

B51-07

City of Concord, New Hampshire

Purchasing Department

2007 WATER MAIN CLEANING & LINING PROJECT

Prepared for, and in coordination with the

**COMMUNITY DEVELOPMENT DEPARTMENT
ENGINEERING SERVICES DIVISION**

Contract
Bid Documents
Specifications

Firm: _____

Bid Due Date/Time: May 31, 2007 Not Later Than 2:00 PM

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City of Concord, New Hampshire

PURCHASING DIVISION

CITY HALL 41 GREEN STREET

CONCORD, NH 03301

603-225-8530 FAX: 603-230-3656

INVITATION FOR BIDS

The Purchasing Division, 1st Floor, City Hall, 41 Green Street, Concord, New Hampshire 03301, will receive sealed Bids for “B51-07, 2007 Water Main Cleaning & Lining Project” until **2:00 PM on May 31, 2007** at which time and place they will be opened and publicly read. The sealed envelope should be plainly marked:

“B51-07, 2007 WATER MAIN CLEANING & LINING PROJECT”

Bids may be issued only by the Purchasing Agent to authorized firms and are not transferable unless authorized by the Purchasing Agent.

Plans and specifications may be obtained from the Purchasing Division, City Hall, 41 Green Street, Concord, NH 03301 (603) 225-8530, for a non-refundable \$35.00 fee plus a non-refundable \$10.00 fee if you wish to have them mailed

A **Mandatory** pre-bid informational meeting will be held at **1:00 PM on Thursday, May 17, 2007** at the City of Concord, City Hall, 2nd Floor Conference Room, 41 Green Street, Concord, NH 03301.

Each bid shall be accompanied by a certified check, cash, check drawn by a New Hampshire bank, or bid bond for and subject to conditions provided in the Instruction to Bidders. The amount of such bid deposit shall be ten percent (10%) of the total bid, made payable to the City of Concord, New Hampshire.

The successful bidder will be required to furnish a Performance bond and a separate Payment Bond, each in the amount of one hundred percent (100%) of the contract price.

The City of Concord reserves the right to reject any or all bids or any part thereof, to waive any formality, informality, information and/or errors in the bidding, to accept the bid considered to be in the best interest of the City, or to purchase on the open market if it is considered in the best interest of the City to do so. Failure to submit all information called for and/or submission of an unbalanced bid are sufficient reasons to declare a bid as unresponsive and subject to disqualification.

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Progress Payments: On not later than the last day of every month, the Contractor shall prepare and submit an invoice covering the total quantities of work that have been completed from the start of the job up to and including the last day of the preceding month together with such supporting evidence as required by the City.

Retainage: On not later than the last day of the subsequent month, the City shall, after deducting previous payments made, pay to the Contractor 90% of the amount of the estimate as approved by the City. The 10% retained percentage shall be held by the City until final inspection and acceptance. At such time the retainage may be reduced to 5% of the total value of the contract and this amount shall be held during the 12 month guarantee period. This retainage shall be held in a non-interest bearing account.

In case the contractor fails to satisfactorily complete the entire work contemplated and provided for within **two hundred thirty (230) calendar days** from the date of work commencement, the owner shall deduct from the payments due the contractor each month, the sum of five hundred dollars (\$500.00) plus engineering charges per day for each calendar day of delay, which sum is agreed upon not as a penalty but as fixed and subject to no deduction. If the payments due the contractor are less than the amount of the liquidated damages said damages shall be deducted from any other monies due or to become due the contractor, the contractor or his surety shall pay the balance to the owner.

Failure to submit all information as detailed on the Bid Submission Checklist and/or submission of an unbalanced bid are sufficient reasons to declare a bid as non-responsive and subject to disqualification.

All bids are advertised in the *Concord Monitor* and periodically in other various publications, on Concord Cable Channel 17, and are posted publicly at the: (1) City of Concord, City Hall, 1st Floor, 41 Green Street, Concord, NH 003301 and (2) City of Concord website, www.onconcord.com/purchasing.

APPROVED:

Douglas B. Ross, Purchasing Agent

Date: _____

Bid Due Date/Time: May 31, 2007 not later than 2:00 PM

CONTRACT AWARD IS CONTINGENT UPON APPROVAL OF FUNDS BY THE CONCORD CITY COUNCIL AT IT'S JULY 2007 MEETING. PROJECT MAY NEED TO BE PHASED PENDING AVAILABLE FUNDING.

INSTRUCTIONS TO BIDDERS

Project Name: B51-07 “2007 Water Main Cleaning and Lining Project”

Description of Work to be Performed:

Cleaning and Cement Lining of approximately:

- 7000 linear feet of 20 inch cast iron water main.
- 60 linear feet of 6 inch cast iron water main.

Also included in this project is the installation of 4”& 2” temporary water pipe, installing assorted sized valves, removing and resetting existing valves, retapping existing services, reconnecting existing services, installing new hydrants, resetting, and discontinuing hydrants, video inspection of all lines after cleaning and before and after lining.

1. EXPLANATION TO BIDDERS:

Any explanation regarding the meaning or interpretation of contract drawings, specifications or other contract documents must be requested in writing with sufficient allowance of time for receipt of reply before the time of bid opening. Any such explanations or interpretations shall be made in the form of addendum to the documents and shall be furnished to all bidders who shall submit all addenda with their bids. Oral explanations and interpretations made prior to the bid opening shall not be binding. Requests for explanations should be addressed to:

Douglas B. Ross, Purchasing Agent
City Hall
41 Green Street
Concord, N.H. 03301
(603) 225-8530

2. BIDDERS' UNDERSTANDING:

Bidders should visit the work site to familiarize themselves with pertinent local conditions such as location, character, and accessibility of the site, availability of facilities, location and character of existing work within or adjacent thereto, labor conditions, etc. The City of Concord shall make available to all prospective bidders, previous to the receipt of bids, information that it may have as to extraordinary site conditions at the work site.

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Such information shall be given, however, as the best factual information available without the assumption of responsibility for its accuracy or for any conclusions that the CONTRACTOR might draw there from.

Bidder should visit the location of all work to be performed, and a submitted bid shall be considered as evidence that the bidder has done so.

3. BID REQUIREMENTS:

Security required shall be submitted with the proposal and failure to submit same may be cause for rejection. The bidder, at their option, shall furnish a certified check, cash, check drawn by a New Hampshire bank, or bid bond as security in the amount required. Security deposited by unsuccessful bidders will be returned as soon as practical after the opening.

4. PREPARATION OF BIDS:

See General Terms and Conditions

5. SUBMISSION OF BIDS:

See General Terms and Conditions

6. RECEIPT AND OPENING OF BIDS:

See General Terms and Conditions

7. WITHDRAWAL OF BIDS:

See General Terms and Conditions

8. PRESENCE OF BIDDERS AT OPENING:

See General Terms and Conditions

9. BIDDERS INTERESTED IN MORE THAN ONE BID:

See General Terms and Conditions

10. AWARD OF CONTRACT:

The contract shall be awarded to the lowest responsible bidder for the Base Bid as soon as practical after the bid opening. All bidders are to provide bids for the Base Bid, Bid Alt#1 and Bid Alt#2. The City of Concord reserves the right to add Bid Alternates #1 and/or #2 depending upon bid process and the availability of funds. **See also General Terms and Conditions**

11. LIQUIDATED DAMAGES :

In case the contractor fails to satisfactorily complete the entire work contemplated and provided for under this contract on or before two hundred thirty (230) calendar days from the date of work commencement, the owner shall deduct from the payments due the contractor each month, the sum of five hundred dollars (\$500.00) plus engineering charges per day for each calendar day of delay, which sum is agreed upon not as a penalty but as fixed and subject to no deduction. If the payments due the contractor are less than the amount of the liquidated damages said damages shall be deducted from

any other monies due or to become due the contractor, the contractor or his surety shall pay the balance to the owner.

12. CONTRACTS, BONDS, INSURANCE:

The successful bidder shall enter into a written contract with the City of Concord within the time specified in the bid documents. A performance bond and a labor / material bond in the amount of 100 percent (100%) of the bid price shall be furnished at the time of signing the formal agreement. The CONTRACTOR shall secure and maintain the insurance policies required under this Contract. (See schedule page 48)

13. INSPECTION FEES:

The CONTRACTOR (or subcontractor if used) shall not be assessed fees for layout or inspection of work by the Community Development Department, Engineering Div. personnel, when such layout and/or inspection is required as part of the Specifications for the project. If, however, additional layout and/or reestablishment of bench marks, etc. is required due to negligence or failure of the CONTRACTOR to conform to the Specifications and Standards, then charges shall be made to them, and shall not be reimbursable by the CITY. The CONTRACTOR may be assessed the additional expense for inspection work during overtime or weekend hours should these hours be solely at the convenience of the CONTRACTOR.

14. INTEREST OF THE CONTRACTOR:

The CONTRACTOR hereby covenants that he/she has at the time of execution of this Agreement, no interest and that he/she shall not acquire any interest in the future, direct or indirect, which would conflict in any manner or degree with the performance of the services required to be performed pursuant to this Agreement. The CONTRACTOR further covenants that in the performance of this work, no person having any such interest shall be employed.

15. ASSIGNMENT OR SUB-CONTRACTING:

See General Terms and Conditions

16. EXTRAS:

Except as otherwise provided herein, no payment for extras shall be made unless and until such extras, and the price thereof have been authorized in writing by the CITY.

17. PROVISION REQUIRED BY LAW DEEMED INSERTED:

See General Terms and Conditions

18. OPPORTUNITIES FOR RESIDENTS:

The CONTRACTOR covenants and agrees that in the work to be performed under this Contract. The CONTRACTOR will take affirmative action to insure that residents of the City of Concord are given maximum opportunity for employment and that business concerns located in, or owned in substantial part by, residents of the City of Concord are to the greatest extent feasible, awarded contracts. The OWNER may request, in which case the contractor shall provide, such information as the owner shall

determine is necessary to ascertain the contractors conformance with the provisions of this section

19. EXTRA WORK:

The CONTRACTOR shall do all work incidental to the proper completion of the Contract not herein otherwise provided for when and as ordered in writing by the CITY. The amount of compensation to be paid to the CONTRACTOR for extra work, as so ordered, shall be determined by the CITY to be one of the following:

- By such applicable unit prices, if any, as set forth in the Contract; or
- If no such unit prices are so set forth, then by unit prices or by a lump sum mutually agreed to by the CITY and The CONTRACTOR; or
- If no such unit prices are so set forth and if the parties cannot agree upon unit prices or a lump sum, then by the actual net cost in money to the CONTRACTOR as approved by the CITY of the materials and of the wages of applied labor required for such extra work, plus such rental of plant and equipment (other than small tools) required and approved for such extra work, plus ten percent (10%). No extra work will be paid for unless specifically ordered as such by the CITY in writing. In the case of extra work performed by subcontractors, whether under the specific contract item provided herein, or otherwise approved by the CITY, the ten percent (10%) added to the reasonable cost of the work will be allowed only to the subcontractor. On such work, an additional five percent (5%) of the reasonable cost (before addition to the ten percent (10%)) will be paid to the CONTRACTOR for its work in directing the operations of the subcontractor and for any overhead involved.

20. NONDISCRIMINATION:

Contracts for Work under this proposal will obligate the CONTRACTOR and the Subcontractors not to discriminate in employment practices. Statements as to nondiscriminatory practices may be requested from successful bidders.

21. THE COMMUNITY DEVELOPMENT DEPARTMENT TO DECIDE:

The City Engineer shall decide all questions which may arise as to the performance, continuity and acceptability of work to be done and all materials to be furnished under this contract, and shall decide all questions which may arise as to the interpretation of plans and specifications used and as to the fulfillment of this contract on the part of the Contractor and as to defects in the Contractor's work. The order, progress and methods of construction shall at all times be satisfactory to the City Engineer. The contractor shall vie his attention constantly to the faithful prosecution of the work, and shall keep the same under his personal control.

22. TIME AND MANNER OF DOING THE WORK:

Before any work is begun, the Contractor shall discuss fully with the City Engineer the order and manner of doing the work and the operating procedure shall at all items comply with the requirements of the City Engineer. Care should be taken to keep private and commercial entrance (i.e. service roads and walkways) interruptions to a minimum and advance notice should be given the occupant when such interruptions are anticipated.

23. GENERAL PROVISIONS:

Whenever the Contractor is not present on any part of the work where it may be desired to give directions, orders may be given by the City Engineer and shall be received and obeyed by the Superintendent or Foreman who may have charge of the particular work in reference to which orders are given.

24. LAWS AND REGULATIONS:

The Contractor shall keep himself fully informed of all state and national laws and municipal ordinances and regulations in any manner affecting those engaged or employed in the work, or the materials used in the work, or in any way affecting the conduct of the work, and of all such orders and decrees of bodies or tribunals having any jurisdiction authority over the same. If any discrepancy or inconsistency is discovered in the plans, drawings, specifications or contract for the work in relation to any such laws, specifications or contract for the work in relation to any such laws, ordinances, regulations, orders or decrees, he shall forthwith report the same to the City Engineer in writing. He shall at all times himself observe and comply with and shall cause all his agents and employees to observe and comply with such laws ordinances, regulations, orders and decrees; and shall protect and indemnify the City and its officers, agents and servants against any claim or liability arising from or based on the violation of any such laws, ordinances, regulations, order or decrees, whether by himself or his employees or subcontractors.

25. EXISTING STRUCTURES:

The Contractor shall take full responsibility for maintaining and restoring all existing structures encountered by his construction operations, including paving, catch basins, drains, electric light power, telephone poles, gas mains and any other structures encountered above or below ground. Damage to utilities will be repaired by the respective utility and the Contractor will pay all cost of repairs and/or damage incurred. The Contractor shall receive no additional compensation for maintaining, supporting protecting, restoring, and relocating if necessary, all electric light power and telephone poles and lines, and gas mains which are encountered in his work.

26. MAINTAIN STREETS PASSABLE:

Unless otherwise specifically permitted by the proper authorities of the City, the Contractor shall at all times maintain the streets passable on which his is conducting his work. The Contractor shall maintain access to all houses, garages, etc., with the least possible interruption and shall conduct his work so that the inconvenience to all property owners adjacent to the work will be at a minimum. All property owners shall be notified in advance if access to their property is to be temporarily interrupted in case of any

hardship resulting therefrom, the Contractor shall make suitable arrangements with the property owner to the satisfaction of the City Engineer.

27. PERMITS:

The Contractor shall secure all necessary permits from the state, city authorities having jurisdiction in the streets or highways and all other necessary building and construction operations requiring permits, and will be required to repair any damage caused by his operations to any street, highway or existing structure either above or below ground surface.

28. USE OF HIGHWAYS:

The use of state, city and town highways for hauling construction equipment or materials involved in the work will be subject to the rules and regulations of the state highway department, city or town governing such use by contractors and the Contractor shall comply with all such rules and regulations.

29. BARRICADES, DANGER, WARNING AND DETOUR SIGNS:

The Contractor shall provide, erect and maintain all necessary barricades, suitable and sufficient warning lights, danger signals and signs, provide flaggers in numbers as required, and shall take all necessary precautions for the protection of the work and the safety of the public. The Contractor will be required to conduct his operations so as to keep traffic moving steadily and to avoid traffic tie-ups. Highways closed to traffic shall be protected by adequate barricades on which suitable and acceptable warning and detour signs shall be placed and maintained. As a further precaution, the Contractor shall keep, from any city land or easements at the site of work, all persons not directly connected with the work or authorized by the City Engineer to be in the work area.

30. ACCESS TO WORK:

Authorized agents and employees of the city may, at any time and for any purpose, enter upon the work and premises used by the Contractor, and the Contractor shall provide safe and proper facilities therefore. Other contractors of the Community Development Department, federal, state and city officials and landowners may also, for all the purposes which may be required by their agreements and contracts, enter upon the work and premises used by the Contractor and other contractors of the Community Development Department, Federal, State, City of Concord, or landowners in regard to their work as determined by the Community Development Department.

