

CONTRACT DOCUMENTS AND SPECIFICATIONS

for

MAPLE HAVEN DRAINAGE IMPROVEMENTS

City of Portsmouth Job #7136

Bid #38-11

State of New Hampshire

John P. Bohenko, City Manager

Prepared by:

City of Portsmouth
Engineering Division
Public Works Department

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City of Portsmouth
Portsmouth, New Hampshire
Department of Public Works

MAPLE HAVEN DRAINAGE IMPROVEMENTS

INVITATION TO BID

Sealed bid proposals, **plainly marked, Maple Haven Drainage Improvements**, Bid Proposal #38-11 **on the outside of the mailing envelope as well as the sealed bid envelope**, addressed to the Finance/Purchasing Department, City Hall, 1 Junkins Avenue, Portsmouth, New Hampshire, 03801, will be accepted until **June 15th, 2011 at 2:00pm**; at which time all bids will be publicly opened and read aloud.

This project consists of the installation of storm drainage & asphalt pavement with other ancillary tasks. Work may begin at any time on or after June 27th, 2011. All sections of the work shall be completed by October 3, 2011. Liquidated damages shall be assessed at \$200.00 per day.

There will be a mandatory pre-bid meeting on Monday, June 6th, 2011 at 10:00 AM EST at the Portsmouth Public Works Building located at 680 Peverly Hill Road in Portsmouth, NH.

The General Contractor for this project must be Pre-qualified with NHDOT for Road Construction prior to bid submission. The contractor must also be licensed with the City of Portsmouth for laying drains.

The General Contractor will be permitted to subcontract portions of the work not to exceed an aggregate dollar value of 50% of the total contract bid amount in complete accordance with Section 108 of the State of New Hampshire Standard Specifications for Road and Bridge Construction.

Bidders must determine the quantities of work required and the conditions under which the work will be performed.

The City reserves the right, after bid opening and prior to award of the contract, to modify the amount of the work in the event that bids exceed budgeted amounts. The City of Portsmouth further reserves the right to reject any or all bids, to waive technical or legal deficiencies, to re-bid, and to accept any bid that it may deem to be in the best interest of the City. The City reserves the right to approve or deny subcontractors for this project.

Each Bidder shall furnish a bid security in the amount of ten percent (10%) of the bid. The Bid Security may be in the form of a certified check or a bid bond executed by a surety company authorized to do business in the State of New Hampshire, made payable to the City of Portsmouth, N.H.

The Contractor will be required to keep roadways and sidewalks passable for the public to the maximum degree possible. The Contractor will also be responsible for ensuring that the public will be able to access the residences at all times.

Questions may be directed to and specifications may be obtained from the Finance/Purchasing Department on the third floor at the above address, or by calling the Purchasing Coordinator at 603-610-7227. Specifications may also be obtained from the City's website <http://www.cityofportsmouth.com/finance/purchasing.htm>.

Addenda to this bid document, if any, including written answers to questions, will be posted by close of business on June 10th on the City of Portsmouth website <http://www.cityofportsmouth.com/finance/purchasing.htm> under the project heading.

INSTRUCTIONS TO BIDDERS

BIDDING REQUIREMENTS AND CONDITIONS

1. Special Notice to Bidders

Appended to these instructions is a complete set of bidding and general contract forms. These forms may be detached and executed for the submittal of bids. The plans, specifications, and other documents designated in the proposal form will be considered as part of the proposal, whether attached or not.

Addenda to this bid document, if any, including written answers to questions, will be posted by June 10th, 2011 on the City of Portsmouth website at <http://www.cityofportsmouth.com/finance/purchasing.htm> under the project heading. Addenda and updates will NOT be sent directly to firms. Contractors submitting a bid should check the web site daily for addenda and updates after the release date. Firms should print out, sign and return addenda with the proposal. Failure to do so may result in disqualification.

