scope to the facilities specified in this contract that have been successfully operated and maintained by the bidder during the past three years.

LOCATION- TYPE OF WORK-DOLLAR VALUE-OWNER'S NAME AND ADDRESS- OWNER'S ENGINEER AND PHONE-DATE COMPLETED

_____ BIDDER'S SIGNATURE

CITY OF WALTHAM, MASSACHUSETTS
ENGINEERING DEPARTMENT

3 – CONTRACT
FOR
PUMP STATION
OPERATION AND MAINTENANCE
IN
WALTHAM, MASSACHUSETTS

CLAUSE 1. This agreement is made this _____ day of _____ in the year Two Thousand and Seventeen by and between the City of Waltham, party of the first part, hereinafter called the CITY, by its MAYOR, and

party of the second part, hereinafter called the CONTRACTOR.

CLAUSE 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 PUMP STATION VALVE AND CONTROL INSPECTION AND MAINTENANCE and in strict conformity with the provisions of this contract and of the Invitation to Bid, Bid and specifications hereto annexed. The said specifications and Invitation to Bid 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.

CLAUSE 3. In consideration of the foregoing promises, 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 but 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 risks of every description connected with 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.

CLAUSE 4: The date of completion of this project is June 30, 2020. Commencement shall be July 1, 2017, or the date of the notice to proceed, whichever is later. The bidder is hereby notified that time is of the essence concerning this proposed work and that the bidder must agree to commence work on or before a date to be specified.

It is understood and agreed that the quantities set forth in the Bid are approximate and the actual quantity of work to be done may be more or less, as determined by the ENGINEER.

CITY OF WALTHAM, MASSACHUSETTS

BY _____
JEANNETTE A. MCCARTHY, MAYOR

BY _____
**JOHN CERVONE, CITY SOLICITOR,
APPROVED AS TO FORM ONLY**

CONTRACTOR

BY _____
PAUL CENTOFANTI, CITY AUDITOR

BY _____
JOSEPH PEDULLA, PURCHASING AGENT

BY _____
STEPHEN CASAZZA, CITY ENGINEER

CITY OF WALTHAM, MASSACHUSETTS
ENGINEERING DEPARTMENT

4A - **PAYMENT BOND**
FOR
PUMP STATION
OPERATION AND MAINTENANCE
IN
WALTHAM, MASSACHUSETTS

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 if the above bounden

heirs, executors, administrators and assigns, shall promptly make payment to all persons, firms, subcontractors, and corporations furnishing materials for or performing labor in the prosecution of the work provided for in PUMP STATION VALVE AND CONTROL INSPECTION AND MAINTENANCE and any authorized extensions or modification thereof, including all amounts due for materials, lubricants, oil, gasoline, repairs on machinery, equipment and tools consumed or used in connection with the performance of such work, and all insurance premiums on said work, and for all labor performed in such work, whether by subcontractors or otherwise, then this obligation shall be void; otherwise to remain in full force and effect.

PROVIDED, HOWEVER, that (except as to the Owner) 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 Owner of any extension of time for the performance of the Contract, or any other forbearance on the part of either the Owner or the Contractor to the other, shall not in any way release the Contractor and the Surety or 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 altercations, 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, maintenance and operation, 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 or 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 _____ BY _____
SURETY (SEAL)

NAME _____ BY _____
SIGNATURE AND TITLE

ADDRESS _____ BY _____
ATTORNEY-IN-FACT

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

CITY OF WALTHAM, MASSACHUSETTS
ENGINEERING DEPARTMENT

4B - PERFORMANCE BOND
FOR
PUMP STATION
OPERATION AND MAINTENANCE
IN
WALTHAM, MASSACHUSETTS

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 furnish materials for or perform labor on the work, performance 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 or 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 if the above bounden

_____ heirs, executors, administrators and assigns, shall faithfully perform the PUMP STATION VALVE AND CONTROL INSPECTION AND MAINTENANCE on his part and during the life of any guaranty or warranty, including 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 Owner from all costs and damage which it may suffer by reason of failure so to do, and shall fully reimburse and repay the Owner all outlay and expense which the Owner by 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 Owner, 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 Owner) 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 Owner of any extension of time for the performance of the Contract, or any other forbearance on the part of either the Owner or the Contractor to the other, shall not in any way release the Contractor and the Surety or 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, performance 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 _____ BY _____
SURETY (SEAL)

NAME _____ BY _____
SIGNATURE AND TITLE

ADDRESS _____ BY _____
ATTORNEY-IN-FACT

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

Instructions

INSTRUCTIONS FOR BIDDERS

1. READ ALL DOCUMENTS.

Bidders should familiarize themselves with all the documents contained herein; it is mandatory that all Bids be in compliance with all the provisions contained in said documents.

2. FORMS AND ATTACHMENTS.

Bids are to be completed on the forms provided ONLY and enclosed in a sealed envelope marked on the outside "BID (title)" and the name and address of bidder. Attachments submitted in addition to the Waltham Purchasing Department produced forms may not be considered.

3. PRINTED OR TYPED RESPONSE.

All information must be typewritten or printed in ink, including the price the bidder offers in the space as provided on the bid form.

4. CORRECTIONS.

Bids that are submitted containing cross outs, white outs or erasures, will be rejected. All corrections or modifications to the original bid are to be submitted in a separate envelope, properly marked on the outside, "CORRECTION/ MODIFICATION TO BID (title)" and submitted prior to the bid opening.

ALL DOCUMENTS SUBMITTED WITH YOUR RESPONSE WILL BE INCORPORATED INTO THE CONTRACT.

5. PRICE IS ALL INCLUSIVE.

Bid prices shall encompass everything necessary for furnishing all items, materials, supplies or services as specified, and in accordance with the specifications, including proper packing, cost of delivery, and in the case of services, completion of same, as per specifications.

6. PRICE DISCREPANCY.

In the event of a discrepancy between the Unit Price and the Extension, the Unit Price shall prevail.

7. EXPLANATIONS, EXCEPTIONS

Explanations, exceptions or other information pertinent to the specifications may be made in writing and included in the same envelope with the bid.

8. BID DEPOSITS.

Bid deposits are to be made payable to the City of Waltham. In the event that the successful bidder fails to execute a Contract within (10) days of the receipt of said contract, such security shall be retained by the city as liquidated damages. Unsuccessful bidders' deposits will be returned immediately following the award to said successful bidder.

9. WITHDRAW.

A Bid may be withdrawn by written request prior to the schedule for the Bid Opening. No withdrawals are permitted after the bid opening date and time. Withdrawals after the bid opening date will cause the forfeit of the bid Deposit.

10. AWARD.

Bids will be awarded not later than (90) ninety days after the scheduled bid opening date, unless otherwise stated, in the specifications. Unless otherwise specified, bids will be evaluated on the basis of, completeness of your IFB response, responsiveness, responsibility, best price and experience.

11. AWARD CRITERIA.

Qualified and responsive proposals will be evaluated based on Price, Technical, and Compliance requirements.

12. DISCOUNTS.

Discounts for prompt payments will be considered when making awards.

13. TAX EXEMPT.

Purchases by the City of Waltham are exempt from any Federal, State or Massachusetts Municipal Sales and/or Excise Taxes.

14. SAMPLES.

The Waltham Purchasing Department may require the submission of samples either before or after the awarding of a contract. Samples are to be submitted, at no charge to the City, so as to ascertain the product's suitability. If specifically stated in the Bid that samples are required, said samples must be submitted with the Bid prior to the Official Bid Opening. Failure to submit said samples would be cause for rejection of Bid. All samples must be called for and picked up within (30) thirty days of award or said samples will be presumed abandoned and will be disposed of.

15. ACTIVE VENDOR LIST.

Vendors who wish to remain on the Active Bid List must either submit a Bid, No Bid, or a letter requesting same, no later than the Official Bid Opening. This is applicable to those vendors who have received the Invitation to Bid.

16. FUNDS APPROPRIATION.

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

17. THE AWARDING AUTHORITY RESERVES THE RIGHT TO REJECT ANY OR ALL BIDS, OR ANY PART OF ANY BID, WHICH IN THE OPINION OF THE AWARDING AUTHORITY, IS IN THE BEST INTERESTS OF THE CITY OF WALTHAM.

18. THE TAX ATTESTATION CLAUSE, CERTIFICATION OF NON-COLLUSION AND THE CERTIFICATE OF VOTE AUTHORIZATION, are require by statute and are an integral part of the Invitation for Bid and must be completed and signed by the person submitting the Bid, or by the person/persons who are officially authorized to do so. Failure to do so may disqualify the bid.

19. STANDARD OF QUALITY.

Where, in the specifications, one certain kind, type, catalog number, brand or manufacturer of material is named, it shall be regarded as the required standard of quality. Where two or more are named, these are presumed to be equal and the Bidder may select one or the other. If the Bidder proposes to offer a substitute as an equal, he shall so indicate on the Bid Form, the kind, type, catalog number, brand, or manufacturer of material that is offered as an equal, and describe where it differs from the specifications. Substituted items must be capable of performing all the functions and/or operational features described or indicated in the specifications. Failure to indicate the description of any substitute item on the Bid will be interpreted to mean that the Bidder will furnish the item or service as specified.