31. SITE MANAGERMENTS, DUST CONTROL, ETC.:

The Contractor shall maintain the site of the work in a reasonable condition, shall avoid or promptly remove accumulations of dirt, debris, etc., from highways and storage areas, shall control the creation of a dust nuisance by sprinkling or chloride treatment, shall limit noise, and vibration and take such other measures as may be reasonable or proper to avoid undue nuisance to surrounding property owners.

32. LINES AND GRADES:

The Contractor shall keep the City Engineer informed in advance of the items and places at which he intends to do work, in order that ample opportunity shall be given the City Engineer to furnish lines and grades and to make necessary measurements. The Contractor shall have not claim for damages or extension of time on account of delays in giving lines and grades or destruction of marks and the consequent necessity for replacement. The Contractor shall be and is required to check all such lines and grades before and during the progress of the work, and the Contractor alone shall be responsible for the proper fit and dimension of all portions of the work. The work during its progress and at its completion shall conform fully to the established lines and grades and to the directions given to the Contractor as the work progresses, subject to such modifications or additions the City Engineer shall determine to be necessary during the execution of the work.

33. ALL WORK TO BE INSPECTED:

Proper notice shall be given the City Engineer by the Contractor of the times and places he intends to do work. All work is subject to inspection by the City Engineer. Any work which is done contrary to the direction of the City Engineer shall be considered unauthorized. If such unauthorized work is not accepted by the City Engineer, the Contractor shall agree to remove and replace such unauthorized work at his own expense to the satisfaction of the City Engineer when directed to do so.

34. CLEANING UP OR RESTORATION WORK:

The Contractor shall at all times keep the premises free from accumulation of waste materials or rubbish caused by his employees or work, or the employees or work of any of his subcontractors.

35. EMERGENCY REPAIRS, ETC.:

If, in the opinion of the City Engineer, at any time while the Contractor is responsible for the work or maintenance thereof, any emergency exists because there are not adequate barricades, lights, signs, etc. to warn and protect the public and/or persons or property in the vicinity of the work, or that the work under construction, or other adjacent streets, ground or structures are in acute danger of damage or injury by reason of inadequate drainage protection or other proper precautions which it is the duty of the Contractor to provide or to have provided; or that a street, road, walk or other premises are unsafe by reason of any settlement of any filling placed by the Contractor, the City Engineer may direct the Contractor or the Contractor's representative to remedy the difficulty immediately to furnish and erect the needed barricades, lights, or signs; to provide and set adequate sheeting, shoring and bracing to provide adequate pumps and drainage facilities; to fill settlements; to smooth roads, streets, walks or grounds; or to perform similar urgently needed services. If the Contractor or his representative is not present or is not immediately available or able to receive such orders or to perform the emergency services needed, or fails to act following such notice, the City Engineer, acting for the City, may cause such defects to be corrected; roads and walks made unsafe etc. by such person(s) or means as it may elect, and the Contractor shall reimburse the city of any expense incurred by it in performing such work. The City may deduct from any sum or

sums due or to become due to the Contractor such sum or sums as may be proper to reimburse the city of such expense(s), or may collect the costs of such work by other means.

36. ACT OR FAILURE TO ACT ON PART OF CITY ENGINEER DOES NOT REDUCE LIABILITY FOR CONTRACTOR:

Given notice, or failure to give notice, or acting as authorized in the preceding sections, or failure to so act on the part of the City Engineer; or any questions as to the adequacy of the notice by the City Engineer, or of his acts or those of the City as provided in those sections shall not in any way relieve the Contractor from any part of his responsibility or liability for performing any and all of the acts and assuming any and all of the risks, duties and liabilities which the Contractor is obligated to perform or assume.

37. OSHA REGULATIONS:

The Contractor shall follow and shall maintain all safety standards as prescribed by OSHA without exception. The City Engineer shall require strict adherence to all safety rules and regulations. The Federal Register Number for Contractor reference is Vol. 37, Part 262. The Federal Register Number for construction work for reference is Vol. 37, Part 243.

38. INSURANCE:

The successful bidder shall furnish to the City of Concord, prior to the start of any work, insurance certificates for comprehensive general liability, automobile liability and worker's compensation in accordance with the attached sheet.

39. TECHNICAL SPECIFICATIONS:

As per the attached.

GENERAL TERMS AND CONDITIONS

PREPARATION OF BIDS:

Bids shall be submitted on the forms provided and must be signed by the Bidder or the Bidder's authorized representative. The person signing the bid shall initial any corrections to entries made on the bid forms.

Bidders must quote on all items appearing on the bid forms unless specific directions in the advertisement, on the bid form or in the special provisions allowed for partial bids. Failure to quote on all items may disqualify the bid. When bids on all items are not required, bidders shall insert the words "no bid" where appropriate.

Alternative bids will be considered, unless otherwise stated, only if the alternate is: (1) Described completely, including, but not limited to, sample(s), if requested, and specifications sufficient so that a comparison to the request can be made; and (2) Submitted as part of the base bid response, i.e. it shall not be a separate document which could be construed as a second bid.

Unless otherwise stated in the Request, the bidder agrees that the bid shall be deemed open for acceptance for Sixty (60) calendar days subsequent to submittal to the City of Concord.

Any questions or inquiries must be submitted in writing, and must be received by the Purchasing Agent no later than seven (7) calendar days before the Request for Bids due date to be considered. Any changes to the Request for Bids will be provided to all bidders of record.

The bidder shall not divulge, discuss or compare this bid with the bid of any other bidders and shall not collude with any other bidder or parties to a bid whatever. (Note: No premiums, rebates or gratuities permitted either with, prior to, or after any delivery of materials shall be allowed. Any such violation will result in the cancellation and/or return of materials, as applicable, and the removal from Bid List).

The name of manufacturer, trade name, or catalog number mentioned in this request for bids description is for the purpose of designating a minimum standard of quality and type. Such references are not intended to be restrictive, although specified color, type of material and specified measurements may be mandatory. Proposals will be considered for any brand that meets or exceeds the quality of the specifications listed. On all such proposals, the bidder shall specify the product they are proposing and shall supply sufficient data to enable a comparison to be made with the particular brand or manufacturer specified. Failure to submit the above may be sufficient grounds for rejection of the proposal.

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When samples are required, they must be submitted free of cost and will be returned unless otherwise specified.

Items left for demonstration purposes shall be delivered and installed free of charge and shall be removed by the vendor at no cost to the City. Said demonstration units shall not be offered to the City as new equipment unless mutually agreed to.

The vendor may be required to supply proof of compliance with bid specifications.

When requested, the vendor must immediately supply the City with certified test results or certificates of compliance. Where none are available, the City may require independent laboratory testing. All costs for such testing, certified test results or certificates of compliance, shall be the responsibility of the vendor.

Unless otherwise stated, all prices are F.O.B.: Destination. No charge for packing or drayage will be allowed. All deliveries are to be pre-paid, C.O.D.'s will not be accepted. Each shipment shall be identified by Purchase Order and/or Bid number, commodity description and packing list. All items, packages, etc. shall have clearly identifiable external markings or tags for ease of identification.

SUBMISSION OF BIDS:

Bids must be submitted as directed in the Invitation for Bids, and on the forms provided unless otherwise specified. Bids must be typewritten or printed in ink. Bids must be mailed or delivered in person. Bids that are faxed or e-mailed will not be accepted.

WITHDRAWAL OF BIDS:

Bids may be withdrawn prior to the opening date and time upon written, faxed, e-mailed or telegraphic request of the bidder to the Purchasing Agent. Negligence on the part of the bidder in preparing this bid shall not constitute a right to withdraw bid subsequent to the bid opening. Bids may not be withdrawn for a period of sixty (60) days after the date of opening indicated herein or as modified by addenda.

BIDDERS INTERESTED IN MORE THAN ONE BID:

If more than one bid is offered by any one party, or by any person or persons representing a party, all such bids shall be rejected. A party who has quoted prices to a bidder is not thereby disqualified from quoting prices to other bidders or from submitting a direct bid in its own behalf.

RECEIPT AND OPENING OF BIDS:

Bids shall be submitted prior to the time fixed in the Invitation for Bids. Bids received after the time so indicated shall be returned unopened. Bids must be mailed or delivered in person. Bids that are faxed or e-mailed will not be accepted.

PRESENCE OF BIDDERS AT OPENING:

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At the time and place fixed for opening bids, the contents of all bids will be made public for the information of all bidders and other interested parties who may be present in person or by representative.

BID EVALUATION:

In an attempt to determine if a bidder is responsible, the City, at its discretion, may obtain technical support from outside sources. Each bidder will agree to fully cooperate with the personnel of such organizations.

BID RESULTS:

Bidders may secure information pertaining to the results of a bid by visiting the Purchasing office weekdays between the hours of 8:30 AM and 4:00 PM; or by enclosing a self-addressed envelope along with a two-dollar (\$2.00) handling fee to receive the results by mail.

NO TELEPHONE REQUESTS FOR RESULTS WILL BE ACCEPTED OR GIVEN.

TIE BIDS:

When identical low bids are received, with respect to price, delivery and quality, award may be made by a toss of coin, with the following exception: When a tie bid exists between a local (a business establishment within City limits) bidder and an out-of-town bidder, preference will be given to the local bidder. Any bidder having a local agent who is a bona fide resident of the City is considered a local bidder. If a tie bid exists between two local bidders, or two out-of-town bidders, the decision may be made by a toss of coin.

LIMITATIONS:

This bid document does not commit the City to award a contract, to pay any costs incurred in the preparation of a bid response, or to procure or contracts for goods, services or supplies. The City reserves the right to accept or reject any or all bids received as a result of this request, or to cancel in part or in its entirety this bid document, if it is in the best interests of the City to do so.

AWARD OF CONTRACT:

The contract may be awarded to the lowest responsive and responsible bidder as soon as practical after the bid opening unless otherwise stated, but generally not before ten (10) working days from the bid opening.

It is the policy of the City that contracts are awarded only to responsive and responsible bidders. In order to qualify as responsive and responsible, a prospective vendor must meet the following standards as they relate to this request:

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- Have adequate financial resources for performance or have the ability to obtain such resources as required during performance;
- Have the necessary experience, organization, technical and professional qualifications, skills and facilities;
- Be able to comply with the proposed or required time of completion or performance schedule;
- Have a demonstrated satisfactory record of performance; and
- Adhere to the specifications of this bid and provide all documentation required of this bid

It is requested that interested parties refrain from making inquiries during this period. A “Letter of Award” and accompanying “Notice of Award” will announce the contract award. The City of Concord reserves the right to waive any formality, informality, information and/or errors in the bids submitted and the right to reject any or all bids at its discretion and to accept the bid which will be in the best interest of the City; or to purchase on the open market if it is considered in the best interest of the City to do so. In case of error in the extension of prices, the unit prices bid shall govern and the unit prices in writing shall take precedence over the unit prices in figures. Also, in the event of a discrepancy between the total of the items and the lump sum total stated, the total of the items shall govern.

CANCELLATION OF AWARD:

The City reserves the right to cancel the award without liability to the bidder, except for the return of the bid bond, at any time before a contract has been fully executed by all parties and is approved by the City.

MODIFICATIONS AFTER AWARD:

The City reserves the right to incorporate minor modifications that may be required by it. The Contractor will incorporate these changes at no additional cost, but may protest such action and not be bound by any such request if it can prove that the timing or extent of the modifications implies a major effort on its part.

RETURN OF BID BOND:

All bid bonds, except that of the lowest bidder, will be returned after the City has awarded a contract. The successful bidder’s bid bond will be returned as soon as an agreement has been fully executed.

REQUIREMENTS OF SURETY BONDS:

At the time of the execution of the agreement, the successful bidder shall furnish the City with surety bonds, which have been fully executed by the bidder, guaranteeing the performance of the work and the payment of all legal debts that may be incurred by reason of the Contractor’s performance of the work. The surety and the form of the

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bonds shall be acceptable to the City. Unless otherwise specified, the surety bonds shall be in the sum equal to the full amount of the agreement.

INSURANCE:

The successful bidder shall procure and maintain insurance, in the amounts and coverage detailed by the bid documents, acceptable to the City, at the bidder's sole expense, with reputable and financially responsible insurance companies, insuring against any and all public liability, including injuries or death to persons and damage to property, arising out of or related to the goods or bidder's performance hereunder and shall furnish to the City certificates of such insurance and renewals thereof signed by the issuing company or agent upon the City's request. Such certificates shall name the City of Concord as an additional insured. Such policies shall provide for cancellation only subsequent to 30 days prior written notice to the City.

The City's examination of, or failure to request or demand, any evidence of insurance hereunder, shall not constitute a waiver of any requirement and the existence of any insurance shall not limit the bidder's obligation under any provision hereof.

Except to the extent of comparable insurance acceptable to, or express waiver by the City, the bidder shall, or shall cause any carrier engaged by the bidder, to insure all shipments of goods for full value.

If the agreement with the bidder involves the performance of work by the bidder's employees at property owned or leased by the City, the bidder shall furnish such additional insurance as the City may request in respect thereof, but in any event and without such request, workers' compensation insurance and unemployment compensation insurance as required by laws of the State of New Hampshire and public and automotive liability and property damage insurance. In no event shall such employees of the bidder be deemed to be the employees of, or under the direction or control of the City for any purpose whatsoever.

WORKER'S COMPENSATION:

All bidders and subcontractors at every tier under the bidder will conform with the requirements of RSA 281 Title XXIII, Section 281-A:2 with close attention to sections VI(a), VI(c) and VII(a) as well as Section 281-A:4.

CONTRACT:

The contract between the City and the Contractor shall consist of (1) the bid documents and any amendments there to and (2) the Contractor's bid. In the event of a conflict in language between documents (1) and (2) referenced above, the provisions and requirements set forth and referenced in the bid documents shall govern. However, the City reserves the right to clarify any contractual relationship in writing with the concurrence of the Contractor and such written clarification shall govern in case of

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conflict with the applicable requirements contained in the bid documents and the Contractor's bid. In all other matters, not affected by written clarification, if any, the bid documents shall govern. The bidder is cautioned that this bid shall be subject to acceptance without further clarification.

EXECUTION OF AGREEMENT:

The successful bidder shall sign (execute) the necessary agreements for entering into the contract and return such signed agreements to the City, along with the fully executed surety bonds, within ten (10) calendar days from the date mailed or otherwise delivered to the successful bidder.

APPROVAL OF AGREEMENT:

Upon receipt of the agreement and surety bonds that have been fully executed by the successful bidder, the owner shall complete the execution of the agreement in accordance with local laws or ordinances and return the fully executed agreement to the Contractor. Delivery of the fully executed agreement, along with a Notice to Proceed and a City purchase order, to the Contractor shall constitute the City's approval to be bound by the successful bidder's proposal and the terms and conditions of the agreement.

FAILURE TO EXECUTE AGREEMENT:

Failure of the successful bidder to execute the agreement and/or furnish acceptable surety bonds within ten (10) calendar days from the date mailed or otherwise delivered to the successful bidder shall be just cause for cancellation of the award and forfeiture of the bid bond, not as a penalty, but as liquidation of damages to the City.

DISQUALIFICATION:

Awards will not be made to any person, firm or company in default of a contract with the City, the State of New Hampshire or the Federal Government.

DISAGREEMENTS AND DISPUTES:

All disagreements and disputes, if any, arising under the terms of any agreement, either by law, in equity, or by arbitration, shall be resolved pursuant to the laws and procedures of the State of New Hampshire, in which state any agreement shall be deemed to have been executed. No action at law, or equity or by arbitration shall be commenced to resolve any disagreements or disputes under the terms of any agreement, in any jurisdiction whatsoever other than the State of New Hampshire and Merrimack County.

TERMINATION OF CONTRACT FOR CAUSE:

If through any cause, the Contractor shall fail to furnish, in a timely and proper manner, its obligations under any contract, or if the Contractor shall violate any of the covenants,

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agreements or stipulations of any contract, the City shall thereupon have the right to terminate any contract by giving written notice to the Contractor of such termination and specifying the effective date thereof at least five (5) days before the effective date of such termination. In such event, all finished or unfinished work, documents, plans, data programs and reports prepared by the Contractor under any contract shall, at the option of the City, become its property and the Contractor shall be entitled to receive just and equitable compensation for any satisfactory work completed.