2. Interpretation of Quantities in Bid Schedules

The quantities appearing in the bid schedule are approximate only and are prepared for the comparison of bids. Payment to the contractor will be made only for actual work performed and accepted in accordance with the contract. Any scheduled item of work to be done and materials to be furnished may be increased, decreased or omitted as hereinafter provided, and no claim for loss, anticipated profits or costs incurred in anticipation of work not ultimately performed will be allowed due to such increase or decrease.

3. Examination of Plans, Specifications and Site Work

The bidder is expected to examine carefully the site of the proposed work, the plans, standard specifications, supplemental specifications, special provisions and contract forms before submitting a proposal. The submission of a bid shall be considered conclusive evidence that the bidder has made such examination and is satisfied as to the conditions to be encountered in performing the work and as to the requirements of the contract. It will be conclusive evidence that the bidder has also investigated and is satisfied with the sources of supply for all materials.

Plans, surveys, measurements, dimensions, calculations, estimates and statements as to the condition under which the work is to be performed are believed to be correct, but the contractors must examine for themselves, as no allowance will be made for any errors or inaccuracies that maybe found therein.

4. Familiarity with Laws

The bidder is assumed to have made himself or herself familiar with all federal and state laws and all local by-laws, ordinances and regulations which in any manner affect those engaged or employed on the work or affect the materials or equipment used in the work or affect the conduct of the work, and the bidder, if awarded the contract, shall be obligated to perform the work in conformity with said laws, by-laws, ordinances and regulations notwithstanding its ignorance thereof. If the bidder shall discover any provision in the plans or specifications which is in conflict with any such law, by-law, ordinance or regulation the bidder shall forthwith report it to the engineer in writing.

5. Preparation of Proposal

a) The bidder shall submit its proposal upon the forms furnished by the Owner. The bidder shall specify a lump sum price in figures, for each pay item for which a quantity is given and shall also show the products of the

respective prices and quantities written in figures in the column provided for that purpose and the total amount of the proposal obtained by adding the amount of the several items. All words and figures shall be in ink or typed. If a unit price or a lump sum bid already entered by the bidder on the proposal form is to be altered it should be crossed out with ink, the new unit price or lump sum bid entered above or below it and initialed by the bidder, also with ink.

b) The bidder's proposal must be signed with ink by the individual, by one or more general partners of a partnership, by one or more members or officers of each firm representing a joint venture; by one or more officers of a corporation, by one or more members (if member-managed) or managers (if manager-managed) of a limited liability company, or by an agent of the contractor legally qualified and acceptable to the owner. If the proposal is made by an individual, his or her name and post office address must be shown, by a partnership the name and post office address of each general and limited partner must be shown; as a joint venture, the name and post office address of each venturer must be shown; by a corporation, the name of the corporation and its business address must be shown, together with the name of the state in which it is incorporated, and the names, titles and business addresses of the president, secretary and treasurer.

6. Nonconforming Proposals

Proposals will be considered nonconforming and may be rejected in the Owner's sole discretion for any of the following reasons:

- If the proposal is on a form other than that furnished by the Owner, or if the form is altered or any portion thereof is detached;
- If there are unauthorized additions, conditional or altered bids, or irregularities of any kind which may tend to make the proposal or any portion thereof incomplete, indefinite or ambiguous as to its meaning;
- If the bidder adds any provisions reserving the right to accept or reject an award, or to enter into a contract pursuant to an award; or
- If the proposal does not contain a unit price for each pay item listed except in the case of authorized alter pay items.

7. Proposal Guaranty

No proposal will be considered unless accompanied by a bid bond, surety, or similar guaranty of the types and in an amount not less than the amount indicated in the Invitation to Bid. All sureties shall be made payable to the "City of Portsmouth". If a bid bond is used by the bidder it shall be:

- In a form satisfactory to the Owner;
- With a surety company licensed, authorized to do business in, and subject to the jurisdiction of the courts of the State of New Hampshire; and
- Conditioned upon the faithful performance by the principal of the agreements contained in the sub-bid or the general bid.