20. MODIFICATION.

No agreement, understanding, alteration or variation of the agreement, terms or provisions herein contained shall bind the parties, hereto unless made and executed in writing by the parties hereto.

21. ASSIGNMENT.

The final payment for work done under this Contract shall be made only after the Contractor has signed a statement under the penalty of perjury, certifying that he has completed the work described in the final estimate. Neither party hereto shall assign this Contract or sublet it in part or as a whole without the prior written consent of the other party hereto. The Contractor shall not assign any sum or sums due or becoming due to him hereunder without the prior written consent of the City.

22. DELIVERIES:

a) The Contractor shall pay all freight and delivery charges. The Waltham Purchasing Department does not pay for shipping and packaging expenses. Items must be delivered as stipulated in the specifications. All deliveries must be made to the inside of city buildings.

Sidewalk deliveries will not be accepted. City personnel are not required to assist in the deliveries and contractors are cautioned to notify their shippers that adequate assistance must be provided at the point of delivery, when necessary.

b) All items of furniture must be delivered inside the building, set up, in place and ready for use. Deliveries are to be made between the hours of 8:30 a.m. and 3:00 p.m., Monday through Friday, except on holidays.

c) All damaged items, or items which do not comply with specifications will not be accepted and title therefore will not vest to the Waltham Purchasing Department until such items are accepted and signed for, in good order, by the receiving department.

d) The contractor must replace, without further cost to the City of Waltham, such damaged or non-complying items before payment will be made.

23. LABELING.

All packages cartons or other containers must be clearly marked with (a) building and room destination; (b) description of contents of item number from specifications; (c) quantity; (d) City of Waltham Purchase Order Number and (e) Vendor's name and order number.

24. GUARANTEES.

Unless otherwise stipulated in the specifications, furniture, equipment and similar durable items shall be guaranteed by the contractor for a period of not less than one year from the date of delivery and acceptance by the receiving department. In addition, the manufacturer's guarantee shall be furnished. Any items provided under this contract which are or become defective during the guarantee period shall be replaced the contractor free of charge with the specific understanding that all replacements shall carry the same guarantee as the original equipment. The contractor shall make such replacement immediately upon receiving notice from the Purchasing Agent.

25. SINGLE VENDOR.

The Waltham Purchasing Department desires to award a single contract based on the Grand Total Price. However, where applicable, the City reserves the right to make multiple awards on a unit price basis if, in the opinion of the Waltham Purchasing Department, it is in the best interest of the City of Waltham.

26. BEST AND FINAL OFFER.

The City of Waltham reserves the right to request best and final offers from one or more bidders. Best and final offer will be exercised should the City of Waltham deem it is in the best interest the City of Waltham in order to obtain the best value.

27. CHANGE ORDERS.

Change orders are not effective until, if, as and when signed by the Mayor and no work is to commence until the change orders are fully executed.

GENERAL CONDITIONS

GENERAL CONDITIONS

1. INFORMATION

All information shall come from the Office of the City Purchasing Agent. The Contractor shall inquire at this office for any information needed. Wherever the words "or equal as approved" are used, it is to be understood that the opinion of the City Purchasing Agent shall govern.

2. SUITS

The Contractor shall assume defense of and shall indemnify and hold the City and its agents harmless from all suits and claims against the City and its sub-contractors arising from the use of any invention, patent right labor or employment, or from any act of omission or neglect of the City, its agents, employees or any subcontractor in performing the work, under this contract.

3. LAWS AND REGULATIONS

The Contractor shall conform to all the applicable rules, regulations, laws and ordinances of the City of Waltham, the Commonwealth of Massachusetts, the United States of America and all agencies having jurisdiction over this contract.

4. PROTECTION OF PROPERTY

The Contractor shall take all proper precautions to protect the City's property from damage and unnecessary inconvenience. Any City property damaged by the Contractor in carrying out the provisions of this contract shall be restored to its original condition, by and at the expense of the Contractor.

5. PROTECTION OF PERSONS

The Contractor shall take all proper precautions to protect persons from injury, unnecessary inconvenience, and shall be responsible for his failure to do so. The Contractor agrees to hold the City harmless from any and all liabilities of every nature and description, which may be suffered through bodily injury, including death, to any person, by reason of negligence of the Contractor, his agents or employees, or any subcontractor.

6. CONTRACT DURATION

This contract is for a one-year period, renewable, at the sole discretion of the City for an additional two one-year periods, ending at the latest June 30, 2020, subject to prior annual appropriation of monies from the Governmental Body and Authorization by the Mayor.

7. INSURANCE

A. WORKMAN'S COMPENSATION: The Contractor shall provide by insurance for the payment of compensation and furnishing of other benefits under Chapter 152 of the General Laws of the Commonwealth of Massachusetts to all persons to be employed under this contract, the premiums for which shall be paid by the Contractor.

B. COMPREHENSIVE GENERAL LIABILITY

Bodily Injury: \$1,000,000 Each Occurrence
\$2,000,000 Aggregate

Property Damage: \$1,000,000 Each Occurrence
\$2,000,000 Aggregate

C. AUTOMOBILE (VEHICLE) LIABILITY

Bodily Injury \$2,000,000 Each Occurrence
Property Damage \$1,000,000 Aggregate

D. UMBRELLA POLICY

General liability \$2,000,000

Your bid response must include a Certificate of Insurance with the above limits as a minimum. In addition, the Certificate of Insurance must have the following text contained in the bottom left box of the Certificate: "The City of Waltham is a Named Additional Insured". The Certificate of Insurance must be mailed directly to:

Office of the Purchasing Agent
Purchasing Department
City of Waltham
610 Main Street
Waltham, MA 02452

8. LABOR AND MATERIALS BOND

The Contractor agrees to execute and deliver to the City, a Labor and Materials or Payment Bond equal to 100% of the contract value and a Performance Bond equal to 100% of the contract value. This contract shall not be in force until said bond has been delivered and accepted by the City. The Bond is to be issued by a company licensed by the Commonwealth of Massachusetts.

A LETTER FROM A SURETY COMPANY CERTIFYING THAT THE CONTRACTOR IS QUALIFIED AND CAPABLE OF OBTAINING THE ABOVE BONDS SHOULD INCLUDED WITH HIS/HERS BID.

9. PERSONNEL

The Contractor shall employ a competent supervisor and all properly licensed personnel necessary to perform the services required in this contract. The City Purchasing Agent shall have the right to require the Contractor to remove and/or replace any of the personnel for nonperformance or for unprofessional behavior. The City Purchasing Agent may require the Contractor to submit a weekly performance record of the areas and of the work performed, on forms approved by the City Purchasing Agent. The Contractor or his supervisor shall be available to inspect such work as required by the City Purchasing Agent.

10. PREVAILING WAGES

The Contractor is required to pay the prevailing wages as determined under the provisions of Chapter 149, Sections 26 and 27D of the Massachusetts General Laws, including the submission of weekly payrolls to the awarding authority. A copy of the prevailing wage schedule can be found at www.city.waltham.ma.us/open-bids

11. MATERIALS

The City or its Agent reserves the right to approve or reject any supplies, material or equipment used by the Contractor. The Contractor agrees to replace any supplies, material or equipment used by the Contractor. The Contractor agrees to replace any rejected supplies, materials or equipment, to the satisfaction of the City or its Agents.

12. TERMINATION OF CONTRACT

This contract may be terminated by the City upon deliverance to the Contractor of a five-day written notice of said termination.

13. CONTRACT OBLIGATIONS

Contract obligations on behalf of the City are subject to an annual appropriation to cover the contract obligation.

14. BIDDER EXPERIENCE EVALUATION

Each bidder shall submit with his bid, all the information relative to their experience and qualifications in performing the work required under this contract and shall have been in business for a minimum of five (5) years, in order for their bid to be considered.

15. NOT-TO-EXCEED AMOUNT

The bid amount proposed in your company's response is a "not-to- Exceed" amount unless the City makes changes, in writing, to the scope of work to be performed. The Change Order must be signed and approved by the City's Purchasing Agent, City Auditor, Law Department and the Mayor prior to the commencement of the change order work. No work is to begin until the proper approvals have been obtained. A change order will be priced at the unit price.

Failure to comply with this procedure will result in the cancellation of the contract and the non-payment of services provided

16. FINANCIAL STATEMENTS.

The City may require, within five (5) days after the bid opening, a complete and detailed Financial Statement prepared by a Certified Public Account, to determine a bidder's financial stability.