Notwithstanding the above, the Contractor shall not be relieved of liability to the City for damages sustained by the City by virtue of any breach of the contract, and the City may withhold any payments until such time as the exact amount of damages due the City is determined.

TERMINATION FOR THE CONVENIENCE OF THE CITY:

The City may terminate any contract at any time by giving written notice to the Contractor of such termination and specifying the effective date thereof, at least fifteen (15) days before the effective date of such termination.

In that event, all finished or unfinished work, documents, plans, data programs and reports prepared by the Contractor under any contract shall, at the option of the City, become its property and the Contractor shall be entitled to receive just and equitable compensation for any satisfactory work completed.

SAFETY DATA SHEET (Right to Know):

Any vendor who receives an order 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 RSA 277-A when deliveries are made. The vendor agrees to deliver all containers properly labeled pursuant to RSA 277-A. Failure to submit an MSDS and/or label on each container will place the vendor in noncompliance with that purchase order. Failure to submit 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 State. All vendors furnishing substances or mixtures subject to RSA 277-A are cautioned to obtain and read the law referenced above.

PATENT PROTECTION:

The successful bidder agrees to indemnify and defend the City of Concord from all claims and losses resulting from alleged and actual patent infringements and further agrees to hold the City of Concord harmless from any liability arising under RSA 382-A, 2-312 (3). (Uniform Commercial Code).

OWNERSHIP OF REPORTS:

All data, materials, plans, reports and documentation prepared pursuant to any contract between the City of Concord and the successful bidder shall belong exclusively to the City.

ASSIGNMENT PROVISION:

The successful bidder hereby agrees that it will assign to the City of Concord all cause of action that it may acquire under the anti-trust laws of New Hampshire and the United States as the result of conspiracies, combination of contracts in restraint of trade which affect the price of goods or services obtained by the City under this contract if so requested by the City of Concord.

DELIVERY:

Deliveries are to be made only to the department or division indicated on the order and in accordance with accepted commercial practices, without extra charge for packing or containers.

Deliveries that do not conform to the specifications or are not in good condition upon receipt; shall be replaced promptly. Deliveries shall be inside the building, and accepted weekdays between the hours of 8:30 AM and 3:30 PM unless otherwise stated. Delivery arrangements must be made with requesting department prior to delivery.

INVOICING:

Unless otherwise stated, invoices are to be submitted in duplicate upon delivery or pick-up to the user department or division. The invoice must include an itemization of all items, supplies, repairs or labor furnished, including unit list price, net price, extensions and total amount due. In addition, on projects that will involve partial/progress payments and/or retainage a summary statement in the following format will be provided with each invoice:

Original Contract Amount	\$\$\$\$\$\$\$\$
Plus/minus Change Orders	\$\$\$\$\$\$\$\$
Total Adjusted Contract Amount	\$\$\$\$\$\$\$\$
Work Completed to Date	\$\$\$\$\$\$\$\$
Less Previous Invoices	\$\$\$\$\$\$\$\$
Less Retainage (if any)	\$\$\$\$\$\$\$\$
Equals: Balance due this Invoice	\$\$\$\$\$\$\$\$
Balance Remaining on Contract	\$\$\$\$\$\$\$\$

All invoices must reference a valid City of Concord Purchase Order Number

PROGRESS PAYMENTS AND RETAINAGE:

Progress Payments: On not later than the last day of every month, the Contractor shall prepare and submit an invoice covering the total quantities of work that have been completed from the start of the job up to and including the last day of the preceding month together with such supporting evidence as required by the City.

Retainage: On not later than the last day of the subsequent month, the City shall, after deducting previous payments made, pay to the Contractor 90% of the amount of the estimate as approved by the City. The 10% retained percentage shall be held by the City until final inspection and acceptance. At such time the retainage may be reduced to 5% of the total value of the contract and this amount shall be held during the 24-month guarantee period. This retainage shall be held in a non-interest bearing account.

PAYMENT:

Unless otherwise stated, payment will be made within thirty (30) days of the completion of delivery of all items or service, in acceptable condition, to the City and receipt of invoice, whichever is later.

ANY CASH DISCOUNT SHALL BE READ TO MEAN CITY PAYDAY, CPD.

TAX:

The City is exempt from all sales and Federal excise taxes. Our exemption number is 02-6000177. Please bill less these taxes.

FUNDING OUT:

The City of Concord's obligations to pay any amount due under a contract are contingent upon availability and continuation of funds for the purpose. The City may terminate the contract, for non-appropriation of funds, and all payment obligations of the City cease on the date of termination.

ASSIGNMENT OR SUB-CONTRACTING:

None of the work or services covered by the contract shall be assigned in full or in part, or sub-contracted without the prior approval of the City.

EXCLUSIVITY:

This contract will be for the goods/services described above; however, this agreement should not be considered exclusive. As deemed necessary, the City reserves the right to obtain these goods/services from any other vendor.

PRICING:

Unless otherwise specified all prices listed are firm for the term of the contract. All prices should include all labor, material and transportation costs, and any discounts offered. No additional fuel surcharges shall be allowed at any time.

AUDIT:

For a period of at least three (3) years after completion of any contract, it is the responsibility of the vendor to make available at the vendor's place of business, upon demand, all price lists, documents, financial records and other records pertaining to purchases made and/or work performed under contract for the purposes of audit by the City of Concord.

INSPECTION & EVALUATION:

The City of Concord reserves the right to inspect the vendor's facilities during operating hours to determine that the level of inventory is adequate for the City's needs. The conditions and operations of the facility shall be taken into consideration in making the award of this contract.

FUGITIVE DUST AND NOISE ORDINANCES

All work shall be conducted in conformance with Title I, General Code

1. Chapter 11, Public Nuisances, Article 11-3 Fugitive Dust: and
2. Chapter 13, Public Health, Article 13-6 Noise

GUARANTEES & WARRANTY:

All parts and labor related to agreements must be guaranteed and include a warranty. If any work is unable to be guaranteed, the Contractor must inform the City, in writing, prior to the delivery of an item or any work being performed. Non-guaranteed work must be offered at a discount rate from the bid prices. **Inspection, testing and final determination of non-warranty work shall be performed at no cost to the City.**

FORCE MAJEURE:

Neither party shall be liable for any inability to perform its' obligations under any subsequent agreement due to war, riot, insurrection, civil commotion, fire, flood, earthquake, storm or other act of God.

NOTIFICATION:

Notification of the parties shall be considered to have been constructively received when it is mailed via the United State Postal Service or delivered in hand to the parties as stated in the contract.

SEVERABILITY:

If any of the GENERAL TERMS AND CONDITIONS is held to be invalid or unenforceable, it will be construed to have the broadest interpretation which would make it valid and enforceable under such holding. Invalidity or unenforceability of a term or condition will not affect any of the other GENERAL TERMS AND CONDITIONS.

PROVISION REQUIRED BY LAW DEEMED INSERTED

Each and every provision and clause required by law to be inserted in this Invitation for Bids and any subsequent Contract shall be deemed to be inserted herein and this Invitation for Bids and Contract shall be read and enforced as though it were included herein, and if through mistake or otherwise any such provision is not inserted, or is not correctly inserted, then upon the application of either party, the Invitation for Bids and/or Contract shall forthwith be physically amended to make such insertion or correction.

LIQUIDATED DAMAGES

In the event that the Contractor fails to satisfactorily complete the work contemplated and provided for under this contract, on or before two hundred thirty (230) calendar days from the date of work commencement, the City shall deduct from the payments due the Contractor each month, the sum of five hundred dollars (\$500.00) plus engineering charges per day for each calendar day of delay, which sum is agreed upon not as a penalty, but as fixed and liquidated damages for each day of such delay, to be paid in full and subject to no deduction. If the payments due the Contractor are less than the amount of such liquidated damages said damages shall be deducted from any other monies due or to become due the Contractor or shall be paid by the Contractor's surety.

NON-RECRUITMENT OF PERSONNEL

During the term of the Agreement and for twenty-four (24) months thereafter, the City and the successful vendor party agree not to solicit or hire current or former employees without the other's prior written consent

DISADVANTAGED BUSINESS ENTERPRISES

The City hereby notifies all bidders that it will affirmatively insure that in any contract entered into pursuant to this Invitation for Bids, disadvantaged business enterprises will be afforded full opportunity to submit bids in response to this invitation and will not be

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discriminated against on the grounds of race, color, national origin, religion, sex, age or disability in consideration for an award.

NON-DISCRIMINATION

Contracts for work resulting from this Invitation for Bids shall obligate the Contractor and the Subcontractors not to discriminate in employment practices on the grounds of race, color, national origin, religion, sex, age or disability. Statements as to non-discriminatory practices may be requested from the successful bidder(s).

DEFINITIONS:

Bid shall also mean quotation, proposal, offer, qualification/experience statement, and services.

Bidders shall also mean vendors, offerers, Contractors or any person or firm responding to an invitation for bids.

GOVERNING LAW:

The Laws of the State of New Hampshire shall govern all contracts entered into by the City of Concord. Any disputes shall be resolved within the venue of the State of New Hampshire and Merrimack County.

FAILURE TO ACKNOWLEDGE THIS BID MAY RESULT IN WITHDRAWAL FROM THE BID LIST FOR THIS COMMODITY OR SERVICE.

FAILURE TO COMPLY WITH THESE REQUIREMENTS COULD RESULT IN THE CANCELLATION OF AN ORDER OR CONTRACT.

SCOPE OF WORK

Project Name: B51–07, “2007 Water Main Cleaning and Lining Construction Project”

Description of Work to be Performed

Cleaning and Cement Lining of approximately:

- 7000 linear feet of 20 inch cast iron water main
- 60 linear feet of 6 inch cast iron water main

Included in this project is the installation of 4” & 2” temporary water pipe, installing assorted sized valves, removing, resetting existing valves, retapping existing services and reconnecting existing services, installing new hydrants, resetting, and discontinuing hydrants, video inspection of all lines after cleaning and before and after lining.

BIDDER'S SUBMISSION CHECKLIST

In order to be considered responsive, each prospective contractor must submit the following documents as part of their bid:

1. Bid Sheet
2. 10% Bid Bond
4. Specifications Exception Form
5. Alternate Form W-9
6. City of Concord Indemnification Agreement
7. Qualification Statement
8. US DOT/FHA Drug and Alcohol Testing Certification

The successful contractor must submit, prior to contract signing, the following documentation:

1. 100% Payment Bond
2. 100% Performance Bond
3. Insurance Certificate (Naming the City of Concord as an **Additional Insured**) that meets the minimum requirements for coverage.

BID SHEET

TO: CITY OF CONCORD
City Hall, 41 Green Street, Concord, N. H. 03301

In compliance with your invitation for bids dated _____ for the above-captioned project, the undersigned hereby proposes to furnish all labor, equipment and materials and perform all work for said project for the base bid lump sum of:

_____ Dollars \$ _____
Written Figures

Said work to be done in strict accordance with the plans, specifications and all the Contract Documents; and the undersigned agrees that upon written acceptance of this bid, he/she will within **ten** (10) days of the date of the Notice of Award, execute a formal Contract Agreement with the City of Concord, and that he/she will provide the required Payment and Performance Bonds and Certificates of Insurance. The undersigned further agrees that, if awarded the Contract, he/she will commence the work within **ten** (10) calendar days after the date of the written Notice to Proceed and that the work will be completed within two hundred thirty (230) calendar days after commencement, but not later than October 30, 2007.

CONTRACT AWARD IS CONTINGENT UPON APPROVAL OF FUNDS BY THE CONCORD CITY COUNCIL AT IT'S JULY 2007 MEETING. PROJECT MAY NEED TO BE PHASED PENDING AVAILABLE FUNDING.

ITEMIZED BID SHEET

The BIDDER shall fill in the itemized bid sheet as part of this proposal with the unit prices written in both words and numerals and the extensions made by the BIDDER. In case of discrepancy between the words and the numerals, the amount shown in words shall govern.

BIDDER agrees to perform all the necessary labor, furnish all materials and do all the work described in the specifications and shown on the drawings, for the unit prices or extend prices indicated.

ITEM	QUANTITY	UNIT	ITEM DESCRIPTION	UNIT PRICE	EXT PRICE
1	1	LS	Mobilization	_____	_____
			Written unit price	_____	
2	7000	LF	Clean & Line (Cement Mortar) 20 Inch Cast Iron Water Main	_____	_____
			Written unit price	_____	
3	60	LF	Clean & Line (Cement Mortar) 6 Inch Cast Iron Water Main	_____	_____
			Written unit price	_____	
4	1200	LF	4 Inch Temporary Water Service Furnished & Installed	_____	_____
			Written unit price	_____	
5	3000	LF	2 Inch Temporary Water Service Furnished & Installed	_____	_____
			Written unit price	_____	
6	250	LF	20 Inch Ductile Iron Pipe Furnished & Installed	_____	_____

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			Written unit price	_____
7	15	LF	18 Inch Ductile Iron Pipe Furnished & Installed	_____
			Written unit price	_____

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ITEM	QUANTITY	UNIT	ITEM DESCRIPTION	UNIT PRICE	EXT. PRICE
8	15	LF	8 Inch Ductile Iron Pipe Furnished & Installed	_____	_____
			Written unit price	_____	
9	250	LF	6 Inch Ductile Iron Pipe Furnished & Installed	_____	_____
			Written unit price	_____	
10	3	EA	20 Inch Butterfly Valve & Box Furnished & Installed	_____	_____
			Written unit price	_____	
11	1	EA	18 Inch Butterfly Valve & Box Furnished & Installed	_____	_____
			Written unit price	_____	
12	1	EA	8 Inch Gate Valve & Box Furnished & Installed	_____	_____
			Written unit price	_____	
13	10	EA	6 Inch Gate Valve & Box Furnished & Installed	_____	_____
			Written unit price	_____	
14	4	EA	2 Inch Temporary Tap Furnished & Installed	_____	_____
			Written unit price	_____	
15	12000	LBS	Fittings Furnished & Installed	_____	_____
			Written unit price	_____	

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ITEM	QUANTITY	UNIT	ITEM DESCRIPTION	UNIT PRICE	EXT. PRICE
16	5	EA	New Hydrant Furnished & Installed	_____	_____
			Written unit price	_____	
17	3	EA	Reset Hydrant Furnished & Installed	_____	_____
			Written unit price	_____	
18	100	LF	Insulation Furnished & Installed	_____	_____
			Written unit price	_____	
19	2	EA	Water Line Obstruction Furnished & Installed	_____	_____
			Written unit price	_____	
20	10	CY	Exploratory Excavation Furnished & Installed	_____	_____
			Written unit price	_____	
21	5	CY	Concrete Furnished & Installed	_____	_____
			Written unit price	_____	
22	10	CY	Ledge Removal & Refill With Approved Common Fill Furnished & Installed	_____	_____
			Written unit price	_____	
23	500	CY	Crushed Gravel Furnished & Installed	_____	_____
			Written unit price	_____	

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ITEM	QUANTITY	UNIT	ITEM DESCRIPTION	UNIT PRICE	EXT. PRICE
24	50	CY	¾ “ Stone Furnished & Installed	_____	_____
			Written unit price	_____	
25	2500	LF	Saw Cut Furnished & Installed	_____	_____
			Written unit price	_____	
26	700	SY	Temporary Bituminous Pavement (1.5” Thickness) Furnished & Installed	_____	_____
			Written unit price	_____	
27	2500	HR	Flaggers Furnished & Installed	_____	_____
			Written unit price	_____	
28	80	HR	Police Officer With Police Vehicle Furnished & Installed	_____	_____
			Written unit price	_____	
29	1	LS	Traffic Maintenance Furnished & Installed	_____	_____
			Written unit price	_____	
30	1	LS	Cleanup Furnished & Installed	_____	_____
			Written unit price	_____	
31	250	TN	Hot Top (Hand Method) Furnished & Installed	_____	_____