In the event any irregularities are contained in the proposal guaranty, the bidder will have four business days (not counting the day of opening) to correct any irregularities. The corrected guaranty must be received by 4:00 p.m. If irregularities are not corrected to the satisfaction of the Owner, the Owner, in its sole discretion, may rejected the bid.

8. Delivery of Proposals

When sent by mail, the sealed proposal shall be addressed to the Owner at the address and in the care of the official in whose office the bids are to be received. All proposals shall be filed prior to the time and at the place specified in

the invitation for bids. Proposals received after the time for opening of the bids will be returned to the bidder, unopened.

9. Withdrawal of Proposals

A bidder will be permitted to withdraw his or her proposal unopened after it has been submitted if the Owner receives a request for withdrawal in writing prior to the time specified for opening the proposals.

10. Public Opening of Proposals

Proposals will be opened and read publicly at the time and place indicated in the invitation for bids. Bidders, their authorized agents, and other interested parties are invited to be present.

11. Disqualification of Bidders

Any or all of the following reasons may be deemed by Owner in its sole discretion as being sufficient for the disqualification of a bidder and the rejection of his proposal:

- More than one proposal for the same work from an individual, firm, or corporation under the same or different name;
- Evidence of collusion among bidders;
- Failure to submit all required information requested in the bid specifications;
- If the Contractor is not listed with the New Hampshire Department of Transportation as a pre-qualified contractor under the classification of Road Construction;
- Lack of competency or of adequate machinery, plant or other equipment, as revealed by the statement of bidders qualification or otherwise;
- Uncompleted work which, in the judgment of the owner, might hinder or prevent the prompt completion of additional work if awarded;
- Failure to pay, or satisfactorily settle, all bills due for labor and materials on former contracts;
- Default or unsatisfactory performance on previous contracts; or
- Such disqualification would be in the best interests of the Owner.

12. Material Guaranty and Samples

Before any contract is awarded, the bidder may be required to furnish a complete statement of the origin, composition and manufacture of any or all materials to be used in the construction of the work, and the Owner may, in its sole discretion, reject the bid based on the contents of the statement or as a result of the failure of the bidder to submit the statement.

AWARD AND EXECUTION OF CONTRACT

1. Consideration of Proposals

After the proposals are opened and read, they will be compared on the basis of the total price for all sections of work and any such additional considerations as may be identified in the bid documents. The results of such comparisons will be immediately available to the public. In case of a discrepancy between the prices written in words and those written figures, the prices written in words shall govern. In case of a discrepancy between the total shown in the proposal and that obtained by adding the products of the quantities of items and unit bid prices, the latter shall govern.

2. Award of Contract

Within 30 calendar days after the opening of proposals, if a contract is to be awarded, the award will be made to the lowest responsible and qualified bidder whose proposal complies with all the requirements prescribed. The successful bidder will be notified, in writing, mailed to the address on his or her proposal, that his or her bid has been accepted and that the bidder has been awarded the contract.

3. Reservation of Rights

The Owner reserves the right to reject any or all proposals, to waive technicalities or to advertise for new proposals, if, in the sole discretion of the Owner, the best interest of the City of Portsmouth will be promoted thereby. The Owner further reserves the right to modify the scope of work in the event that bids exceed budgeted amounts.

The Owner reserves the right to cancel the award of any contract at any time before the execution of such contract by all parties without any liability of the Owner.

The City reserves the right, after bid opening and prior to award of the contract, to modify the amount of the work in the event that bids exceed budgeted amounts.

4. Return of Proposal Guaranty

All proposal guaranties, except those of the three lowest bidders, will be returned upon request following the opening and checking of the proposals. The proposal guaranties of the three lowest bidders will be returned within ten days following the award of the contract if requested.

5. Contract Bonds

At the time of the execution of the contract, the successful bidder shall furnish:

- A performance bond in the amount of 100 percent of the contract amount.
- Labor and materials payment bond in the sum equal to 100 percent of the contract amount.