17. BREACH OF CONTRACT/ NON PERFORMANCE

If the Contractor shall provide services in a manner, which is not to the satisfaction of the City, the City may request that the Contractor refurnish services at no additional cost to the City until approved by the City. If the Contractor shall fail to provide services, which are satisfactory to the City, the City in the alternative may make any reasonable purchase or Contract to purchase services in substitution for those due from the Contractor. The City may deduct the cost of any substitute Contract for nonperformance of services together with incidental and consequential damages from the Contract price and shall withhold such damages from sums due or to become due to the Contractor. If the damages sustained by the City exceed sums due or to become due, the Contractor shall pay the difference to the City upon demand. The Contractor shall not be liable for any damages sustained by the City due to the Contractor's failure to furnish services under the terms of this Contract if such failure is in fact caused by the occurrence of a contingency the nonoccurrence of which was a basic assumption under which this Contract was made, including a state of war, embargoes, expropriation of labor strike or any unanticipated federal, state or municipal governmental regulation of order, provided that the Contractor has notified the City in writing of such cause within seven (7) days after its occurrence.

18. RIGHT TO AUDIT

The City of Waltham has the right to review and audit documents related to this contract. This right extends to any subcontractor, supplier or other entity used by the prime contractor to fulfill the obligations under this contract.

19. 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.

Compliance

(Required Documents.)

Compliance

The compliance documents in this section must be completed, signed and returned **with your bid package.**

Purchasing Department

City of Waltham
610 Main Street
Waltham, MA 02452

Failure to submit the completed documents will cause the disqualification of the proposal.

Section Index

Check when Complete

- Non-collusion form and Tax Compliance form..... _____
- Corporation Identification Form..... _____
- Certificate of Vote Authorization..... _____
- Certificate of Insurance (showing all limits of WC &GL)..... _____
- Three (3) References..... _____
- 5% Bid Bond or Certified Check..... _____
- Debarment Certificate _____
- Prevailing Wage Certificate..... _____
- OSHA 10 Certificate for all Assigned Employees (MGL ch30, §39M and Ch 149) _____

Before the commencement of the Job, the contractor must provide to the above office:

- Labor and Performance Bond EACH for 100% of the contract value and naming the City of Waltham .
(Letter must be included with your response)

Your Company's Name: _____

Service or Product Bid _____

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.

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)

(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

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 OF 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

SIGNED:

(Corporate Seal)

Clerk of the Corporation:

Print Name: _____

COMMONWEALTH OF MASSACHUSETTS

County of _____

Date:

Then personally appeared the above named and acknowledged the foregoing instrument to be their free act and deed before me, _____

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

Zip Code

Telephone Number

PROVIDE THREE (3) SERVICE APPROPRIATE REFERENCES

1. Company Name:

Address:

Contact Name:

Phone #

Type of service/product provided to this Company:

Dollar value of service provided to this Company:

2. Company Name:

Address:

Contact Name:

Phone #

Type of service/product provided to this Company:

Dollar value of service provided to this Company:

3. Company Name:

Address:

Contact Name:

Phone #

Type of service/product provided to this Company:

Dollar value of service provided to this Company:

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.

**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 has been printed on the reverse of this page 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.

In addition, every contractor and subcontractor is required to submit, on a weekly basis, a copy of his or her weekly payroll records to the awarding authority. For every week in which an apprentice is employed, a photocopy of the apprentice's identification card must be attached to the payroll report. Once collected, the awarding authority is also required to preserve those reports for three years.

In addition, each such contractor, subcontractor, or public body shall furnish to the awarding authority directly, within fifteen days after completion of its portion of the work, a statement, executed by the contractor, subcontractor or public body who supervises the payment of wages, in the following form:

STATEMENT OF COMPLIANCE

_____, 200____

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

I 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 _____

Print _____

WEEKLY PAYROLL REPORT FORM

Company Name: _____ Prime Contractor

Project Name: _____ Subcontractor

Awarding Auth.: _____ List Prime Contractor: _____

Work Week Ending: _____ Employer Signature: _____

Final Report Print Name & Title: _____

Employee Name & Address	Work Classification	(A) Hours Worked							(B) Hourly Base Wage	Employer Contributions			(F) [B+C+D+E] Hourly Total Wage (prev. wage)	(G) [A*F] Weekly Total Amount
		Tot. Hrs.								(C) Health & Welfare	(D) Pension	(E) Supp. Unemp.		
		S	M	T	T	W	F	S						

NOTE: Every contractor and subcontractor is required to submit a copy of their weekly payroll records to the awarding authority.

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.

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 _____

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.

Appendix A

Section 4 of 2011 Wastewater Collection System Operations and Maintenance Manual

**Information included for reference only

Section 4

Wastewater Pumping Stations

4.1 Introduction

Pump and ejector stations are used to convey wastewater from a lower elevation to a higher elevation. Wastewater pumping is accomplished with the use of either centrifugal pumps or air operated (pneumatic) ejectors. Pumping facilities are constructed in various sizes and shapes, depending upon the volume of wastewater to be handled, the elevation the wastewater must be lifted and the distance it must be conveyed before it begins again to flow by gravity in the collection system. Pumping facilities can range from a wet well with submersible pumps to a factory prefabricated package station up to a more elaborately designed station capable of pumping higher wastewater flows.

There are six wastewater pumping stations in the Waltham wastewater collection system:

1. Woerd Avenue
2. Legion Road
3. Trapelo Road
4. Spencer Street
5. Wimbledon Circle
6. Edgewater Drive

The numbers corresponding to each pumping station above are regularly used to identify the stations, instead of by name. The Cedarwood Booster Station (drinking water) contains a small wastewater lift, however the amount of wastewater that this lift serves is minimal.

This chapter contains a brief description of each pumping station and its tributary area, mentions any problems found and recommends solutions. The pumping station locations along with a delineation of the areas they services (tributary areas) are shown on Plan 1 in Appendix B.

The type of pumping stations utilized in Waltham is the flooded-suction custom built type.

4.2 Existing Operation and Maintenance Practices

Since the 1990s, the City of Waltham has contracted the routine operations and maintenance of its wastewater pumping stations to an independent firm. At present, Weston & Sampson has an agreement with the City to undertake these responsibilities. This agreement details all of the day-to-day activities and responsibilities that Weston and Sampson will undertake on behalf of the City.

Appendix A contains a copy of a monthly report organized by Weston and Sampson. Also within Appendix A is a General Pumping Station Guide, written by Guertin Elkerton & Associates, Inc. in June 2003 as Volume III from the original Operation and Maintenance manual. As part of their agreement Weston and Sampson undertakes weekly inspection rounds of each pumping station and prepares a monthly report of all inspection, activities undertaken and details of any additional action required.

Wastewater collection system problems that occur during off-hours, nights, weekends and holidays are handled by on-call staff. Two personnel are assigned to respond to house calls and a third person is responsible for the pump stations. Calls are initiated by the dispatcher. Additional staff is called as needed.

Operating Practices

During the daily rounds, the operator should perform the operational duties listed on the Dailey Task Checklists prepared for each pump station. The Dailey Task Checklists are shown in Section 4.3 along with a description of each pump station.

Maintenance Practices

Operation, maintenance and repair of pump stations require special electrical, hydraulic and mechanical knowledge. Proper design, construction and operator training are also important. All pump stations (with the exception of those continuously staffed and very small pump stations) should be equipped with secondary power and at least the most basic telemetry system, one which transmits a high and low water level alarm to a central location. Even very small pump stations should be equipped with an audible/visual high water alarm.

A pump station maintenance program should be based on two factors:

- The first is the equipment manufacturers' recommendations for such activities as lubrication of bearings, oil changes, and parts replacement. The manufacturers' recommendations should be followed closely during the warranty period to avoid invalidating the warranty. In general, they should be followed closely thereafter as well. The collection system authority should be able to readily produce the manufacturers' recommended maintenance schedules in the original manuals.
- The second factor is the specific requirements of the individual pump station. These are items developed by the operators and their supervisors that are based on observations of the pump station and also include knowledge gained by experience of local conditions. Extremes of heat or cold may require the use of lubricants different than those in more temperate climates.

Pump stations should be subject to inspection and preventative maintenance on a regular schedule. The frequency of inspection may vary from once per week for a reliable pump station equipped with a telemetry system to a continuously staffed large pump station. A checklist should be established to ensure that proper inspection and maintenance procedures are routinely followed.

The basic inspection should include:

- verification that alarm systems are operating properly,
- wet well levels are properly set,
- all indicator lights and voltage readings are within acceptable limits,
- suction and discharge pressures are within normal limits, and that the pumps are running without excessive heat or vibration and have the required amount of lubrication.

Less frequent inspections may include such items as:

- vibration analysis,
- infrared photography, and
- internal inspection of pump components.

Occasionally a supervisor should perform an unscheduled inspection to confirm that tasks have been performed as expected.

A typical weekly pump station inspection should include observations of the following:

- The components comprising the alarm system, i.e., the wet well controller and electrical system. Note how the pumps are sequenced.
- The pumps: bearings, packing, seals, suction and discharge gauge pressures.
- The pump motors: temperature, amperage and voltage, coupling and alignment, vibration and noise.
- Valves: check and pressure relief.
- Oil levels and lubrication.
- Belt wear and tightness.
- Emergency generator (exercise under load—if present).

Many pumping stations are considered confined spaces and should be entered by only trained authorized personnel using the required safety equipment. The station's ventilation system and gas detection equipment need to be checked and calibrated regularly.