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ITEM	QUANTITY	UNIT	ITEM DESCRIPTION	UNIT PRICE	EXT. PRICE
32	5	CY	Boulder Excavation & Refilled With Common Fill Furnished & Installed	_____	_____
			Written unit price	_____	_____
33	500	CY	Unsuitable/Select Furnished & Installed	_____	_____
			Written unit price	_____	_____
34	7000	LF	TV Video Furnished & Installed	_____	_____
			Written unit price	_____	_____
35	100	CY	Reinforced Concrete Furnished & Installed	_____	_____
			Written unit price	_____	_____

BID SUMMARY

TOTAL BID PRICE
(FIGURES).....\$ _____

TOTAL BID PRICE (WRITTEN) _____ DO
LLARS

**THE CITY OF CONCORD RESERVES THE RIGHT TO INCREASE, DECREASE OR
DELETE ANY LINE ITEM FOR THIS PROJECT.**

B51 – 2007 Water Main Cleaning & Lining Project

THE UNDERSIGNED ACKNOWLEDGES:

1. THAT HE/SHE IS AN AUTHORIZED AGENT OF THE VENDOR SUBMITTING THIS BID
2. THE RECEIPT OF THE FOLLOWING ADDENDA _____
3. THE FIRM SUBMITTING THIS BID HAS NEVER DEFAULTED ON ANY MUNICIPAL, COUNTY, STATE, FEDERAL OR PRIVATE CONTRACT

COMPANY: _____

SIGNED BY: _____

PRINTED OR TYPED NAME: _____

ADDRESS: _____

TELEPHONE NUMBER: _____ FAX NUMBER: _____

TOLL FREE NUMBER: _____ E-MAIL: _____

CELL PHONE NUMBER: _____ PAGER: _____

PRIMARY POINT OF CONTACT: _____

PAYMENT TERMS AND CONDITIONS: _____

LENGTH OF WARRANTY PERIOD: _____

WARRANTY COVERAGE, i.e. Parts, Labor, Travel: _____

PLEASE FILL OUT, SIGN AND RETURN TO:

The City of Concord
Douglas B. Ross, Purchasing Agent
41 Green Street
Concord, NH 03301
603-225-8530
603-230-3656 (Fax)
dross@onconcord.com

Due Date/Time: May 31, 2007 Not Later Than 2:00 PM

IN AN EFFORT TO BETTER REACH ALL PROSPECTIVE VENDORS, PLEASE ASSIST US BY PROVIDING AND RETURNING, WITH YOUR BID, THE FOLLOWING INFORMATION:

HOW DID YOU LEARN ABOUT THIS INVITATION FOR BIDS (IFB)? PLEASE CHECK ALL THAT APPLY:

- _____ LEGAL NOTICE IN THE CONCORD MONITOR
- _____ PURCHASING PAGE OF THE CITY INTERNET WEB SITE
- _____ ADVERTISEMENT ON CONCORD CABLE TV (CCTV-Channel 17)
- _____ POSTING ON CITY HALL BULLETIN BOARD
- _____ SUBSCRIPTION TO A CONSTRUCTION REPORTING SERVICE
Please identify the reporting service:_____
- _____ CITY SENT THE IFB TO MY FIRM
- _____ OTHER, PLEASE IDENTIFY:_____

THANK YOU FOR YOUR ASSISTANCE.

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**CITY OF CONCORD, NEW HAMPSHIRE
SPECIFICATIONS EXCEPTION FORM**

In the interest of fairness and sound business practice, it is mandatory that you state any exceptions taken by you to our specifications.

It should not be the responsibility of the City of Concord to ferret out information concerning the materials which you intend to furnish.

If your proposal does not meet all of our specifications you **must** so state in the space provided below:

Proposals on equipment, vehicles, supplies, service and materials not meeting specifications may be considered by the City, however, all deviations must be listed above.

If your proposal does not meet our specifications, and your exceptions are not listed above, the City of Concord may claim forfeiture on your proposal bond, if submitted.

Signed: _____

I DO meet specifications

Signed: _____

I DO NOT meet specifications as listed in this proposal; exceptions are in the space provided.

Failure to submit this form with your Bid may result in your Bid being rejected as unresponsive.

**Request for Taxpayer Identification Number and
Certification**
B51 – 2007 Water Main Cleaning & Lining Project

Give form to the requester. Do not send to the IRS.

Name (as shown on your income tax return)	
Business name, if different from above	
Check appropriate box: Individual/ Sole proprietor <input type="checkbox"/> Corporation <input type="checkbox"/> Partnership <input type="checkbox"/> Other <input type="checkbox"/>	Exempt from backup withholding <input type="checkbox"/>
Address (number, street, and apt. or suite no.)	Requester's name and address (optional) City of Concord Finance Department 41 Green Street Concord NH 03301
City, state, and ZIP code	
List account number(s) here (optional)	
Part I	Taxpayer Identification Number (TIN)

Enter your TIN in the appropriate box. The TIN provided must match the name given on Line 1 to avoid backup withholding. For individuals, this is your social security number (SSN). For other entities, it is your employer identification number (EIN).

Social Security number –	Employer identification number –
Part II	Certification

Under penalties of perjury, I certify that:

1. The number shown on this form is my correct taxpayer identification number, and
2. I am not subject to backup withholding because: (a) I am exempt from backup withholding, or (b) I have not been notified by the Internal Revenue Service (IRS) that I am subject to backup withholding as a result of a failure to report all interest or dividends, or (c) the IRS has notified me that I am no longer subject to backup withholding, and
3. I am a U.S. person (including a U.S. resident alien).

Certification instructions. You must cross out item 2 above if you have been notified by the IRS that you are currently subject to backup withholding because you have failed to report all interest and dividends on your tax return. For real estate transactions, item 2 does not apply. For mortgage interest paid, acquisition or abandonment of secured property, cancellation of debt, contributions to an individual retirement arrangement (IRA), and generally, payments other than interest and dividends, you are not required to sign the Certification, but you must provide your correct TIN.

Sign Here	Signature of U.S. Person	Date:
------------------	--------------------------	-------

Purpose of Form

A person who is required to file an information return with the IRS must obtain your correct taxpayer identification number (TIN) to report, for example, income paid to you, real estate transactions, mortgage interest you paid, acquisition or abandonment of secured property, cancellation of debt, or contributions you made to an IRA. Pursuant to IRS Regulations, you must furnish your Taxpayer IRS Identification Number (TIN) to the City whether or not you are required to file tax returns. If this number is not provided, you may be subject to required withholding on each payment made to you. To avoid this withholding & to ensure that accurate tax information is reported to the IRS, **A RESPONSE IS REQUIRED.**

CITY OF CONCORD, NEW HAMPSHIRE

**THE FOLLOWING INDEMNIFICATION AGREEMENT SHALL BE, AND IS
HEREBY A
PROVISION OF ANY CONTRACT**

The successful contractor agrees to indemnify, investigate, protect, defend and save harmless the City, its officials, officers, agents and employees from any and all claims and losses accruing or resulting to any and all contractors, subcontractors, suppliers, laborers and any other person, firm, or corporation furnishing or supplying work, services, materials or supplies in connection with the performance of this contract, and from any and all claims and losses accruing or resulting to any person, firm or corporation which may be injured or damaged by the contractor in the performance of this contract. In any case, the foregoing provisions concerning indemnification shall not be construed to indemnify the City for damage arising out of bodily injury to persons or damage to property caused by or resulting from the sole negligence of the City or its employees. This indemnification shall survive the expiration or early termination of this contract.

COMPANY _____

TAXPAYER IDENTIFICATION NUMBER _____

AUTHORIZED SIGNATURE _____

ADDRESS _____

TELEPHONE _____

TOLL-FREE NUMBER _____

FAX NUMBER _____

E-MAIL ADDRESS _____

Failure to submit this form with your Bid response may result in your Bid being rejected as unresponsive.

QUALIFICATIONS STATEMENT

The undersigned submits answers to the following questions to enable the City of Concord to judge experience and ability in, and facilities for, the work proposed to be done.

- 1. The work, if awarded to you, will have the resident personal supervision of whom? State his/her name, title, and their special qualifications.

- 2. Describe equipment you propose to furnish. (a) your own; (b) rented;

- a.

- b.

- 3. How many years has your organization been in business as a contractor under the name in which you propose to execute this contract?

- 4. Has your present organization ever failed to complete any work awarded to it? If so, state when, where and why:

**SAMPLE FORMAT
US DOT/FHA DRUG AND ALCOHOL TESTING CERTIFICATION**

Today's Date

Mr. Douglas B. Ross
City of Concord
Purchasing Division
41 Green Street
Concord, NH 03301

Re: B51-07, 2007, Water Main Cleaning and Lining Project

Mr. Ross,

Name of firm here does hereby certify that all affected employees for the referenced project comply with the U.S. Department of Transportation, Federal Highway Administration Drug and Alcohol Testing Rules as stated in CFR, Part 382. Name of firm here further agrees not to utilize any affected employee, within the scope of the agreement, that does not comply with all of the criteria in the Federal Motor Carrier Safety Regulations of the U.S. D.O.T., Parts 40, 382, 383, 387, 390 – 399.

Very truly yours,

Name of Firm

Signature Block

**City of Concord, New Hampshire
B51-07, 2007 WATER MAIN CLEANING & LINING PROJECT
Insurance Requirements for All Contractors**

Additional Coverage is Required if Checked *Minimum Limits Required*

Commercial General Liability

General Aggregate	\$2,000,000
Products-Completed Operations Agg.	\$2,000,000
Personal and Advertising	\$1,000,000
Each Occurrence Injury	\$1,000,000
Fire Damage (Any One Fire)	\$ 50,000
Medical Expense (Any One Person)	\$ 10,000
<input type="checkbox"/> Occurrence	
<input type="checkbox"/> Claims Made	

Additional Coverage to Include

<input type="checkbox"/> Owners & Contractors' Protective – Limit	\$1,000,000
<input checked="" type="checkbox"/> Underground/Explosion and Collapse	

Commercial Automobile Liability

Combined Single Limit	\$ 500,000
	\$1,000,000

- Any Auto, Symbol 1
- Include Employees as Insured

Additional Coverage to include:

<input type="checkbox"/> Garage Liability	NA
<input type="checkbox"/> Garage Keepers Legal Liability	NA

Workers Compensation

NH Statutory including Employers Liability	
- Each Accident/Disease-Policy Limit/Disease-Each Employee	\$100,000/\$500,000/\$100,000

Commercial Umbrella

May be substituted for higher limits required above	\$1,000,000 _____
<input checked="" type="checkbox"/> Follow Form Umbrella on ALL requested Coverage	

Other

- 1. Professional/Errors & Omissions \$ _____
- 2. Builders Risk – Renovation Form \$ _____
- All Risk completed value form including Collapse \$ _____
- Sublimit for Soft Cost Coverage \$ _____
- 3. Installation Floater (Equipment) \$ _____
- 4. Riggers Liability \$ _____
- 5. Environmental – Pollution Liability \$ _____
- 6. Aviation Liability \$ _____
- 7. Watercraft – Protection & Indemnity \$ _____

(X) **The City of Concord must be named as Additional Insured**

B51 – 2007 Water Main Cleaning & Lining Project

City of Concord, New Hampshire



Finance Department

Purchasing Division

CITY HALL 41 GREEN STREET

Concord, NH 03301

(603)225-8530 FAX(603)230-3656

Reference: B51-07

If you choose not to bid, please complete the questionnaire below and return it with your response by the bid opening date. Your assistance in helping us to analyze no bid rationale is very much appreciated. Thank you.

* * * * No Bid Questionnaire * * * *

A no bid is submitted in reply to the City of Concord Invitation for Bids for B51-07, 2007 Water Main Cleaning & Lining Project dated _____, for the following reasons:

- _____ Item not supplied by our company.
- _____ Bid specification (give reason(s), e.g., too restricted, not clear, etc.):

- _____ Profit margin on municipal bids too low.
- _____ Past experience with City of Concord (give specifics, e.g., payment delay, bid process, administrative problems, etc) _____
- _____ Insufficient time allowed to prepare and respond to bid request.
- _____ Bid requirement too large _____ or too small _____ for our company.
- _____ Priority of other business opportunities limit time/other resources available to deliver or perform according to bid specifications.
- _____ Other reason(s), please specify: _____

.....
Company Name and Address: _____

Phone: () _____

(Signature)

(Typed/Printed Name & Title)



City of Concord

New Hampshire

COMMUNITY DEVELOPMENT DEPARTMENT
ENGINEERING SERVICES DIVISION

City Hall 41 Green St. Concord, NH 03301 Tel: 225-8520 Fax: (603-230-3630)

Roger Hawk

Director

Ed Roberge

City Engineer

CERTIFICATE OF COMPLIANCE

Date _____, 20_____

WE, _____

(PRINT NAME OF MANUFACTURER, SUPPLIER, OR CONTRACTOR)

Address: _____

HEREBY CERTIFY THAT _____

(PRINT TYPE OF PRODUCT)

(PRINT PRODUCT TRADE NAME)

Manufactured by _____

Supplied by: _____

Furnished to: _____

PRINT NAME OF CONTRACTOR (PRIME OR SUB)

Delivered and Used on:

_____	_____
Project Name.	Date Delivered

Used for: _____ Name of Item: _____

MEETS THE REQUIREMENTS OF THE PERTINENT PLANNING BOARD APPROVED PROJECT PLANS AND SPECIFICATIONS OF THE CITY OF CONCORD CONSTRUCTION STANDARDS, LATEST EDITION, IN ALL RESPECTS. PROCESSING, PRODUCT TESTING, AND INSPECTION CONTROL OF RAW MATERIALS ARE IN CONFORMANCE WITH ALL APPLICABLE SPECIFICATIONS, DRAWINGS AND STANDARDS OF ALL ARTICLES FURNISHED.

Signed by _____ Title _____
(Officer of Organization)

NOTICE OF AWARD

Dated _____, 2007

TO: _____

ADDRESS: _____

CITY'S PROJECT NO.: B51-07

PROJECT: 2007 Water Main Cleaning and Lining Project

CITY'S CONTRACT NO.: B51-07

CONTRACT FOR: 2007 Water Main Cleaning and Lining Project

You are notified that your Bid dated _____, 2007 for the above Contract has been considered. You are the apparent successful bidder and have been awarded a contract for the 2007 Water Main Cleaning and Lining Project. All terms, conditions, specifications and prices shall be in accordance with the CITY'S bid documents (B51-07) and your bid opened and publicly read on May 31, 2007.

The Contract Price of your contract shall be the not-to-exceed price of:

_____ Dollars (\$ _____).

One original of the Agreement accompanies this Notice of Award.

You must comply with the following conditions precedent within ten (10) calendar days of the date of this Notice of Award, which is by _____, 2007. You must deliver to the CITY:

1. One (1) fully executed counterpart of the Agreement;
2. The Contract Security (100 % Payment and Performance Bonds) and Insurance Certificate(s) as specified in the Invitation for Bids and General Conditions.

Failure to comply with these conditions within the time specified will entitle the CITY to consider your bid abandoned, to annul this Notice of Award and to declare your Bid Security forfeited.

B51 – 2007 Water Main Cleaning & Lining Project

Within ten (10) calendar days after you comply with these conditions, the **CITY** will return to you one fully signed counterpart of the Agreement, return your bid bond security and issue a Purchase Order and Notice to Proceed.

CONCORD, NEW HAMPSHIRE
(CITY)

BY _____
(AUTHORIZED SIGNATURE)

PURCHASING AGENT
(TITLE)

Copy to: ENGINEERING SERVICES DIVISION

AGREEMENT

This AGREEMENT, made on the _____ day of _____, 2007 by and between the City of Concord, New Hampshire, party of the first part, hereinafter called the CITY and _____ the party of the second part, hereinafter called the CONTRACTOR:

WITNESS, that the CONTRACTOR and the CITY, for the considerations hereinafter named agree as follows:

ARTICLE I - SCOPE OF THE WORK

The CONTRACTOR hereby agrees to furnish all of the materials and all of the equipment and labor necessary, and to perform all of the work shown on the plans and described in the specifications for the project entitled:

B51-07, 2007 Water Main Cleaning and Lining Project all in accordance with the requirements and provisions of the Contract Documents which are defined in Division 100, entitled "General Provisions", as contained in the Standard Specifications for Road and Bridge Construction of the State of New Hampshire Department of Transportation, approved and adopted in 2006. All terms, conditions, specifications and prices shall be in accordance with B51-07, Division 100 of the Standard Specifications for Road and Bridge Construction of the State of New Hampshire Department of Transportation and the CONTRACTOR’S bid opened and publicly read on May 31, 2007.