Those responsible for pumping station maintenance should also perform the following routine maintenance duties:

**Table 4-1
Recommended Pump Station Maintenance Duties**

<i>Frequency</i>	<i>Task</i>
Weekly	Visually check the wet well surfaces for floatables at stations with wet well hatches
	Exercise the engine generators at stations which have one.
Quarterly	Visually check wet well surfaces for floatables at stations with wet well manhole covers
Semi-annually to annually	Inspect the pump impellers for wear
	Clean the check valves
Annually	Exercise valves
	Check pumping rate
As required	Remove grease from wet well surfaces
As required	Remove grease from wet well surfaces

The manufacturer's instructions that are available for the pumping station equipment are kept in three locations: the Cedarwood Pumping Station Operators office at the water pumping station, one at each pump station, and one set at the City Engineer's office.

Existing Deficiencies and Historic Operating and Maintenance Problems

Detailed information relating to deficiencies and O&M problems are documented in the pumping station data log which can be found in Appendix C. In November 2009, CDM personnel executed an inspection of each pump station. Some of the operation and maintenance problems discovered during this inspection are listed below:

**Table 4-2
Recent Pump Station Problems**

<i>Location</i>	<i>Recorded Problem</i>
Woerd Avenue	Gages have not been working for a while. The flow meter panel has not been working and an error message has been displayed in the panel: "CNFR ERR". , the installed bubbler system is not reliable.
	There are no security cameras outside the building. Pump #1 exhibits leaks and structural instability around the 12 – in inlet. The bubbler system for wet well level control is not reliable and should be replaced.
Trapelo Road	The automated system is not reliable. The existing electrical panel is a potential fire hazard due to exposed wires. The bubbler system for wet well level control is not reliable and should be replaced.
	This electrical panel is a potential fire hazard. The existing bubbler system for wet well level control is not reliable and should be replaced.
Spencer Street	There are no security cameras outside the building. Inside the building, there is structural damage, pieces of concrete have fallen. The bubbler system for wet well level control is not reliable.
	There are no security cameras and there are no lighting fixtures outside the access manhole.

4.3 Pumping Station Details

Woerd Avenue Pumping Station

Woerd Avenue Pump Station is a cast-in-place dry pit, influent channel and wet well with a CMU building constructed on top. The main floor houses the standby generator, duplex air compressors, wet well level monitoring cabinet, sink, flow chart recorder, automatic dialer, transfer switch, grinder control panel and GE pump controls. The dry pit and influent channel are accessed through separate doors and stairways. The influent channel contains a manual bar screen and a screenings grinder. The dry pit is accessed via a spiral stairwell and contains the two vertical, centrifugal pumps, duplex sump pumps and the discharge header with the flow meter.



Table 4-3
Woerd Avenue Pump Station Details

<i>Category</i>	<i>Detail</i>
Startup date	December 14, 1978
Station type	Flooded-suction custom built
Pump #1 Model	Worthington 4MFV-11FR.3
	4" inlet, 4" outlet
Horsepower	7.5 hp
Pump Speed	1200 rpm
Rating [gpm]	375 gpm
Rating [TDH]	35 feet
Pump #2 Model	Worthington 4MFV-11FR.3
	4" inlet, 4" outlet
Horsepower	7.5 hp
Pump Speed	1200 rpm
Rating [gpm]	375 gpm
Rating [TDH]	35 feet
Flow meter	Fischer & Porter (10D1419A) magnetic meter on force main
Size	4-in
Flow range	0 – 500 gpm
Grinder/Screen	Channel Monster
Horsepower	3 hp
Total station capacity	540,000 gpd
Emergency power supply	4 cylinder natural gas engine
	30 kW generated
Tributary area	45 acres

Table 4-4
Woerd Avenue Pump Station Daily Task Checklist

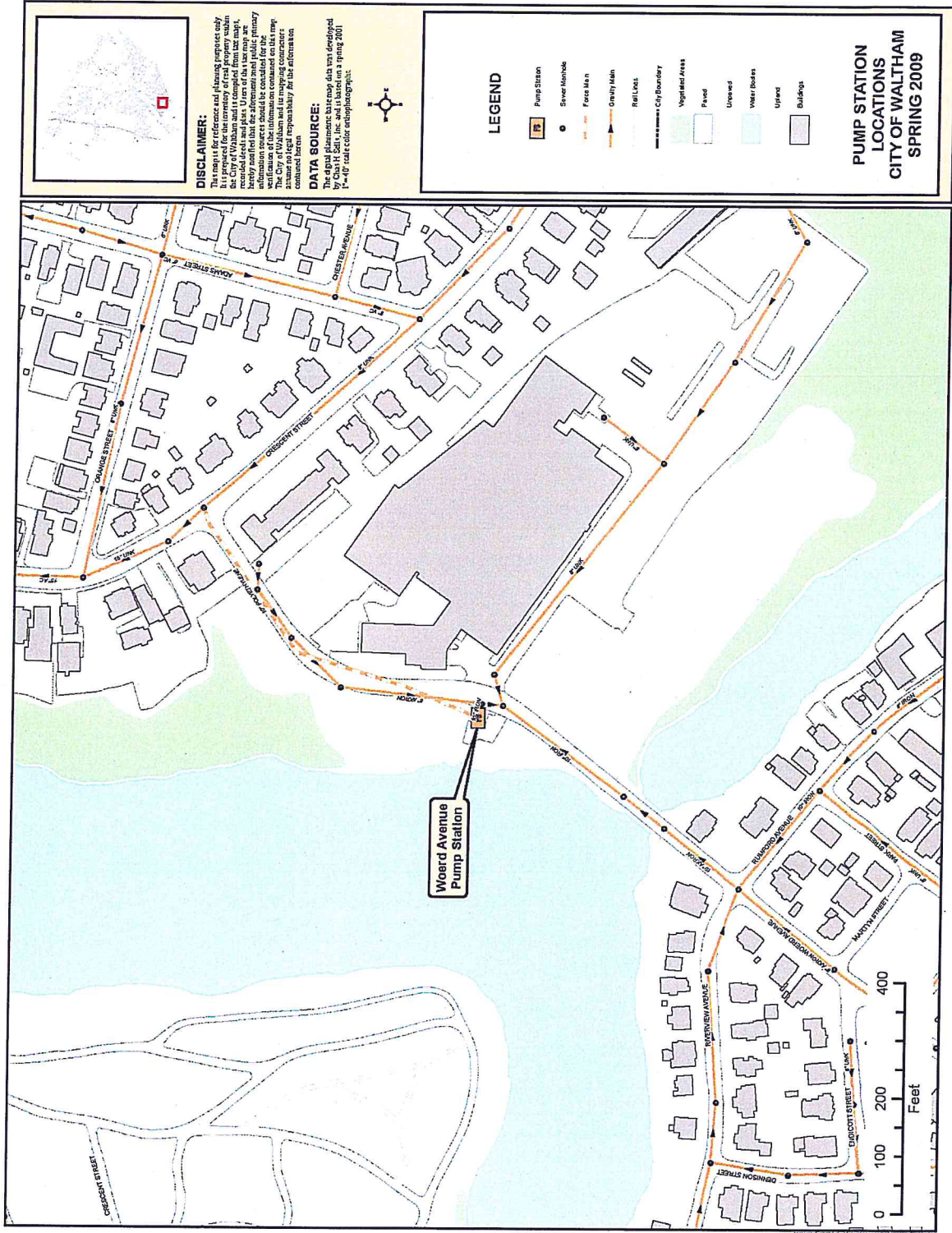
Date: _____

Time In: _____ Time Out: _____ Operator: _____

1. Flow Meter Reading _____
2. Change Flow Chart (Y/N) _____
3. Pump Sequence (1-2/Alt/2-1) _____
4. Purge Bubbler Tube level indicator _____
5. Pump #1 Hour Meter Reading _____
6. Pump #2 Hour Meter Reading _____
7. Compressor #1 Hour Meter _____
8. Compressor #2 Hour Meter _____
9. Check Pump #1 (temp/noise/vibration)
(OK/Note Problem) _____
10. Check Pump #1 Packing (OK/Leaking) _____
11. Check Pump #2 (temp/noise/vibration)
(OK/Note Problem) _____
12. Check Pump #2 Packing (OK/Leaking) _____
13. Drain condensate from Instrument Compressors (Y/N) _____
14. Check Control Panel (Y/N)
(Check selector switches for correct positions/
Check indicator Lights.) _____
15. Electric Meter Reading _____
16. Check Backflow Preventor (Y/N) _____
17. Check Sump Pump Operation (Y/N) _____
18. Check Grinder/Screen (Y/N) _____
19. Stand-By Generator Run Time Hours _____

Comments: _____

Figure 4-1
Woerd Avenue Pump Station



Legion Road Pumping Station

Legion Road Pump Station is a cast-in-place dry pit, influent channel and wet well with a CMU building constructed on top. The main floor houses the standby generator, duplex air compressors, flow chart recorder, backflow preventer, grinder control panel, auto dialer, motor control center, monorail and pump control panel. The dry pit and influent channel are accessed through separate doors and stairways. The influent channel contains a manual bar screen and a screenings grinder. The dry pit contains the three vertical, centrifugal pumps, duplex sump pump and the discharge header with the flow meter.