ARTICLE II - TIME OF COMPLETION

The work to be performed under this contract shall commence within ten (10) calendar days after written notice by the CITY to the CONTRACTOR to proceed. The work shall be completed within **230 calendar days**, but not later than October 30, 2007 with such extensions of time as are provided for in the General Provisions.

ARTICLE III - PAYMENT

The Contract Sum: The CITY shall pay to the CONTRACTOR for the performance of the Contract the amounts determined for the total number of each of the units of work in the attached schedule completed at the unit price stated. The number of units contained in this schedule is approximate only and the final payment shall be made for the actual number of units that are incorporated in or made necessary by the work covered by the contract. The initial contract sum shall be:

_____ Dollars \$ _____
(Written) (Figures)

Progress Payments: On not later than the last day of every month, the Superintendent shall prepare and submit an estimate covering the total quantities under each item of work that has been completed from the start of the job up to and including the last day of the preceding month, and the value of the work so completed determined in accordance with the schedule of unit price for such items together with such supporting evidence as may be required by the CITY and/or CONTRACTOR.

Retainage: On not later than the last day of the subsequent month, the CITY shall, after deducting previous payments made, pay to the CONTRACTOR Ninety Percent (90%) of the amount of the estimate as approved by the City Engineer. The Ten Percent (10%) retained percentage shall be held by the CITY until final inspection and acceptance, at such time the retainage may be reduced to Five Percent (5%) of the total value of the contract and this amount shall be held for a twenty-four (24) month period. At which time the 5% retainage will be released.. Retainage shall be held in a non-interest bearing account.

**B51 – 2007 Water Main Cleaning & Lining Project
AGREEMENT (cont.)**

Liquidated Damages: In case the CONTRACTOR fails to satisfactorily complete the entire work contemplated and provided for within two hundred thirty (230) calendar days from the date of work commencement, the CITY shall deduct from the payments due the CONTRACTOR each month, the sum of five hundred dollars (\$500.00) plus engineering charges per day for each calendar day of delay, which sum is agreed upon not as a penalty but as fixed and subject to no deduction. If the payments due the CONTRACTOR are less than the amount of the liquidated damages said damages shall be deducted from any other monies due or to become due the CONTRACTOR or his surety shall pay the balance to the CITY.

ARTICLE IV - ACCEPTANCE AND FINAL PAYMENT

Upon receipt of written notice that the work is ready for final inspection and acceptance, the City Engineer and/or their representative shall within two days make such inspection, and when he/she finds the work acceptable under the Contract and the Contract fully performed they will promptly issue a final certificate, over their own signature, stating that the work required by this Contract has been completed and is accepted by them under the terms and conditions thereof, and the entire balance found to be due the CONTRACTOR, less the retained percentage, shall be paid to the CONTRACTOR by the CITY within thirty (30) days after the date of said final certificate.

Before final payment is due the Contractor shall submit evidence satisfactory to the City Engineer and/or representative that all payrolls, material bills and other indebtedness connected with the work have been paid, except that in case of disputed indebtedness or liens the Contractor may submit in lieu of evidence of payment, a surety bond satisfactory to the city guaranteeing payment of all such disputed amounts when adjudicated in cases where such payment has not already been guaranteed by surety bond.

The making and acceptance of the final payment shall constitute a waiver of all claims by the CITY other than those arising from unsettled liens, from faulty work appearing within twelve months after final payment, from requirements of the specifications, or from manufacturers' guarantees. It shall also constitute a waiver of all claims by the CONTRACTOR, except those previously made and still unsettled.

If, after the work has been substantially completed, full completion thereof is materially delayed through no fault of the CONTRACTOR and the CITY Construction Coordinator and/or their representative so certifies; the CITY shall, upon certificate of the Contractor, and without terminating the Contract, make payment of the balance due for the portion of the work fully completed and accepted. Such payment shall be made under the terms and conditions governing final payment except that it shall not constitute a waiver of claims.

B51 – 2007 Water Main Cleaning & Lining Project

AGREEMENT (cont.)

IN WITNESS WHEREOF the parties hereto have executed this Agreement, the day and year first written above.

SEAL:

WITNESS:

CITY OF CONCORD, NEW HAMPSHIRE

Signature

Douglas B. Ross, Purchasing Agent

SEAL:

WITNESS:

CONTRACTOR:

Signature

Signature

B51 – 2007 Water Main Cleaning & Lining Project

NOTICE TO PROCEED

Dated: _____

TO: _____

ADDRESS: _____

CITY'S PROJECT NO.: B51-07

PROJECT: 2007 Water Main Cleaning and Lining Project

CITY'S CONTRACT NO.: B51-07

CONTRACT FOR: 2007 Water Main Cleaning and Lining Project

(Name of Contractor)

You are notified that the Contract Time under the above contract will commence to run upon receipt of this Notice to Proceed. You are to start performing your obligations under the Contract Documents within ten (10) calendar days of the date of this Notice to Proceed. In accordance with the Agreement, the work shall be completed within two hundred thirty (230) calendar days after commencement, but not later than October 30, 2007.

Before you may start any Work at the site the General Terms and Conditions provides that you must deliver to the CITY:

1. Certificates of insurance which you are required to purchase and maintain in accordance with the Contract Documents;
2. A Payment Bond in the amount of 100% of the contract price; and
3. A Performance Bond in the amount of 100% of the contract price.

CONCORD, NEW HAMPSHIRE
(CITY)

By _____
(Authorized Representative)

PURCHASING AGENT
(Title)

COPY TO: ENGINEERING SERVICES DIVISION

PROSECUTION OF WORK

1. Advance notices in the local media sources such as newspaper and radio as well as notification to local businesses, Police, and Fire Departments will be required.
2. Given the nature of the work site involved, it is the intent of this contract to complete all work in a continuous manner to minimize the projects' duration. The CONTRACTOR shall cooperate with the CITY in scheduling work at time, which are mutually agreeable. The CITY will cooperate with the CONTRACTOR to do its best to make the work area available in accordance to the predetermined work schedule.
3. Prior to the commencement of work, the CONTRACTOR shall submit to the CITY for review and approval, the following:
 - Proposed schedule, including the number of working days required to complete each task, as specified on the construction plan.
 - Proposed location (s) of equipment and materials storage.
 - Manufacturers specifications for material and construction requirements for all materials and material systems selected for installation.
 - Proposed maintenance of traffic plan, describing activities proposed for the affected streets. The plan should include a sign package and location plan to be used throughout the work effort.
4. Upon completion of the work, the improvement areas shall be cleaned up to the satisfaction of the City Inspector, but not limited to removal of all spoil from the job site and cleanup of materials. It shall be the CONTRACTOR'S responsibility to restore the adjacent areas to their former condition and the work will not be considered complete until all such restoration has been completed to the satisfaction of the City Inspector.
5. A Pre-construction conference will be scheduled by Community Development Department coordinated with the successful Contractor prior to the start of work.
6. The CONTRACTOR will be required to schedule all work in strict accordance to the agreed upon schedule and phasing. Maintenance of the vehicular and pedestrian traffic throughout the project duration shall be the responsibility of the contractor during construction.
7. The contractor shall schedule the work to insure that controlled one-lane traffic is maintained at all times. It is the intent that traffic be channelized around the work area utilizing 28 inch traffic cones to maintain reasonably free-flowing one-lane traffic.

SPECIAL PROVISIONS

1. A **MANDATORY** Pre-Bid opening conference for all bidders will be held at 1:00 PM on May 17, 2007 at 41 Green St., Concord, New Hampshire at City Hall 2nd floor Conference room.
2. Community Development Department personnel (Construction Inspector) will operate all valves, hydrants, and curb valves, will remove all meters as necessary, and will accompany the Contractor when the Contractor is installing or removing temporary water service lines to private premises. The C.D.D. Construction Inspector may delegate any or all of the above authority as deemed necessary.
3. Suggested locations for access trenches are shown on the plans but they are intended to be only approximate except where there is the designation on the Plan that existing valves or fittings are to be removed or replaced. The access trench locations must be approved by the Department prior to the beginning of any work.
4. Other utilities such as gas, sewer, drain, steam, telephone, electric, fire, and telecable have not been located on the Plan or in the field. The Contractor shall be responsible for contacting each utility, locating their facilities in the field, and satisfactorily avoiding any conflicts with the other utilities.
5. The Contractor shall provide temporary water service throughout the construction period where designated on the plans. 6", 4" & 2" temporary water services (as listed in bid sheet) includes ¾" and 1" water service hook-ups.
6. The City of Concord Community Development Department will inspect the water mains after the cleaning is complete and after the lining is complete. The contractor shall notify the Department when the cleaning and lining is complete and the Department will inspect and notify the contractor of the results within two (2) working days.
7. During the shutdown of water lines, the contractor will be responsible for the moving of steel plates as needed upon request by the Inspector or by the Department.
8. Any reference in the specifications to AWWA C602-83 shall mean AWWA C602-89.
9. Concord Steam Corporation is located at the NH Hospital Garage on Pleasant Street. The telephone number is 603-224-1461. They are not a member of DIG SAFE.
10. The Contractor is responsible for securing and complying with all requirements of the City of Concord, Department of Community Development Excavation Permit., the Community Development Department will pay the Excavation Permit Fee.
11. The Community Development Department will provide a dry shutdown of the water, main lines and sidelines. The Department will respond within two (2) working days of notice from the Contractor. The Contractor is responsible for notifying

SPECIAL PROVISIONS (cont.)

12. The contractor shall provide flaggers from a commercial security firm. Employees working for the Contractor will not be acceptable as flaggers.
13. The contractor will need to provide an **approved complete sign package**.
14. The Contractor shall provide pedestrian and vehicular traffic to all private property in affected areas; the Contractor's activities shall not shut down or close any business; the Contractor may be required to supply and post temporary business access signs; the Contractor shall meet with merchants affected to promote good public relations.
15. Dewatering of pits by pumping will be hard piped or hosed at all times draining to **sewer manholes** approved by the Construction Inspector. Discharge to catch basins, streets, sidewalks or ponds is prohibited.
16. This project is scheduled to start work at 7:00 AM, and end at 5:30 PM however the Contractor may be required by the Department to do evening and weekend work without additional cost to the Department.
17. It is important to note that certain mains must be completed and returned to service prior to other mains in the area being worked on.
18. A Pressure Test of 150 psi for one hour duration, is required by the Community Development Department, a visual line inspection, at line pressure, of all fittings and couplings may be substituted for the pressure test, only with the Inspector's approval.
19. Flushing of the water main to lower the pH to 9.5 or desired level approved by the City will be required prior to returning the newly cleaned and lined main to service.
20. A.)The Contractor shall supervise and direct the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract Documents. The Contractor shall be solely responsible for the means, methods, techniques, sequences and procedures of construction, but the Contractor shall not be responsible for the negligence of others in the design or selection of a specific means, method, technique, sequence or procedure of construction which is indicated in and required by the Contract Documents. The Contractor shall be responsible to see that the finished work complies accurately with the Contract Documents.
B.)The Contractor shall keep on the job at all times during its progress, a Competent Resident Superintendent, who shall not be replaced without written notice to the Department except under extraordinary circumstances. The Superintendent will be the Contractor's representative at the site and shall have authority to act on behalf of the Contractor. All communications given to the Superintendent shall be as binding as if given to the Contractor.

SPECIAL PROVISIONS (cont.)

21. Pressure Reducers may be required on temporary water mains, services, to regulate excess water pressure.
22. All 1" & ¾" services are to be chlorinated along with the 6"4"2" temporary piping. All services shall be sampled and tested by a certified lab. Proof of test results will be required prior to hookups.
23. The Contractor will be required to sweep any affected street after each workday by a Mobile street sweeper that must have two gutter brooms and a main broom system for dust control along with an efficient water spray system.
24. The Contractor shall provide the City of Concord certification that all affected employees comply with the United States Department of Transportation, Federal Highway Administration Drug and Alcohol Testing Rules as stated in 49 C.F.R. Part 382. The Contractor further agrees not to utilize any affected employee, within the scope of this agreement, that does not comply with all of the criteria in the Federal Motor Carrier Safety Regulations, of the U.S. D.O.T., Parts 40, 382, 383, 387, 390-399.
25. Staging Areas: The Contractor shall identify any and all locations from which, or upon which it intends to base its operations, or to store or park equipment, or to store materials. No site shall be so used without prior approval of the Community Development Department.
26. The Contractor shall be particularly aware of and comply with the new noise and dust limitations established within the City's Code of Ordinances as they effect operations during the hours between 7:00 AM to 7:00 PM Monday thru Friday and on Saturday from 9:00 AM to 5:00 PM. (No Sunday work or legal Holidays allowed).
Code of Ordinances, Title 1, General Code; Chapter 13, Public Health; Article 13-6 Noise.
Code of Ordinances, Title 1, General Code; Chapter 11, Public Nuisances; Article 11-3 Fugitive Dust.
27. Water pipe cleaned and lined and later replaced at the direction of the Department will be paid as cleaned and lined pipe under the appropriate item.
28. The street openings (excavation pits) will be covered by "approved" steel plates. The plates must extend a minimum of one (1) foot beyond the limits of the excavation. The plates must be in place, all extra earth removed, and all patching complete by no later than the close of each day.
29. All installed fittings (valves, bends, couplings, etc.) must be pressure tested, retorqued, inspected, and **accepted** before backfilling.
30. All excavated cleaning and lining pits must be backfilled and compacted around the newly installed shoring to secure the pit before "traffic plating".
31. All Hydrants, existing and new, that are "out of service", are to be "bagged"(covered) with a burlap bag. **(Fire Department must be notified.)**

SPECIAL PROVISIONS (cont.)

32. The Contractor shall be required to furnish at least two portable toilets for the duration of the project.
33. “Side Casting” of any material into the Street or Right of Way is prohibited.
34. Water pipe Couplings, 14”- 24” should be the longer sleeve length series, with extra thick rubber gaskets.
35. Concrete hose and equipment wash and rinse out discharge to catch basins, streets, sidewalks, etc. is prohibited.
36. When the Water Main Cleaning and Lining is complete, a flow test will be performed on the following Streets / Water Mains:

North State Street / 20” Water main: - Curtice Ave. to Dolan St.

37. Due to existing utility depths, new water mains may be required to be installed deep or shallow in some areas of the project, which may require extensions on valve boxes or hydrants. (Construction Standards normally require hydrant depths at 5’5” to 6’).
38. All trucks used to haul material to the jobsite, shall be weighed and required to show the following information: the date, project name and number; slip number, the material or commodity; the dealer / vendor, contractor / subcontractor; scale location, loading time, vehicle registration, tare, net and gross weights and the weigher’s name, signature or signed initials.
39. All butterfly valves must open right and open/close with the same number of turns as a gate valve of comparable size.

Notify “DIGSAFE” 1-888-344-7233 prior to any excavation !

CONSTRUCTION SEQUENCE

North State Street – Curtice Ave. to McGuire St.

- 1.) Layout 4”& 2” temporary water lines with 1” services attached, flush, chlorinate and flush for TC test samples.
- 2.) Test samples to accepted Laboratory. (TC results must be negative).
- 3.) Connect affected residents to temporary water lines.
- 4.) Install 18” valve at North State St. @ Curtice Ave. (Shut Down Notices to Penacook St.)
- 5.) Shut down 20” water main.
- 6.) Excavate & shore C&L pits and begin C&L process.
- 7.) Install valves, water main, hydrants, fittings, test taps, fill, flush, pressure test, chlorinate and restore water main back to service.

North State Street – McGuire St. to Dolan St.

- 1.) Layout 4”& 2” temporary water lines with 1” services attached, flush, chlorinate and flush for TC test samples.
- 2.) Test samples to accepted Laboratory. (TC results must be negative).
- 3.) Connect affected residents to temporary water lines.
- 4.) Shut down 20” water main.
- 5.) Excavate & shore C&L pits and begin C&L process.
- 6.) Install valves, water main, hydrants, fittings, test taps, fill, flush, pressure test, chlorinate and restore water main back to service.

TECHNICAL REFERENCES

All work performed in the City of Concord, New Hampshire shall conform to the requirements of the latest edition of the of the following standards:

- A. City of Concord Construction Standards, 2007 (current issue.)
- B. Standard specifications and drawings for Road and Bridge Construction of the New Hampshire Department of Transportation, as most recently adopted;
- C. Construction standards for Sanitary Sewer and Water Supply Systems of the New Hampshire Department of Environmental Services, W.S&P.C.D. Water Supply and Pollution Control Division;
- D. Manual on Uniform Traffic Control Devices for streets and highways, published by the United States Department of Transportation, Federal Highway Administration;
- E. Requirements of the Community Development Department, Engineering Division
Street
Excavation Permit
- F. Subdivision and Site Plan Regulations, and Municipal Code of Ordinances of the City of Concord, New Hampshire;
- G. Building Officials and Code Administrators (B.O.C.A.) National Plumbing Code.

**SHOULD CONFLICTING REQUIREMENTS BE FOUND AMONG
THESE STANDARDS, THE MORE STRINGENT SHALL GOVERN.**

GENERAL REQUIREMENTS

I. CLEANING AND LINING WATER MAINS:

PART I - GENERAL:

1.1 DESCRIPTION:

- A. Work included: Furnish all materials, equipment, labor and incidental items necessary to completely clean and line cast iron water mains of the size(s) and in the location(s) shown on the drawings while maintaining water service to existing customers. The work shall include excavation, cleaning and lining the water mains, hand lining, testing, disinfecting, repair, backfill, and other incidental and appurtenant work.

1.2 QUALITY ASSURANCE:

- A. The following standards form a part of this specification as referenced:

- 1. AWWA C602-89: Cement-Mortar Lining of Water Pipelines (4 inches and larger in place)

1.3 SUBMITTALS TO THE CITY:

- A. Prior to any cleaning and lining work, submit detailed plans on performing the work. Plan shall include all proposed access locations.
- B. Furnish an affidavit that all materials and work furnished are in conformance with AWWA C602-89.

PART II - PRODUCTS:

MATERIALS:

- A. Cement mortar lining:

- 1. Portland Cement, pozzolanic material, admixtures and sand shall meet the specifications of AWWA C602-89.
- 2. The cement mortar shall be a mixture of 1 part of cement to 1 or 1 1/2 parts of screened sand by volume.
- 3. The water-cement ratio shall be maintained at a minimum.
- 4. No admixture shall be added to the cement mortar unless use is approved by the City Engineer.
- 5. Cement mortar shall be mixed for not less than 1 1/2 minutes and not more than 6 minutes before being applied.
- 6. Mortar that has attained its initial set shall not be used for lining.

GENERAL REQUIREMENTS (cont.)

PART III - EXECUTION:

3.1 PERFORMANCE:

A. General:

1. Prior to cutting or disjoints operations, all equipment and tools necessary for the proper and expeditious performance of this work shall be at the job site.

B. Pipe Openings:

1. Cutting of pipe shall be done in a neat and workmanlike manner without damage to the pipe.
2. Unless otherwise authorized, cutting shall be done by means of an approved type of power-operated pipe cutting machine with cut being made in true alignment.
3. Locations of pipe openings, methods, and other details for making pipe openings shall be subject to the approval of the Department.

C. Cleaning: (Cement Mortar)

1. All rust, tubercles, deposits, loose materials, and all other foreign materials shall be removed from the interior of the pipelines by use of mechanically propelled cleaning devices or other approved methods.
2. The Contractor shall pass the machine through the mains as many times as may be necessary and to employ such other supplementary means as may be required to clean the pipe surfaces and to remove all foreign matter, rust, and dust from the pipe surfaces.
3. No defective section or part shall be cement mortar lined until repairs have been made and approved by the Department.

D. Cement – Mortar Lining:

1. Prior to running the lining machine through the pipeline, all sand, water, loose material and all other foreign material that has accumulate in the pipelines shall be removed.
2. The lining shall be applied in one course or more by the machine traveling through the pipe and distributing the mortar uniformly across the pipe.
3. The mortar shall be applied in a manner as to produce a smooth surface and uniform thickness throughout.
4. The mortar shall be densely packed and adhere wherever applied; there shall be no injurious rebound.
5. The lining machine shall be provided with attachments for mechanically troweling the mortar.
6. The trowel attachment shall be such that the pressure applied to the lining of uniform thickness with a smooth, finished surface.

GENERAL REQUIREMENTS (cont.)

PART III - EXECUTION: (cont.)

D. Cement - Mortar Lining:

7. Before the mortar lining takes final set, laterals and services, two (2) inches and smaller in diameter, shall be cleared by “back-flushing” with air or water.
8. The back flushing shall be performed in a manner that will not damage the lining.
9. The Contractor shall clean all interior surfaces of mainline valves except those to be replaced under this project.
10. Curing operations shall begin immediately following completion of the mortar lining installation.
11. The newly lined section of pipe shall be closed with air-tight covers over all openings and shall be maintained in a moist condition.
12. Mortar lining shall be considered defective if it contains sand pockets, voids, oversanded areas, excessively cracked and drummy areas, areas of lining thinner than specified, and areas of unsatisfactory surface finish.
13. Defective lining shall be removed and the pipe shall be relined in conformance with the specifications.

3.2. CLEANING AND TESTING:

A. Cleaning and Testing Piping:

1. When the installation is complete, test all pipelines in the presence of the Construction Inspector in accordance with the requirements of the appropriate Sections of these Specifications, at no additional cost to the Department.
2. Blow-offs and vents shall be provided at high points in the water line.
3. Equipment: Supply all labor, equipment, materials, gauges, and pumps required to conduct the tests.
4. Retesting: Perform all retesting required by the Department at no additional cost to the Department.

B. Water Mains:

1. Pressure and Leakage Tests:
 - a. Pressure and leakage tests are required.
 - b. Perform testing in accordance with Section 4 of AWWA Standard C600.
 - c. Test pressure shall be 150 psi.
 - d. Pressure shall hold for a minimum of one (1) hour to be acceptable.

GENERAL REQUIREMENTS (cont.)

2. Disinfection of Pipelines:
 - a. All new potable water lines shall be disinfected in accordance with AWWA C651.
 - b. Review disinfection and sampling points with the Department.
 - c. Using a dosage that will produce not less than 10 mg/l chlorine residual after a contact period of not less than 24 hours
 - d. During the chlorinating period, exercise care to prevent the contamination of water in the existing water mains

PART III - EXECUTION: (cont.)

3.2 CLEANING AND TESTING:

C. Water Mains:

1. Disinfection of Pipelines

After chlorinating, flush the piping with clean water until the chlorine residual is that prevailing in the water system or less than 0.2 mg/l.

2. Bacteriological Testing:

- a. Test all new potable water lines for total coliform bacteria at no additional cost to the Department.
- b. The length of pipe to be tested and the time of the test itself shall be approved in advance by the Department.
- c. The Department will observe the taking of water samples.
- d. Have all water samples tested by a laboratory approved by the State and submit test results to the Department.
- e. Any segment of a potable water line shall be considered unsuitable for service if a coliform bacterial count is obtained from that sample.
- f. Re-disinfect all segments of piping considered unsuitable and retest. Continue to disinfect and test until no coliform bacteria are present.
- g. Place piping into service when it has been successfully tested for pressure, leakage, and total coliform bacteria and has been approved.

3.3 PERFORMANCE CRITERIA:

A. Testing:

1. The Hazen-Williams C factor will be used for determining the acceptability of surface finish of cement mortar lining.
2. When cleaning and lining is complete, perform flow tests in the presence of the Department at no additional cost to the Department.
3. Equipment: Supply all labor, equipment, materials, gauges, etc., required to conduct the tests
4. Retesting: perform all retesting required by the Department at no additional cost to the Department.
5. The newly cleaned and lined pipe shall meet the following Hazen-Williams C factor based upon diameter:

GENERAL REQUIREMENTS (cont.)

<u>Size of pipe, inches</u>	<u>C factor</u>
4"	90
6"	100
8"	110
10"	115
12"	120
14-20"	125
Greater than 20"	130

1. The CONTRACTOR shall repair defective work at no additional cost to the Department.

TEMPORARY WATER SERVICE

PART I - GENERAL

1.1 DESCRIPTION:

- A. Work included: Furnish and install, disinfect, operate, maintain, and later remove temporary by-pass piping, hydrants, and service connections as shown on the drawings and herein specified.

1.2 DESIGN AND PERFORMANCE RESPONSIBILITY:

- A. The CONTRACTOR shall be solely responsible for the proper design and execution of methods for maintaining water service to all existing customers in the project area. These services include domestic supply and sprinkler and fire protection.
Note: ¾" and 1" temporary water services are to be included with 6", 4", 2" Temporary Water installations.
- B. The CONTRACTOR shall be solely responsible for damage to properties, buildings, or structures, sewers, and other utility installations, pavements, sidewalks, and other work that may result from the temporary water service work.
NOTE: All temporary feed hydrants must have steamer nozzle adapter for fire department use.
- C. Design review and field monitoring activities by the DEPARTMENT shall not relieve the CONTRACTOR of his responsibilities for the work.

PART II - PRODUCTS:

2.1 MATERIALS:

- A. Shall be fully adequate to withstand the pressure involved and all other conditions of use.

GENERAL REQUIREMENTS (cont.)

- B. The pipe and fittings shall be watertight and of materials that do not cause the water to have an objectionable taste or odor.
- C. All by-pass pipe connected to fire hydrants must be provided with a tee with a valve for each hose connection for fire protection.

PART III - EXECUTION:

3.1 INSTALLATION:

A. GENERAL

1. Install temporary water service in accordance with manufacturer's instructions and recommendations.
2. Install pipe and fittings as shown on the drawings and as required for a complete installation.
3. At street crossings, pipes shall be installed in a shallow trench and overlaid with stone dust and cold patch.
4. All pipes and services shall be disinfected in accordance with AWWA Standard C651.
5. Pipe shall be equipped with suitable shut-off valves.
6. Temporary hydrants shall include all necessary pipe, valves, and fittings. Valves shall be same size, with one size wrench to fit all valves. (Wrenches to be supplied to Fire Dept.)
7. Temporary water service shall be maintained in a safe and operative condition at all times.
8. Contractor must supply upon demand, a tee-wye on the temporary water service at the house for customer use outside.
9. All temporary water service entrances to customer houses must be secured.
10. All affected water meters shall be removed and two hoses attached for feed and blowback purposes.
11. ¾" and 1" temporary water services are to be included with 4" and 2" Temporary Water installations.
12. All temporary pipe driveway crossing are to be covered with stone dust.

3.2 REMOVAL:

A. GENERAL:

1. All temporary water service shall remain in service until approval from the Department is obtained for removal.
2. Temporary water service shall be removed when corresponding sections of water mains have been cleaned, tested, chlorinated, and accepted by the Department.
3. The street and adjacent property shall be restored to at least their original condition.

GENERAL REQUIREMENTS (cont.)

IV. BACKFILLING AND COMPACTION:

PART 1 - GENERAL:

1.1 DESCRIPTION:

- A. Work included: Backfilling work includes backfilling trenches and/or excavation around structures with suitable material removed in the course of excavating and other suitable material.

1.2 QUALITY ASSURANCE:

- A. Where backfill is required and/or where shown on the drawings, compact fill to an in-place density no less than 95 percent of the maximum density of the material in accordance with American Association of State Highway and Transportation Officials (AASHTO) T180, modified proctor. Nuclear testing methods will be governed by ASTM D2922
- B. Density testing will be by an independent soil laboratory at the Department's cost. Any retests for failure of the first test will be at the Contractor's cost.

PART 2 – PRODUCTS:

2.1 MATERIALS:

A. Excavated Material:

- 1. Free from large clods of earth.
- 2. Free from stones and rock fragments over 50 lbs.

B. Other Material:

- 1. As shown on the drawings, and/or...
- 2. As directed by the Department.

C. Frozen Materials:

- 1. Do not backfill with, or on, frozen materials.
- 2. Remove, or otherwise treat as necessary, previously placed material that has frozen prior to placing backfill.

D. Wet Material:

- 1. Do not mechanically or hand compact material that is, in the opinion of the Department, too wet.
- 2. Do not continue backfilling until the previously placed and new materials have dried sufficiently to permit proper compacting.

GENERAL REQUIREMENTS (cont.)

- E. Gravel Borrow: When original excavated material is unsuitable, use only approved gravel borrow for backfilling.

PART 3 - EXECUTION:

3.1 PERFORMANCE:

A. General:

1. Provide and place all necessary backfill material.
2. All excavated cleaning and lining pits must be backfilled and compacted around the newly installed shoring to secure the pit before traffic plating.
3. Do not allow large masses of backfill material to be dropped into the excavation, as from a grab bucket, in such a manner that may endanger pipes and structures.
4. Place material in a manner that will prevent stones and lumps from becoming nested.
5. Completely fill all voids between stones with fine material.
6. Do not backfill on or against new concrete until it has attained sufficient strength to support loads without distortion, cracking, and other damage.
7. Deposit backfill material evenly on all sides of structures to avoid unequal soil pressures.

B. Sheeting:

1. Leave sheeting in place when damage is likely to result from its withdrawal.
2. Completely fill with suitable material and thoroughly compact all voids left by the removal of sheeting.

C. Backfilling in Paved areas:

1. Backfill trenches in streets and other paved areas by moistening and compacting each layer to a density at least equal to that of the adjoining original material.
2. Backfill in such a manner as to permit the rolling and compacting of the filled trench with the adjoining material to provide the required bearing value for paving immediately after backfilling is completed.
3. Where required, place excavated material that is acceptable to the Department for surfacing or pavement or pavement sub-base, at the top of the backfill to the depths as needed to adequately support pavement.

D. Backfilling Trenches in Non-Paved Areas:

1. Grade the ground to a reasonable uniformity.
2. Leave the mounding over the trenches in a uniform and neat condition, satisfactory to the Department.

**B51 – 2007 Water Main Cleaning & Lining Project
GENERAL REQUIREMENTS (cont.)**

PART 3 - EXECUTION:

3.1 PERFORMANCE (cont.):

E. Bedding and Backfilling of Pipelines:

1. Install pipe bedding and cushion and primary backfill in accordance with the Borrow and Bedding Section in the City Standard specifications.
2. Deposit and thoroughly compact the remainder of the backfill in 12 inch layers.

F. Placing and Compacting Backfill:

1. Water Jetting: Backfilling by jetting shall not be used.
2. Puddling: Backfilling by puddling shall not be used.
3. Tamping:
 - a. Deposit and spread the backfill material in uniform parallel layers not exceeding 12 inches thick.
 - b. Tamp each layer as required to obtain a thoroughly compacted mass.
 - c. Furnish and use an adequate number of air, gas powered driven tampers,
4. Rolling:
 1. Compact material by rolling only when the width and depth of the excavation are sufficient to accommodate the rollers, dozers, mechanical tampers, or other similar powered equipment, as may prove to be acceptable, and when it can be performed without causing damage to pipes installed in the excavation.
 2. Deposit and spread the backfill material in uniform parallel layers not exceeding 12 inches thick.
 3. Roll each layer as required to obtain a thoroughly compacted mass.
 4. Other placing and compacting methods may be employed only when approved by the Department.

G. Improper Backfill:

1. When excavation and trenches have been improperly backfilled and when settlement occurs, reopen the excavation to the depth required, as directed by the Department.
2. Refill and compact the excavation or trench with suitable material and restore the surface to the required grade and condition.
3. Excavation, backfilling, control and testing performed to correct improper backfilling shall be performed at no additional cost to the Department.