**Table 4-5
Legion Road Pump Station Details**

<i>Category</i>	<i>Detail</i>
Startup date	February 27, 1979
Station type	Flooded-suction custom built
Pump #1 Model	Cornell Model 12NHTM-VF18 12" inlet, 12" outlet
Horsepower	40 hp
Pump Speed	880 rpm
Rating [gpm]	No nameplate on pump
Rating [TDH]	No nameplate on pump
Pump #2 Model	Cornell Model 12NHTM-VF18 12" inlet, 12" outlet
Horsepower	40 hp
Pump Speed	880 rpm
Rating [gpm]	No nameplate on pump
Rating [TDH]	No nameplate on pump
Pump #3 Model	Cornell Model 12NHTM-VF18 12" inlet, 12" outlet
Horsepower	40 hp
Pump Speed	880 rpm
Rating [gpm]	No nameplate on pump
Rating [TDH]	No nameplate on pump
Total station capacity, 2 pump scenario	7,500,000 gpd
Flow Meter	Fischer & Porter Magnetic Meter on force main.
Size	14-in
Flow range	Unknown
Grinder/Screen	Channel Monster
Horsepower	3 hp
Emergency power supply	6 cylinder natural gas engine 115 kW generated
Tributary Area	990 acres

Table 4-6
Legion Road Pump Station Daily Task Checklist

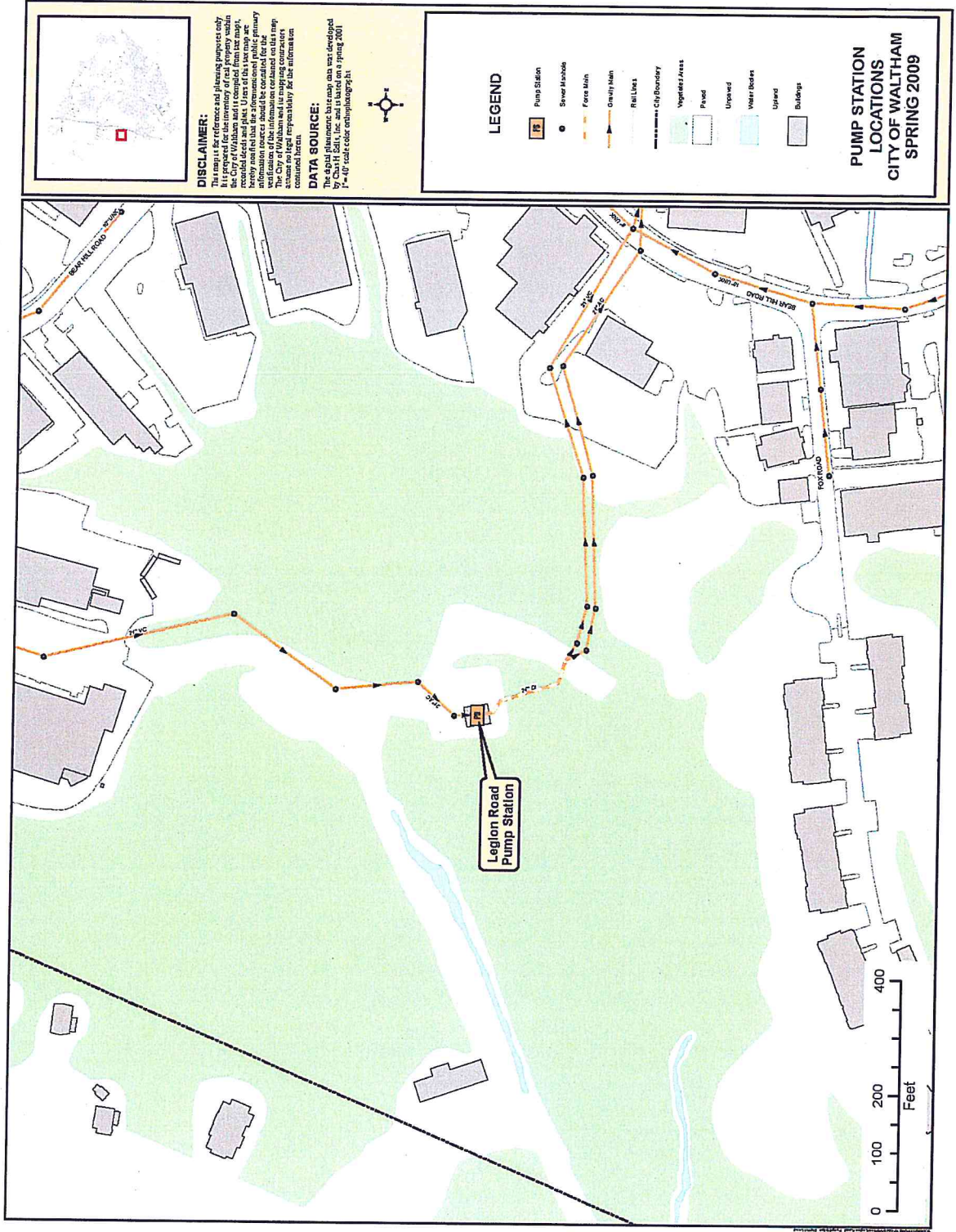
Date: _____

Time In: _____ Time Out: _____ Operator: _____

- 1. Flow Meter Reading _____
- 2. Change Flow Chart (Y/N) _____
- 3. Pump Sequence (1-2/Alt/2-1) _____
- 4. Purge Bubbler Tube level indicator _____
- 5. Pump #1 Hour Meter Reading _____
- 6. Pump #2 Hour Meter Reading _____
- 7. Check Pump #1 (temp/noise/vibration)
(OK/Note Problem) _____
- 8. Check Pump #1 Packing (OK/Leaking) _____
- 9. Check Pump #2 (temp/noise/vibration)
(OK/Note Problem) _____
- 10. Check Pump #2 Packing (OK/Leaking) _____
- 11. Drain condensate from Instrument Compressors (Y/N) _____
- 12. Check Control Panel (Y/N)
(Check selector switches for correct positions/
Check indicator Lights.) _____
- 13. Electric Meter Reading _____
- 14. Check Backflow Preventor (Y/N) _____
- 15. Check Sump Pump Operation (Y/N) _____
- 16. Check Grinder/Screen (Y/N) _____
- 17. Stand-By Generator Run Time Hours _____

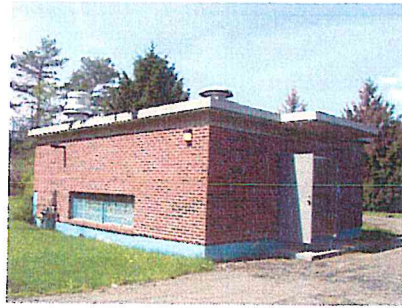
Comments: _____

Figure 4-2
Legion Road Pump Station



Trapelo Road Pumping Station

Trapelo Road Pump Station is a cast-in-place dry pit, influent channel and wet well with a CMU building constructed on top. The main floor houses the standby generator, duplex air compressors, flow chart recorder, grinder control panel, monorail, and pump controls. There is an intermediate level that houses a backflow preventer, flow meter and chart recorder, auto dialer, duplex air compressors and pump control panel. The dry pit and influent channel are accessed through separate doors and stairways. The influent channel contains a manual bar screen and a screenings grinder. The dry pit contains the three vertical, centrifugal pumps, duplex sump pumps and the discharge header.