GENERAL REQUIREMENTS (cont.)

HOT BITUMINOUS PAVEMENTS

This work shall consist of placement of base course and wearing course bituminous pavements within the limits shown on the plan or as ordered by the Construction Inspector.

1. BASE COURSE

- A. Base course materials: Base course material shall conform to the composition of mixtures in section 401 of the N. H. D. O. T. Standards Specifications for Type B Pavement.
- B. Placement of base course: Placement of the base course shall be within all excavated trench areas as shown on the plans. It shall be applied on previously prepared and approved sub base select materials.

2. WEARING COURSE

- A. Wearing course materials: Wearing course material shall conform to the composition of mixtures in section 401 of the N. H. D. O. T. Standard Specifications for Type E Pavement.
- B. Placement of wearing course: Placement of the wearing course shall be in close conformity with the lines and finish grades as shown on the approved plans. It shall be applied on a previous placed base course. All manhole covers, catch basins grates and curbing shall be in place, and to grade, before the wearing course is applied.

3. CONSTRUCTION REQUIREMENTS AND APPLICATION CONDITIONS

- A. Environmental conditions: Pavement shall be placed only when the underlying surface is dry, frost-free and the surface temperature is 40 degrees Fahrenheit and rising. For pavement overlays of 1 1/4 inch or less, the surface temperature must be 50 degrees Fahrenheit, and rising.
- B. Waiver of environmental conditions: In special instances when the Construction Inspector determines that it is in the best interest of the City Of Concord, the above requirements may be waived for base course pavement only. Any material delivered to the spreader having a temperature lower than 250 degrees F., shall not be used.
- C. Thickness of pavement:
Unless otherwise noted, thickness of pavement as shown on plans and/or typical Section shall be the compacted thickness after rolling.
- D. Removal of unsatisfactory material:
If any imperfect places are found in any course, the contractor shall remove the unsatisfactory material and replace it with satisfactory material after coating the exposed edges with suitable bituminous material.
- E. Requirements for cold planing of bituminous surfaces:
Surfaces, which are to be overlaid with new bituminous pavement, will require cold planing. The existing bituminous surface shall be removed by a planing or milling machine capable of removing, in one or more passes, bituminous material to the depth specified at the limits of the overlay to provide a smooth transition between the new and existing pavement.

GENERAL REQUIREMENTS (cont.)

F. Requirements for paving up to driveways:

The contractor shall extend all pavement overlays into existing drives as shown on the plans. The Pavement shall meet the existing grade of the driveway through a saw cut joint. The saw cut joint shall be a minimum of 24 inches in width throughout the entire length of the driveway and shall be a minimum of 2 inches in depth at the cut joint.

CLEANING AND LINING WATER MAINS:

PART 1 GENERAL

PROCEDURES:

- A. For unit price items, the CONTRACTOR shall be paid for the actual amount of work accepted during the period of construction. After the work is completed and before final payment is made, the DEPARTMENT shall make final measurements to determine the quantities of the various items of work accepted as the basis for final payment.
- B. For lump sum items, the CONTRACTOR shall be paid in accordance with the progress schedule and schedule of values on the basis of actual work accepted until the work item is completed. Upon completion of the item, one hundred percent (100%) of the lump sum price may be paid, less retained amounts.
- C. All units of measurement shall be standard United States convention as applied to the individual items of work as specified and as interpreted by the DEPARTMENT.
- D. At the end of each day's work, the CONTRACTOR'S superintendent or other authorized representative of the CONTRACTOR may meet with the DEPARTMENT Project Representative and determine the quantities of unit prices and/or lump sum price work accomplished and/or completed during the work day.
- E. Once, and only once each month the CONTRACTOR will prepare and sign an Application for Payment and submit the original and four (4) copies for review and signature of the DEPARTMENT Project Representative. These completed forms will provide the basis upon which payment will be made to the CONTRACTOR.

SCOPE OF PAYMENT:

- A. Payments to the CONTRACTOR will be made for the actual quantities of the contract unit price items performed and accepted in accordance with the Contract Documents. Upon completion of construction, if these actual quantities show either an increase or decrease from the quantities given in the Bid, the contract unit prices will still prevail.
- B. No payment of any Application for Payment or of any retained percentage shall relieve the CONTRACTOR of his obligation to repair or replace any defective parts of the construction or to be responsible for all damage due to such defects during the construction period or the one year correction period.

GENERAL REQUIREMENTS (cont.)

PARTIAL PAYMENTS:

- A. Partial payments shall be made monthly as the work progresses. All partial invoices and payments shall be subject to correction in the final application for Payment.

PAYMENT FOR MATERIAL DELIVERED:

- A. When requested by the CONTRACTOR and at the discretion of the DEPARTMENT, payment may be made for all or part of the value of acceptable, non-perishable materials and equipment which are to be incorporated into the work, which have not been used and which have been delivered to the construction site, and placed in storage area acceptable to the DEPARTMENT. The Application for Payment shall be accompanied by such data, satisfactory to the DEPARTMENT, that will establish the DEPARTMENT'S interest therein, including insurance. Each subsequent Application for Payment shall include an affidavit of the CONTRACTOR stating that all previous progress payments received on account of the work have been applied to discharge in full, all of the CONTRACTOR'S obligations reflected in prior Applications for Payment. The DEPARTMENT shall have the right to deduct from the next progress payment, an amount equal to payment for said material and/or equipment if reasonable and adequate proof is not submitted.
- B. Materials and equipment, when so paid for by the DEPARTMENT, shall become the property of the DEPARTMENT and in the event of default on the part of the CONTRACTOR, the DEPARTMENT may use, or cause to be used, these materials and equipment in the construction of the work. The CONTRACTOR shall be responsible for any damage to, or loss of, these materials and equipment. The amount paid by the DEPARTMENT shall reduce the estimated amounts due the CONTRACTOR as the material is incorporated into the work.
- C. No partial payment shall be made for fuels, supplies, lumber, false work, or other expendable or temporary materials, or on temporary structures of any kind which are not a permanent part of the CONTRACT.

MEASUREMENT AND PAYMENT

MOBILIZATION

(ITEM #1)

- . Description:
This item shall consist of preparatory work and operations, including, but not limited To, the movement of personnel, equipment, supplies and incidentals to the site of the Work, and for all other work and operations which must be performed or for costs Which, must be incurred prior to beginning work on the various items.

- . Method of measurement:
This item will be measured as a unit.

- . Payment:
See N.H.DOT Road & Bridge Construction Manual, Section 692.

CLEANING AND LINING:

(ITEM # 2 & 3)

1. **Measurement:**

The length of pipe cleaned and lined is to be measured for payment under this item shall be the actual linear feet of pipe cleaned and lined.

2. **Payment:**

Pipe cleaned and lined shall be paid for at the contract unit price. Said unit price shall constitute full compensation for furnishing and installing all materials, labor, equipment and tools necessary for cleaning and cement mortar lining the pipe including hand work. Providing pipe openings and closures, and line stops, cleaning service connections, Payment shall be at the unit price bid and shall be full compensation for the actual number of linear feet of cast iron. pipe of various sizes furnished and installed. Payment shall include, but not be limited to clearing and grubbing, saw-cutting, removing and stockpiling existing pavement, excavation and trench (except ledge and boulder excavation), sheeting and bracing, dewatering, silt fence, hay bales for erosion control, removing plates for camera, cold patch, and installing the pipe, fill, caps, 2"blowoffs, where needed, couplings, nipples, test taps, jointing, bedding material (unless select material is ordered by the Construction Inspector), blanket material (**clean fill sand**), backfilling, compacting, restoring the trench surface to sub-grade, grading, loam and seed disturbed areas, establishment of gravel surfaces chlorinating, and all work required for or incidental to the satisfactory completion of this item.

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MEASUREMENT and PAYMENT (cont.)

PAY ITEMS AND UNITS:

Clean and Line 20 inch cast iron water main	Linear Foot
Clean and Line 6 inch cast iron water main	Linear Foot

TEMPORARY WATER SERVICES: (ITEM # 4 & 5)

1. Measurement:

The length of temporary water service to be furnished, installed, maintained, and later removed under this item shall be measured for payment by the linear foot along the centerline of the pipe continuously through fittings and valves. Copper tube size polyethylene pipe is **not** an acceptable material. Copper tube size rubber hose is acceptable material and shall have a working pressure of 200 psi and shall conform to AWWA C-901, ASTM-D-1248 and ASTM-D-2737.

2. Payment:

- A. Temporary water service shall be paid for at the contract unit price per linear foot.
- B. Said unit price shall also include all ¾” and 1” temporary water services.
- C. Said unit price shall constitute full compensation for furnishing and installing all pipes, hoses, fittings, materials, plywood for windows, labor, equipment, and tools necessary for hauling, handling, laying, jointing, trenching, Cold patching, stone dust, ramping, signing, barricading, testing and disinfecting as indicated on the drawings and specified herein.
- D. Said unit price shall also include any adapters and fittings needed to connect the temporary water service to the existing water, and shall also include site restoration and cleanup.
- E. Pressure reducers may be required on temporary water services to regulate excess water pressure.

PAY ITEM AND UNITS:

6” Temporary Water	Linear Foot
4” Temporary Water	Linear Foot
2” Temporary Water	Linear Foot

MEASUREMENT and PAYMENT (cont.)

DUCTILE IRON WATER PIPE (20”, 18”, 8”, 6”) ITEM (# 6,7, 8 & 9)

1. **Measurement:**

Measurement shall be for the actual number of linear feet of ductile iron water main furnished and installed which shall be measured in place, as measured and accepted by the Construction Inspector. Measurement shall be along the centerline of the pipe, to the nearest tenth of a linear foot. No deductions shall be made for valves and fittings. Ten percent (10%) of the per linear foot price shall be withheld until testing and disinfecting of the main has been satisfactorily completed.

Ductile Iron Pipe shall be manufactured in accordance with the requirements of current AWWA C151. Pipe to be furnished complete with gaskets and lubricant. Joints to be in accordance with current AWWA C111.

2. **Payment:**

Payment shall be at the unit price bid and shall be full compensation for the actual number of linear feet of D.I. pipe of various sizes furnished and installed. Payment shall include, but not be limited to clearing and grubbing, saw-cutting, removing brick sidewalk(s), removing and stockpiling for reclaiming existing pavement, excavation of side slope and trench (except ledge and boulder excavation), sheeting and bracing, dewatering, silt fence, hay bales for erosion control, removing existing pipe furnishing and installing the pipe, jointing, bedding material (unless select material is ordered by the Construction Inspector), blanket material (**clean fill sand**), compacting, resetting brick work, restoring the trench surface to sub-grade in paved areas and final grade in unpaved areas, resetting disturbed curbing, and brick sidewalk(s), reconstructing and paving damage drainage swales, grading, loam and seed disturbed areas, establishment of gravel surfaces, fill, caps, plugs, 2"blowoffs where needed, couplings, nipples, test taps, chlorinating, and all work required for or incidental to the satisfactory completion of this item.

BUTTERFLY VALVES AND BOXES (20”& 18”) ITEM (# 10 & 11)

1. **Measurement:**

Measurement shall be for the actual number of butterfly valves furnished and installed (all complete with boxes) as measured and accepted by the Construction Inspector. Thrust rods and / or glands will be considered subsidiary to this valve item. Removal of discontinued valve boxes on job site will also be considered subsidiary to this valve item. **All Butterfly Valves shall open right, and have the same number of turns as a gate valve of comparable size.**

2. **Payment:**

Payment shall be at the unit price bid and shall be full compensation for each butterfly valve and box actually furnished and installed. Payment shall include, but not be limited to furnishing and installing butterfly valve, valve box, setting, jointing, adjusting boxes, furnishing one (1) valve wrench for every (10) valves installed and all work required for or incidental to the satisfactory completion of this item.

MEASUREMENT and PAYMENT (cont.)

GATE VALVES AND BOXES (8”& 6”) ITEM (# 12 & 13)

3. Measurement:

Measurement shall be for the actual number of gate valves furnished and installed (all complete with boxes) as measured and accepted by the Construction Inspector. Thrust rods and / or glands will be considered subsidiary to this valve item. Removal of discontinued valve boxes on job site will also be considered subsidiary to this valve item. **All Gate Valves shall open right.**

4. Payment:

Payment shall be at the unit price bid and shall be full compensation for each gate valve and box actually furnished and installed. Payment shall include, but not be limited to furnishing and installing gate valve, gate box, setting, jointing, adjusting boxes, furnishing one (1) valve wrench for every (10) valves installed and all work required for or incidental to the satisfactory completion of this item.

TEMPORARY TAP CONNECTION (2 INCH) (ITEM# 14)

1. Measurement:

Measurement shall be for the actual number of 2 inch temporary tap connections made, including furnishings and installing corporation stops, and required appurtenances as measured and accepted by the Construction Inspector.

2. Payment:

Payment shall be at the unit price bid and shall be full compensation for each tap (corporation) connection actually furnished and installed. Payment shall include, but not be limited to excavation (except ledge and boulder excavation), removing brick sidewalk(s), sheeting and bracing, dewatering, furnishing and installing the corporation, copper pipe, jointing, connection to temporary service, cold patch, removing corporations installing plug, bedding material (unless select material is ordered by the Department) blanket material (**clean fill sand**) compacting, restoring the trench surface to sub-grade in paved areas and final grade in unpaved areas, resetting brick(s), establishment of growth and/or gravel surfaces, and all work required for or incidental to the satisfactory completion of this item.

B51 – 2007 Water Main Cleaning & Lining Project
MEASUREMENT and PAYMENT (cont.)

MECHANICAL JOINT DUCTILE IRON FITTINGS

(ITEM # 15)

1. **Measurement:**

Measurement shall be for the actual number of pounds of fittings installed as measured and accepted by the Department Inspector including the cement lining, based on the nominal weights of specific fittings as published by AWWA. Mechanical joint glands, bolts, thrust rods, etc., will not be included in the weight. Fittings to be ductile iron, in accordance with the requirements of either AWWA C153 or AWWA C110, DI Class 350. Fittings shall have cement mortar linings, where applicable in accordance with AWWA C104.

2. **Payment:**

Payment for fittings shall be at the unit price bid and shall be full compensation for the actual number of pounds of fittings furnished and installed. Payment shall include, but not limited to furnishing and installing fittings, mechanical joint glands, bolts, and thrust rods as shown on the drawings or as determined by the Department. No payment shall be made for weight of glands, bolts, thrust rods, etc.

**B51 – 2007 Water Main Cleaning & Lining Project
MEASUREMENT and PAYMENT (cont.)**

NEW HYDRANT (ITEM # 16)

1. Measurement:

Measurement shall be for the actual number of new hydrants furnished and installed as measured, and accepted by the Construction Inspector.

2. Payment:

Payment shall be at the unit price bid and shall be full compensation for each new hydrant actually furnished, and installed. Payment shall include, but not be limited to, excavation (except for ledge, and boulder removal), sheeting and bracing, dewatering, removing brick sidewalk(s), cutting, removing existing hydrant, bedding material (unless select material, is ordered by the inspector), furnishing and installing hydrant, setting, adjusting, extensions, painting hydrants, crushed stone drainage pit, support slabs, thrust rods, blanket material(**clean fill sand**), compaction, cold patch, restoration of trench to final grade, resetting disturbed curbing, and brick sidewalk(s), spare parts, adjusting boxes, and all work required for and incidental to the satisfactory completion of this item.

All new hydrants shall be plugged (non draining) and Open Left.

**B51 – 2007 Water Main Cleaning & Lining Project
MEASUREMENT and PAYMENT (cont.)**

RESET HYDRANT

(ITEM #17)

1. Measurement:

Measurement shall be for the actual number of hydrants reset as measured and accepted by the Construction Inspector.

2. Payment:

Payment shall be at the unit price bid and shall be full compensation for each hydrant reset as measured and approved by the Construction Inspector. Payment shall include, but not be limited to excavation, (except for ledge and boulder removal), removing brick sidewalk(s), sheeting and bracing, cutting, adjusting, dewatering, capping, bedding material (unless select material is ordered by the construction inspector), blanket material (**clean fill sand**), resetting existing hydrant, crushed stone drainage pit, support slabs, thrust rods, compaction, cold patch, restoration of trench to sub grade, resetting disturbed curbing, and brick sidewalk(s), adjusting boxes, and all work required for or incidental to the satisfactory completion of this item.