**Table 4-7
Trapelo Road Pump Station Details**

<i>Category</i>	<i>Detail</i>
Startup date	January 31, 1979
Station type	Flooded-suction custom built
Pump #1 Model	Ingersoll Dresser – 6MFC11 FR-3 6" inlet, 6" outlet
Horsepower	7.5
Pump Speed	1165 rpm
Rating [gpm]	850
Rating [TDH]	20
Pump #2 Model	Ingersoll Dresser – 6MFC11 FR-3 6" inlet, 6" outlet
Horsepower	7.5
Pump Speed	1165 rpm
Rating [gpm]	850
Rating [TDH]	20
Pump #3 Model	Worthington 6MFC - 11 6" inlet, 6" outlet
Horsepower	7.5
Pump Speed	1165 rpm
Rating [gpm]	850
Rating [TDH]	20
Total station capacity, 2 pump scenario	2,000,000 gpd
Flow Meter	Fischer & Porter Magnetic Meter on force main.
Size	6-in
Flow range	unknown
Grinder/Screen	JWC Muffin Monster
Horsepower	3 hp
Emergency power supply	4 cylinder natural gas engine 30 kW generated
Tributary area	198 acres

Table 4-8
Trapelo Road Pump Station Daily Task Checklist

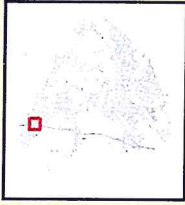
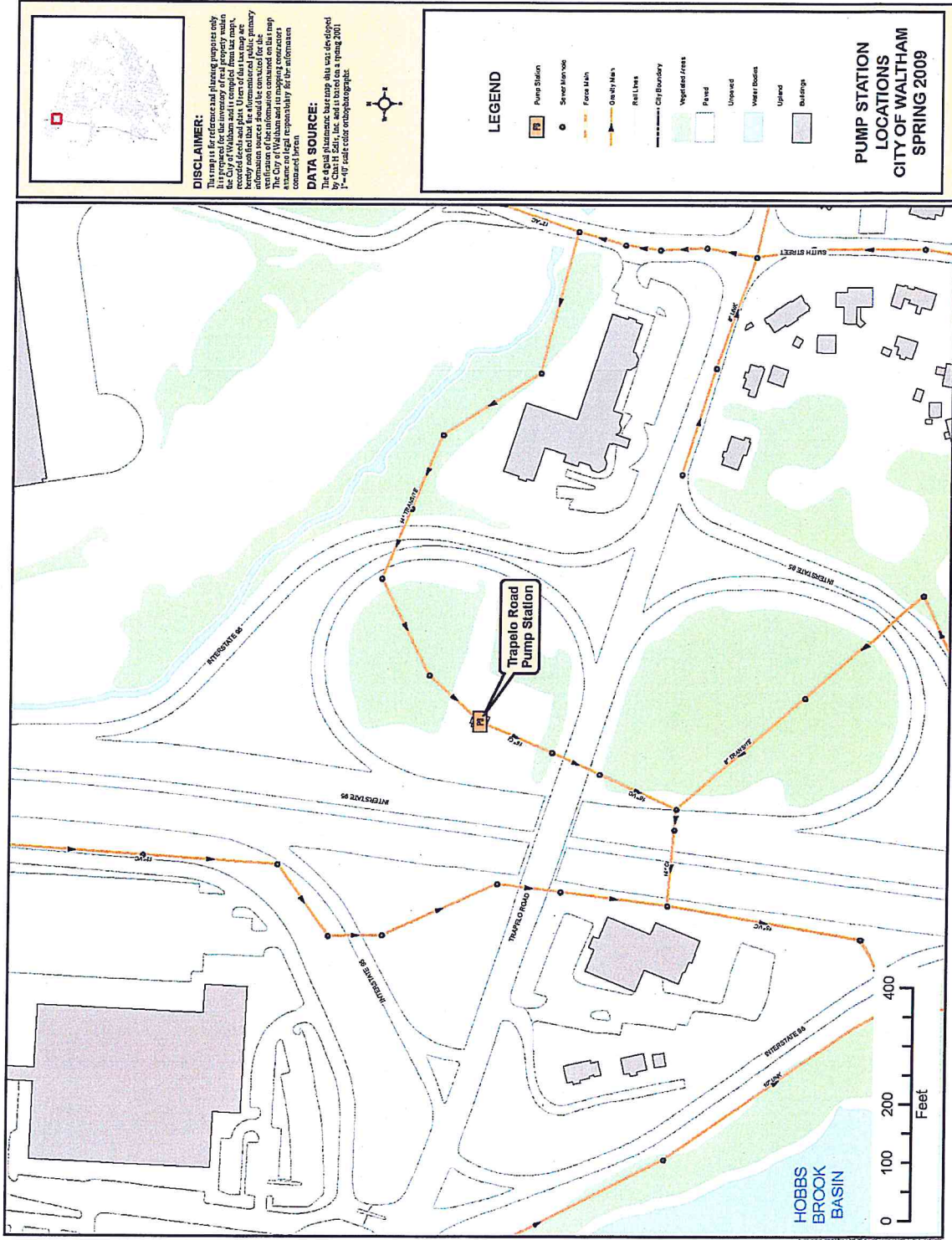
Date: _____

Time In: _____ Time Out: _____ Operator: _____

1. Flow Meter Reading _____
2. Change Flow Chart (Y/N) _____
3. Pump Sequence _____
4. Purge Bubbler Tube level indicator _____
5. Pump #1 Hour Meter Reading _____
6. Pump #2 Hour Meter Reading _____
7. Pump #3 Hour Meter Reading _____
8. Check Pump #1 (temp/noise/vibration)
(OK/Note Problem) _____
9. Check Pump #1 Packing (OK/Leaking) _____
10. Check Pump #2 (temp/noise/vibration)
(OK/Note Problem) _____
11. Check Pump #2 Packing (OK/Leaking) _____
12. Check Pump #3 (temp/noise/vibration)
(OK/Note Problem) _____
13. Check Pump #3 Packing (OK/Leaking) _____
14. Drain condensate from Instrument Compressor (Y/N) _____
15. Check Control Panel (Y/N)
(Check selector switches for correct positions/
Check indicator Lights.) _____
16. Electric Meter Reading _____
17. Check Backflow Preventor (Y/N) _____
18. Check Sump Pump Operation (Y/N) _____
19. Check Grinder/Screen (Y/N) _____
20. Stand-By Generator Run Time Hours _____

Comments: _____

Figure 4-3
Trapelo Road Pump Station



DISCLAIMER:
This map is for reference and planning purposes only. It is prepared for the inventory of real property within the City of Waltham and is compiled from tax maps, aerial photography, and other sources. The City of Waltham hereby notifies that the information is not intended to be a substitute for professional engineering or architectural services. The City of Waltham and its employees do not assume any liability for the information contained herein.

DATA SOURCE:
The digital planimetric base map data was developed by the City of Waltham and is based on a Spring 2001 1/4" = 100' scale color orthorectified.



LEGEND

	Pump Station
	Sewer Manhole
	Force Main
	Gravity Main
	Rail Lines
	City Boundary
	Vegetated Areas
	Paved
	Unpaved
	Water Bodies
	Upgraded
	Buildings

PUMP STATION LOCATIONS CITY OF WALTHAM SPRING 2009

Spencer Street Pumping Station

Spencer Street Pump Station is a cast-in-place dry pit, influent channel and wet well with a CMU building constructed on top. The main floor houses the standby generator, wet well control panel with duplex air compressors, flow chart recorder, grinder control panel, monorail, motor control center, variable frequency drives and pump control panel. The dry pit and influent channel are accessed through separate doors and stairways. The influent channel contains a, manual bar screen and a screenings grinder. The dry pit contains the two vertical, variable speed (VFD'S), centrifugal pumps and the discharge header with the flow meter.



**Table 4-9
Spencer Street Pump Station Details**

<i>Category</i>	<i>Detail</i>
Startup date	March 30, 1979
Station type	Flooded-suction custom built
Pump #1 Model	Cornell 4NHTA-VF16 Inlet 4", outlet 4"
Horsepower	15 hp
Rating [gpm]	No nameplate data
Rating [TDH]	No nameplate data
Pump #2 Model	Cornell 4NHTA-VF16 Inlet 4", outlet 4"
Horsepower	15 hp
Rating [gpm]	No nameplate data
Rating [TDH]	No nameplate data
Pump #3 Model	Cornell 4NHTA-VF16 Inlet 4", outlet 4"
Horsepower	15 hp
Rating [gpm]	No nameplate data
Rating [TDH]	No nameplate data
Total station capacity	1,000,000 gpd
Flow Meter	Fischer & Porter Magnetic Meter
Flow Range	Unknown
Size	6-in
Grinder/Screen	Channel Monster
Horsepower	3 hp
Emergency power supply	8 cylinder natural gas engine
Kohler 30R84	70 kW generated
Tributary area	70 acres

Table 4-10
Spencer Street Pump Station Daily Task Checklist

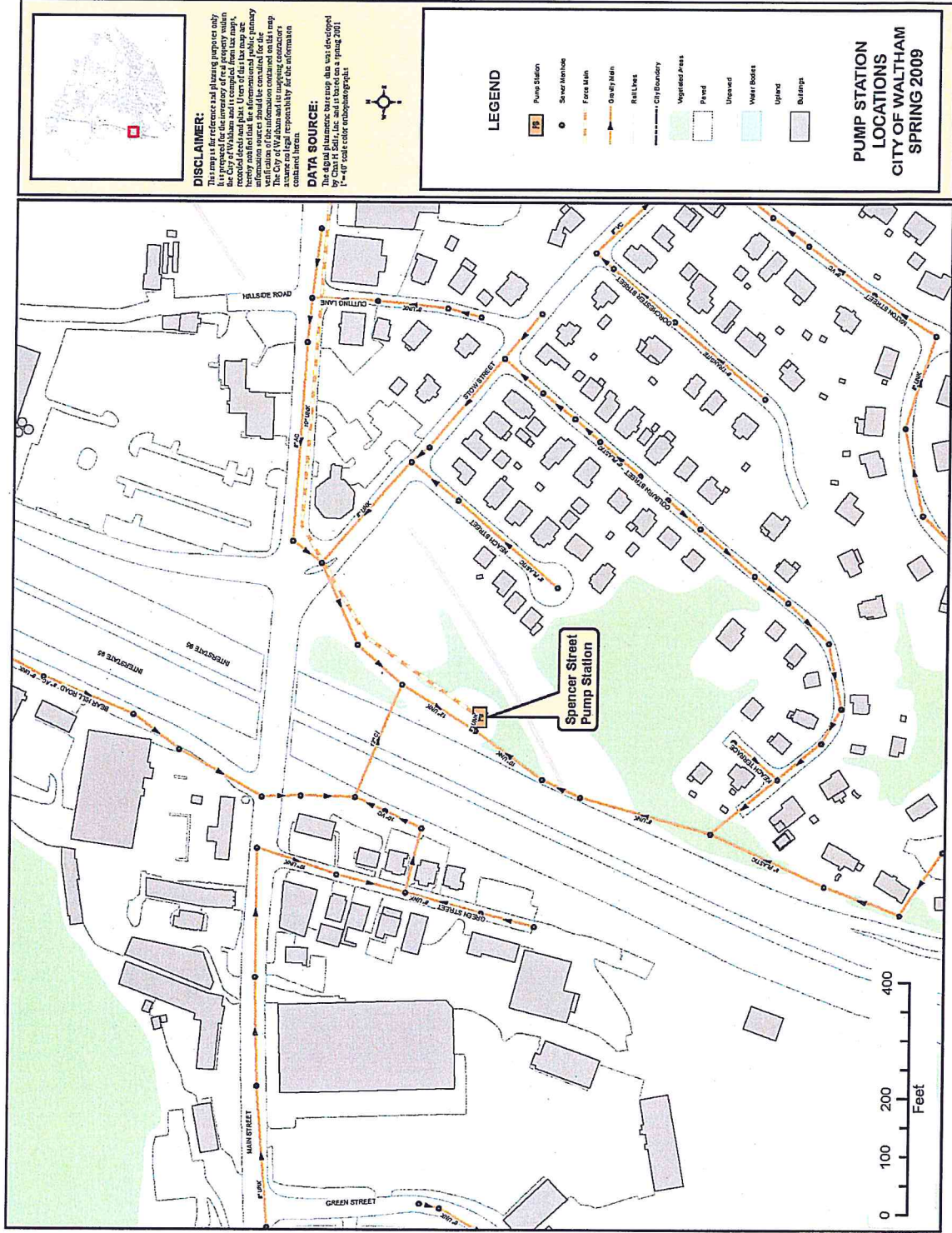
Date: _____

Time In: _____ Time Out: _____ Operator: _____

1. Flow Meter Reading _____
2. Change Flow Chart (Y/N) _____
3. Pump Sequence _____
4. Purge Bubbler Tube level indicator _____
5. Pump #1 Hour Meter Reading _____
6. Pump #2 Hour Meter Reading _____
7. Pump #3 Hour Meter Reading _____
8. Check Pump #1 (temp/noise/vibration)
(OK/Note Problem) _____
9. Check Pump #1 Packing (OK/Leaking) _____
10. Check Pump #2 (temp/noise/vibration)
(OK/Note Problem) _____
11. Check Pump #2 Packing (OK/Leaking) _____
12. Check Pump #3 (temp/noise/vibration)
(OK/Note Problem) _____
13. Check Pump #3 Packing (OK/Leaking) _____
14. Drain condensate from Instrument Compressor (Y/N) _____
15. Check Control Panel (Y/N)
(Check selector switches for correct positions/
Check indicator Lights.) _____
16. Electric Meter Reading _____
17. Check Backflow Preventor (Y/N) _____
18. Check Sump Pump Operation (Y/N) _____
19. Check Grinder/Screen (Y/N) _____
20. Stand-By Generator Run Time Hours _____

Comments: _____

Figure 4-4
Spencer Street Pump Station



Wimbledon Circle Pumping Station

Wimbledon Circle Pump Station is a cast-in-place dry pit with a cast concrete, bricked face building constructed on top. The main floor is tiled and houses the standby generator, wet well control panel with duplex air compressors, motor control center, auto dialer, backflow preventer, automatic transfer switch and pump control panel. The dry pit is accessed via a spiral metal stairway and has a tile floor. The dry pit contains the flow chart recorder, duplex sump pumps, 2 vertical, centrifugal pumps and the discharge header with the flow meter. The wet well is separate from the building and is accessed via a manhole on top at ground level.



Table 4-11
Wimbledon Circle Pump Station Details

<i>Category</i>	<i>Detail</i>
Startup date	June 30, 1978
Station type	Flooded-suction custom built
Pump #1	Crane
	Inlet 4", outlet 4"
Horsepower	25 hp
Rating [gpm]	300 gpm
Rating [TDH]	130 feet
Pump #2	Crane
	4" outlet
Horsepower	25 hp
Rating [gpm]	300 gpm
Rating [TDH]	130 feet
Total station capacity, one pump scenario	720,000 gpd
Flow Meter	Fischer & Porter Magnetic Meter
Flow Range	600 gpm
Size	4-in
Grinder/Screen	None.
Emergency power supply	8 cylinder natural gas engine
	70 kW generated
Tributary area	65 acres

Table 4-12
Wimbledon Circle Pump Station Daily Task Checklist

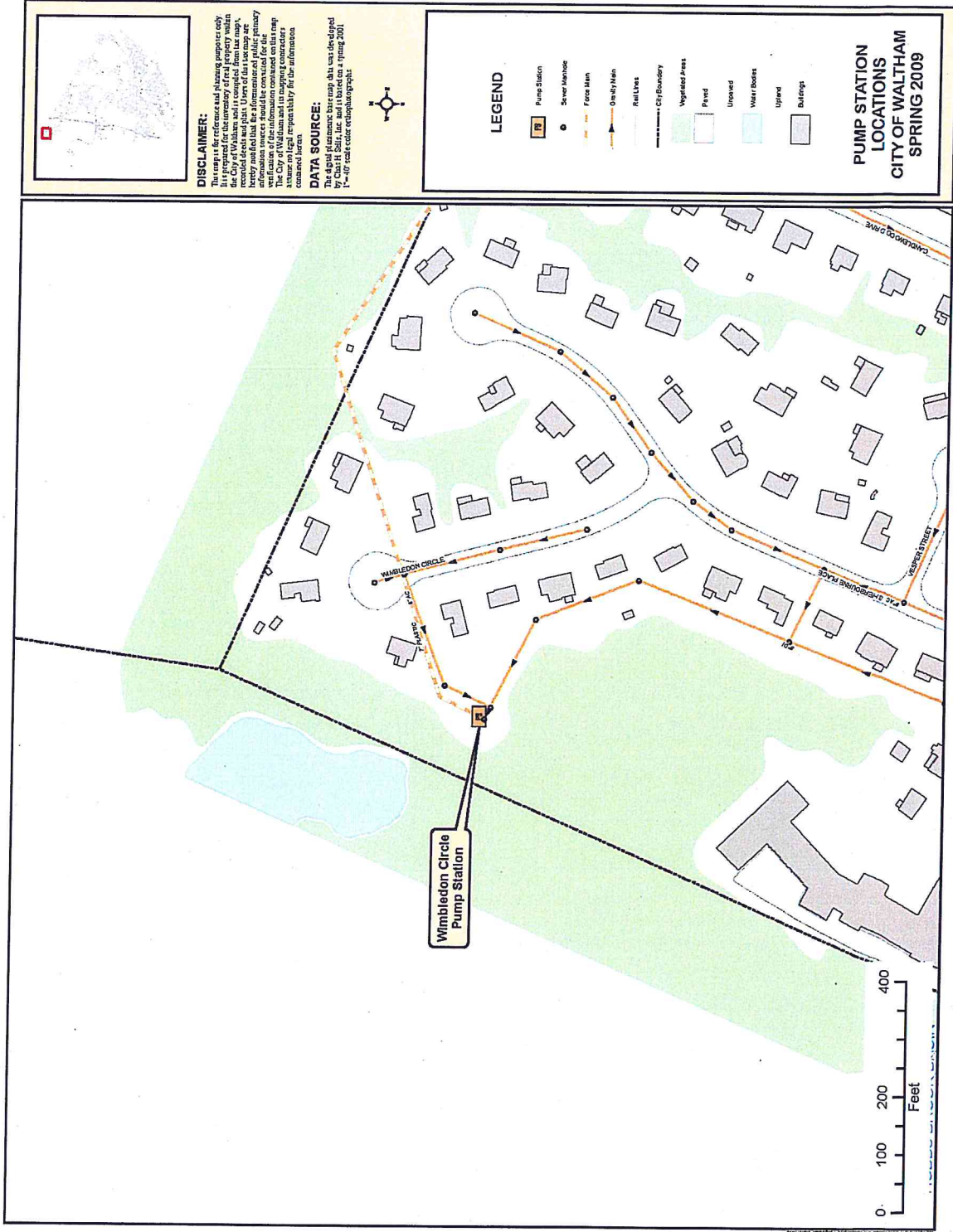
Date: _____

Time In: _____ Time Out: _____ Operator: _____

1. Flow Meter Reading _____
2. Change Flow Chart (Y/N) _____
3. Pump Sequence _____
4. Purge Bubbler Tube level indicator _____
5. Pump #1 Hour Meter Reading _____
6. Pump #2 Hour Meter Reading _____
7. Check Pump #1 (temp/noise/vibration)
(OK/Note Problem) _____
8. Check Pump #1 Packing (OK/Leaking) _____
9. Check Pump #2 (temp/noise/vibration)
(OK/Note Problem) _____
10. Check Pump #2 Packing (OK/Leaking) _____
11. Drain condensate from Instrument Compressor (Y/N) _____
12. Check Control Panel (Y/N)
(Check selector switches for correct positions/
Check indicator Lights.) _____
13. Electric Meter Reading _____
14. Check Backflow Preventor (Y/N) _____
15. Check Sump Pump Operation (Y/N) _____
16. Check Grinder/Screen (Y/N) _____
17. Stand-By Generator Run Time Hours _____

Comments: _____

Figure 4-5
Wimbledon Circle Pump Station



Edgewater Drive Pumping Station

The Edgewater Drive Pump Station is a fiberglass Gorman Rupp, "canned" pump station with a separate adjacent manhole that acts as the wet well. Access to the below grade station is provided by a manhole cover and vertical ladder.