RIGID POLYSTYRENE FOAM INSULATION (2")

(ITEM #18)

1. Measurement:

Measurement shall be for the actual number of linear feet of water main insulated with rigid polystyrene foam insulation of the 2" thickness as shown on the drawings furnished and installed as shown on the drawings, as measured and accepted by the Department. Measurement shall be along the centerline of the pipe to the nearest tenth of a linear foot.

2. Payment:

Payment shall be at the unit price bid and shall be full compensation for the actual number of linear feet of rigid polystyrene foam insulation furnished and installed. Payment shall include, but not be limited to furnishing and installing rigid insulation above and/on either side of the pipe in the trench in accordance with the drawings and or direction of the Department and all work required for or incidental to the satisfactory completion of the item.

MEASUREMENT and PAYMENT (cont.)

WATER LINE OBSTRUCTIONS: (ITEM #19)

1. Measurement:

Measurement shall be for the actual number of water line obstructions as measured and accepted by the Construction Inspector.

2. Definition:

Obstructions in the pipeline that prohibit the passage of cleaning and /or lining equipment shall be removed by the Contractor. These include, but are not limited to:

- a. Bends, reducers, valves, or other such fittings not indicated on drawings provided by the Department.
- b. Over poured lead joints.
- c. Deformations in the pipe wall, out-of-round pipe, or defective pipe.
- d. Protruding lateral or service connections.
- e. Internal tie rods.
- f. Successive cocked-joints

3. Payment

Payment shall be per each as indicated at the unit price bid and shall be full compensation for each Obstruction as measured and approved by the construction inspector. Payment shall include, but not be limited to excavation, (except for ledge and boulder removal), sheeting and bracing, dewatering, cutting bedding material,(unless select material is ordered by the construction inspector), furnishing and installing all required appurtenances, support slabs, thrust rods, blanket material(**clean fill sand**), compaction, restoration of trench to subgrade, adjusting boxes, and all work required for or incidental to the satisfactory completion of this item. The construction inspector shall decide on the method or removal with the Contractor.

EXPLORATORY EXCAVATION (ITEM #20)

1. Measurement:

Measurement shall be for the actual number of cubic yards of exploratory excavation performed as order and approved by the Construction Inspector. Measurement shall be made to the nearest tenth of a cubic yard.

2. Payment:

Payment shall be at the unit price bid and shall be full compensation for the actual number of cubic yards of exploratory excavation performed as ordered and approved by the Inspector. Payment shall include, but not be limited to cutting pavement, removal of pavement, excavation support, dewatering, temporary controls, excavation of approved area, backfilling with excavated material, restoration of growth, restoration of physical features, and other work required for or incidental completion of this item.

MEASUREMENT and PAYMENT (cont.)

CONCRETE (3000 psi)

(ITEM #21)

1. Measurement:

Measurement shall be for the actual number of cubic yards for concrete furnished and placed as shown on the drawings or ordered by the Department. Concrete shall be measured and accepted by the Construction Inspector. Measurement shall be made to the nearest tenth of a cubic yard.

2. Payment:

Payment shall be at the unit price bid and shall be full compensation for the actual number of cubic yards furnished and placed. Payment shall include, but not be limited to, placing concrete for thrust blocks, and pipe encasement including, forming, reinforcing, restraining rods, curing, removal of all form work, and all other work required for or incidental to the completion of this item. Payment shall not include extra concrete placed in the trench because of sloppy work and/or because forms were not used.

LEDGE REMOVAL:

(ITEM #22)

1. Measurement:

- A. Depth of ledge removal shall be measured from original ledge surface to six (6) inches below the invert or to six (6) inches below the bottom surface of structures.
- B. The maximum width measures shall be the sum of the nominal pipe diameter plus two (2) feet for pipelines.
- C. The measured area of excavation around structures shall be no more than the outside structural dimensions plus two (2) feet.
- D. Measurement shall be for the actual number of cubic yard of ledge removed within the pay limits described above as measured and approved by the Construction Inspector. Measurement shall be to the nearest tenth of a cubic yard.

2. Payment:

Payment shall be at the unit price bid and shall be full compensation for the actual number of cubic yards of ledge removed as measured and approved by the Construction Inspector. Payment shall include, but not be limited to the cost of the pre-construction survey, drilling, explosives, blasting caps, blasting formats, ledge removal, furnishing and placing of common fill refill material (unless select material is ordered by the Inspector), and transportation and disposal of ledge, and all other work required for or incidental to the completion of this item.

MEASUREMENT and PAYMENT (cont.)

CRUSHED GRAVEL

(ITEM # 23)

1. The material shall consist of stones, rock fragments, and fine, hard, durable particles resulting from the disintegration of rock. The material shall be free from injurious amounts of organic matter.

2. Gradation:

<u>Sieve Size</u>	<u>Percentage Passing by Weight</u>
3"	100
2"	95-100
1"	55- 85
No. 4	27- 75

3. At least 50 percent by weight of the material retained on the 1-inch sieve shall have a fracture face.

4. Payment: See Road Bridge Construction Manual, Section 304.

The work shall consist of the existing pavement blended with the underlying gravel or additional crushed gravel. Reclaimed stabilized base shall have a minimum bitumen content of 3 percent and conform to the following gradation:

SIEVE SIZE	PERCENT PASSING BY WEIGHT
3"	100
1 ½"	80-100
¾ "	55-90
# 4	40-70
#200	3-10 "TOTAL SAMPLE"

2.1.2 Additional crushed gravel shall meet the requirement of crushed gravel or crushed base course (fine gradation)

2.1.3 Additional asphalt shall meet the requirements of 702. ,as specified.

CONSTRUCTION REQUIREMENTS

METHOD OF PAYMENT

BASIS OF PAYMENT

SEE SECTION 306 OF THE ROAD AND BRIDGE CONSTRUCTION MANUAL

MEASUREMENT and PAYMENT (cont.)

3/4” CRUSHED STONE

(ITEM #24)

DESCRIPTION

Crushed stone: Crushed stone material shall consist of clean, hard, durable, crushed particles or fragments of stone or ledge rock of uniform quality reasonably free of thin or elongated pieces. The material shall be free from ice, snow, rubbish, sods, roots and other deleterious or organic material and shall conform to the following gradation requirements meeting ASTM C33 stone size No. 67.

MATERIAL

SIEVE SIZE	3/4 INCH
1 INCH	100
3/4 INCH	90-100
1/2 INCH	15-55
# 10	0-5

PAYMENT

The contract pay quantities will be paid for at the contract unit price per cubic yard complete in place.

SAW CUT PAVEMENT (ITEM #25)

This work shall consist of sawing concrete pavement, bituminous pavement, or both, as shown on the plans as order.

CONSTRUCTION REQUIREMENTS

1. Concrete pavement or bituminous pavement to be sawed shall be accurately marked before sawing.
2. The equipment used to saw concrete or bituminous pavement shall be capable of sawing the pavement as shown on the plans or as ordered and shall produce a substantially vertical and sound face without deformation of the adjacent pavement. The use of cutting wheels, pavement breakers, etc, which deform the pavement or leave an unsound face, will not be permitted.
3. Contraction joints to be cut in concrete pavement shall be cut to the width and depth as shown on the plans and filled with the type of filler shown on the plans. Concrete pavement or bituminous pavement to be sawed in connection with laying pipes; roadway excavation, constructing curb, and the like shall be of sufficient depth to permit breaking the pavement at the cut
4. Where the pavement is found to consist of an overlay of bituminous pavement above a concrete slab, the cut shall be increased enough to score the underlying concrete so that the concrete may be broken in a reasonably uniform manor.

MEASUREMENT and PAYMENT (cont.)

Method of measurement:

Sawed pavement of the type specified will be measured by the linear foot.

Basis of payment:

The accepted quantity of sawed pavement will be paid for at the contract unit price per liner foot.

No separate payment will be made for filler.

Payment will be made under 628.3 only when bituminous concrete pavement and concrete pavement are sawed one above the other.

Pay items and units:

628.1	Sawed concrete pavement	Liner foot
628.2	Sawed Bituminous pavement	Liner foot
628.3	Sawed pavement	Liner foot

TEMPORARY BITUMINOUS PAVEMENT (1 1/2” thickness) (ITEM #26)

1. Measurement:

Measurement shall be for the actual number of square yards of Temporary bituminous pavement as measured and accepted by the Construction Inspector. Measurement shall be by the square yard.

2. Payment:

Payment for 1 1/2” thick temporary bituminous concrete pavement shall be at the price per square yard as stated in the Bid Proposal. Measurement for payment shall be the number square yards installed in place as determined by field measurement and approved by the Construction Inspector. Payment for work includes grading, compacting, pavement trimming, tack coat, bituminous, Concrete, placing and compacting, hauling and all other miscellaneous work not specifically Included, for payment under any other item, but necessary to complete the work.

FLAGGERS (ITEM #27)

DESCRIPTION

Flagmen shall be clothed in a suitable and characteristic form that will readily distinguish them from other employees. They shall be attired with hard hats and blaze orange vests with or without white strips. Flagmen shall possess the following qualifications: at least average intelligence and alertness, good sight and hearing, courteous but firm manner, neat and presentable appearance, and a sense of responsibility. They shall have been given specific instructions from the Contractor as to their duties, both to the public and to their co-workers on the site. They shall handle the movement of the public traffic in a reasonable manner so as to expedite that movement.

MEASUREMENT and PAYMENT (cont.)

Measurement:

Flaggers shall be measured by the hours of actual flagging time within the work zone directing traffic.

Payment:

Pay items and units:

618.7 Flaggers Hour

UNIFORMED OFFICERS: (with Police Vehicles)

(ITEM# 28)

SEE SECTION 618 OF THE DOT ROAD AND BRIDGE CONSTRUCTION MANUAL

MAINTENANCE OF TRAFFIC

(ITEM # 29)

DESCRIPTION:

This work shall consist of providing and maintaining safe and passable traffic accommodations for public travel, preventing dust nuisance, furnishing, erecting and maintaining construction signs, barricades, delineator lights, flashers and other warning devices as shown on the plans or as required by the Construction Inspector. All traffic control devices used on street and highway construction, maintenance, utility or incident management operations shall conform to the latest edition of the Traffic manual (MUTCD) On uniform traffic control devices for streets and highways. In addition flagman or uniformed officers may be ordered if so warranted.

1. Construction requirements:

Whenever the street or highway is open to public traffic throughout any part of the improvement project, the contractor shall provide and maintain a sufficient surface for at least one lane traffic for a minimum 12 feet in width and controlled by the use of flagman, (2) – way radios or pilot vehicles. Construction materials or equipment shall not be left within the public right- of – way during work suspensions.

2. Construction signs:

All construction signs, barricades and warning devices shall be installed prior to the commencement of work activities and shall be free of chipping or damage that may render the device unsatisfactory or detract from reflectivity. All construction signs as shown on the plans or as order by the Inspector shall be erected on posts, barricades or easels so that all text is horizontal. At any time during the life of the project, at the discretion of the Construction Inspector, any sign, barricade or warning device that is damaged, disfigured or found to be in unserviceable condition shall be replaced at the cost of the contractor.

3. Barricades:

Barricades and delineators shall be placed wherever necessary for the protection of public travel. Such hazards as pits and open trenches, drop offs, exceptionally rough stretches of the traveled way and all obstructions shall be barricaded in an acceptable manner.

MEASUREMENT and PAYMENT (cont.)

4. Lighting

Lighting devices shall be placed so they are clearly visible. Adequate artificial lighting shall be provided on construction projects to clearly reveal all hazards during night hours. Flagmen situations and hazards shall be lighted from sunset to sunrise if night working hours have been pre-approved.

5. Payment:

Payment of the lump sum amount shall be full compensation for maintenance of traffic including construction signs barricades, lighting and warning devices. Measurement for payment shall be determined by the estimation of work completed and accepted by the Construction Inspector.

MISCELLANEOUS WORK AND CLEANUP:

(ITEM #30)

1. Measurement:

Shall be determined by estimation of work completed and accepted by the Construction Inspector as outlined in the schedule of values.

2. Payment:

Payment of the lump sum amount shall be full compensation for miscellaneous work, erosion and sediment control, and site cleanup as stated in the Bid Proposal.

BOULDER EXCAVATION:

(ITEM #32)

1. Measurement:

Measurement shall be for the actual number of cubic yards of boulders removed as measured and approved by the Inspector within the payment limits set fourth above for ledge removal. Measurement shall be made to the nearest tenth of a cubic yard. No boulder less than (2) cubic yards shall be measured.

2. Payment:

Payment shall be at the unit price bid and shall be full compensation for the actual number of cubic yards of boulders greater than two (2) cubic yards removed as measured and approved by the Inspector. Payment shall include, but not be limited to boulder removal, furnishing and placing of common fill refill material (unless select material is ordered by the Inspector), and transportation and disposal of boulders, and all other work required for or incidental to the completion of this item.

MEASUREMENT and PAYMENT (cont.)

EXCAVATION OF (UNSUITABLE AND REFILL) WITH APPROVED SELECT MATERIAL. (ITEM #33)

1. Measurement:

Measurement shall be for the actual number of cubic yards of unsuitable material approved by the Inspector for excavation and replacement with approved select material. Measurement shall be made to the nearest tenth of a cubic yard.

2. Payment:

Payment shall be at the unit price bid and shall be full compensation for the actual number of cubic yards of unsuitable material removed and replaced with approved select material. Payment shall include, but not be limited to, removing unsuitable material to the limits approved by the Inspector. Disposal of unsuitable material off-site at a designated location, excavation supports, dewatering, and furnishing and placing select material for refill, and other work required for or incidental to the completion of this item.

MEASUREMENT and PAYMENT (cont.)

HOT BITUMINOUS PAVEMENT: (Hand Method)

(ITEM # 31)

1. Measurement:

Measurement shall be for the actual number of tons of hand- place bituminous pavement as measured and accepted by the Construction Inspector. Measurement shall be to the nearest ton.

2. Payment:

Payment shall be at the unit price bid and shall be full compensation for the actual number of tons of hand-place bituminous trench pavement furnished and installed. Payment shall include, but not be limited to, removing existing bituminous material within the limits, removing backfill to allow placement of crushed gravel base course, furnishing and installing crushed gravel base course, to minimum of twelve (12) inches, cleaning pavement edges, coating existing pavement edges with an emulsified asphalt, furnishing and placing of bituminous concrete binder and wearing course to existing thickness or to a minimum of three (3) inches, adjusting structure cover and valve boxes, and all other work required for or incidental to completion of this item.

TV VIDEO:

(ITEM # 34)

1. Measurement:

Measurement shall be for the actual number of linear footage videoed (in color)(post lining) as measured and accepted by the Construction Inspector. Measurement shall be to the nearest foot.

2. Payment:

Payment shall be at the unit price bid and shall be full compensation for the actual number of feet videoed furnished and installed. Payment shall include, but not be limited to, any and all other work required for or incidental to completion of this item.

MEASUREMENT and PAYMENT (cont.)

REINFORCED CONCRETE :

(ITEM #35)

Measurement:

Measurement shall be for the actual number of cubic yards for concrete furnished and placed on secured reinforced rebar and galvanized welded wire mesh combination, as ordered and accepted by the Construction Inspector. Replaced “in kind” as shown on drawings. **Minimum thickness of six inches shall be required.** Concrete shall be measured and accepted by the Construction Inspector. Measurement shall be made to the nearest tenth of a cubic yard.

Payment:

Payment shall be at the unit price bid and shall be full compensation for the actual number of cubic yards furnished and placed. Payment shall include, but not be limited to, pipe encasement, including forming, reinforcing, restraining rods, curing, removal of all form work, and all other work required for or incidental to the completion of this item. Payment shall not include extra concrete placed in the trench because of sloppy work and/or because forms were not used.