The station contains two Gorman Rupp trash pumps, pump control panel, auto dialer, circuit breaker panel, duplex air compressors, a heater and dehumidifier. The station has no standby power and is not set up for a portable generator.



Table 4-13
Edgewater Drive Pump Station Details

<i>Category</i>	<i>Detail</i>
Startup date	November 7, 1980
Station type	Fiberglass, packaged suction-lift
Pump #1	Gorman Rupp T4A3 – Trash Pump
	Inlet 4", outlet 4"
Horsepower	3 hp
Rating [gpm]	180 gpm
Rating [TDH]	No nameplate data
Pump #2	Gorman Rupp T4A3 – Trash Pump
	Inlet 4", 4" outlet
Horsepower	3 hp
Rating [gpm]	180 gpm
Rating [TDH]	No nameplate data
Total station capacity	345,000 gpd
Flow Meter	None
Emergency power supply	None
Tributary area	24 acres

Table 4-14
Edgewater Drive Pump Station Daily Task Checklist

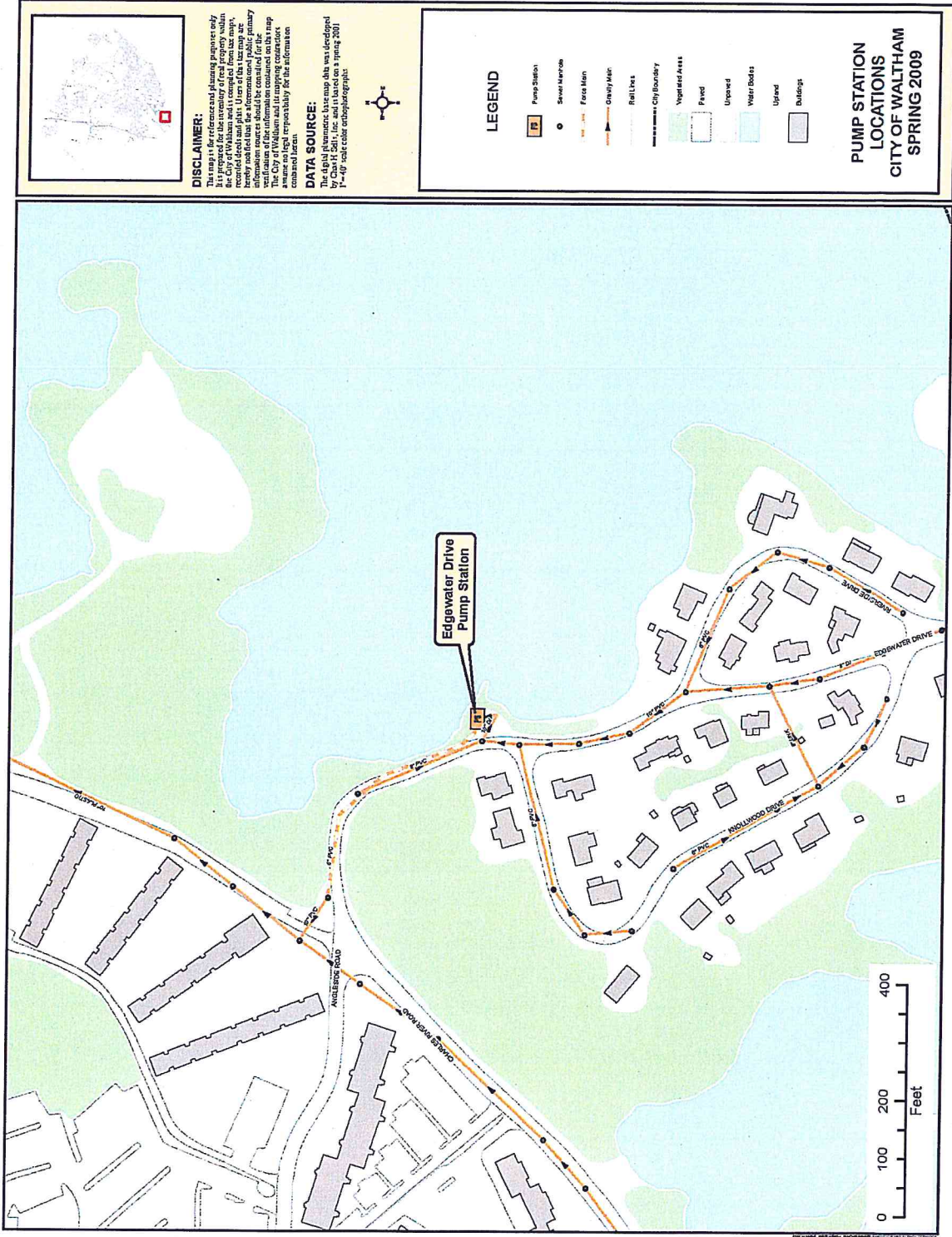
Date: _____

Time In: _____ Time Out: _____ Operator: _____

1. Pump Sequence _____
2. Pump #1 Hour Meter Reading _____
3. Pump #2 Hour Meter Reading _____
4. Purge Bubbler Tube level indicator _____
5. Drain condensate from Instrument Compressor (Y/N) _____
6. Check Control Panel (Y/N)
(Check selector switches for correct positions/
Check indicator Lights.) _____
7. Electric Meter Reading _____
8. Check Backflow Preventor (Y/N) _____
9. Check Sump Pump Operation (Y/N) _____
10. Check Pump #1 Packing (OK/Leaking) _____
11. Check Pump #2 Packing (OK/Leaking) _____

Comments: _____

Figure 4-6
Edgewater Drive Pump Station



Plans showing the locations of each of the pumping stations along with the tributary areas associated with each pumping station can be found in Appendix B.

Table 4-15 provides a list of suggested personal safety/protective equipment for use by any operators inspecting or performing operations or maintenance at pump stations.

Table 4-15
List of Suggested Personal Protective Equipment and Safety Equipment

<i>Quantity</i>	<i>Units</i>	<i>Item</i>	<i>Comment</i>
2	Each	Self-contained breathing apparatus	
1	Each	Safety harness	
1	Each	Tripod	
100	Ft.	Line	
2	Each	Goggles	one per operator
2	Each	Rubber raingear suit	one per operator
2	Pair	Waterproof gloves	one per operator
1	Each	Combustible gas/oxygen deficiency/hydrogen sulfide detector	
1	Each	Sample pump and tube	
1	Each	Calibration kits for detector	
6	Each	Traffic cones	
	Each	Portable safety railing	to protect open hatches to manholes, ejector stations etc.
1	Each	Ventilation blower	
50	Ft.	Blower hose	
1	Each	Non-sparking tools	Pick, etc.
2	Each	Explosion-proof flashlights	
2	Each	Explosion-proof lanterns	
1	Each	Manhole ring	one for each size encountered at pumping stations
1	Each	Hand-held cellular phone	
1	Each	Manhole lid lifter	

4.4 Spare Parts

In order to allow the City to react appropriately to system failures it is advantageous to keep a reasonable level of spare parts for pumping station equipment. Weston and Sampson handle the City's spare parts. Confine space entry equipment is stored on Lexington St. Table 4-16 provides a list of suggested spare parts for the City's pumping stations.

**Table 4-16
Suggested Spare Parts List**

<i>Component</i>	<i>Recommended spare items</i>	<i>Spare parts criteria</i>	<i>Comments</i>
General for Centrifugal Pump Stations			
Centrifugal pumps	Wearing rings	1 spare for each type used	
	Impeller shaft	1 spare for each type used	Keep the spare shaft sealed in the manufacturer's wrapping to protect from corrosion.
	Mechanical seal rebuild kit	1 for each type used	
	Flexible element of shaft coupling	25% spares for each type used	
Fuses	Fuses	1 of each type used per station	