At the time of project completion, the Owner may, in its sole discretion, permit the Contractor to substitute a maintenance bond in lieu of holding retainage for the entire guaranty period. If a bond is furnished it shall meet the following criteria:

- The bond shall be in an amount equal to 20 percent of the contract amount. Such bond shall guarantee the repair of all damage due to faulty materials or workmanship provided or done by the contractor. The guarantee shall remain in effect for a period of one year after the date of final acceptance of the job by the Owner.

Each bond shall be: (1) in a form satisfactory to the Owner; (2) with a surety company licensed and authorized to do business and with a resident agent designated for services of process in the State of New Hampshire; and (3) conditioned upon the faithful performance by the principal of the agreements contained in the original bid. All premiums for the contract bonds are to be paid by the contractor.

6. Execution and Approval of Contract

The successful bidder is required to present all contract bonds, to provide proof of insurance, and to execute the contract within 10 days following receipt of the City's notification of acceptance of the bid. No contract shall be considered as in effect until it has been fully executed by all parties.

7. Failure to Execute Contract

Failure to execute the contract and to provide acceptable bonds and proof of insurance within 10 days after notification of acceptance of bid shall be just cause for the cancellation of the award and the forfeiture of the proposal guarantee which shall become the property of the Owner, not as a penalty, but in liquidation of damages sustained. Award may then be made to the next lowest responsible bidder, or the City may exercise its reserved rights including the rejection of all bids or re-advertisement.

PROPOSAL FORM

MAPLE HAVEN DRAINAGE IMPROVEMENTS

CITY OF PORTSMOUTH, N.H.

To the City of Portsmouth, New Hampshire, herein called the Owner.

The undersigned, as Bidder, herein referred to as singular and masculine declares as follows:

1. All interested in the Bid as Principals are named herein.
2. This bid is not made jointly, or in conjunction, cooperation or collusion with any other person, firm, corporation, or other legal entity;
3. No officer, agent or employee of the Owner is directly or indirectly interested in this Bid.
4. The bidder has carefully examined the sites of the proposed work and fully informed and satisfied himself as to the conditions there existing, the character and requirements of the proposed work, the difficulties attendant upon its execution and the accuracy of all estimated quantities stated in this Bid, and the bidder has carefully read and examined the Drawings, Agreement, Specifications and other Contract Documents therein referred to and knows and understands the terms and provisions thereof;
5. The bidder understands that the quantities of work calculated in the Bid or indicated on the Drawings or in the Specifications or other Contract Documents are approximate and are subject to increase or decrease or deletion as deemed necessary by the Portsmouth City Engineer. Any such changes will not result in or be justification for any penalty or increase in contract prices; and agrees that, if the Bid is accepted the bidder will contract with the Owner, as provided in the Contract Documents, this Bid Form being part of said Contract Documents, and that the bidder will supply or perform all labor, services, plant, machinery, apparatus, appliances, tools, supplies and all other activities required by the Contract Documents in the manner and within the time therein set forth, and that the bidder will take in full payment therefore the following item prices, to wit:

PROPOSAL FORM

ITEM #	EST. QTY.	UNITS	ITEM DESCRIPTION & UNIT PRICE IN WORDS	UNIT PRICE IN FIGURES	ITEM TOTAL IN FIGURES
201.1	1	U	Remove existing large trees, stumps and vegetation where shown	\$ _____	\$ _____
202.5	18	Ea	Catch Basin or Manhole Structure Removal	\$ _____	\$ _____
202.5A	29	Ea	Fill and Abandon Drainage Structure	\$ _____	\$ _____
206.19	75*	Cy	Exploratory Excavation	\$ _____	\$ _____
206.2	100*	Cy	Rock Structure Excavation (minimum \$30/ Cy; maximum \$80/ Cy)	\$ _____	\$ _____
214	39,200	Sy	Fine Grading (F)	\$ _____	\$ _____
304.3	120*	Cy	Crushed Gravel for Drives	\$ _____	\$ _____
306.210	20,000	Sy	10" Reclaim, Rehandled & Removed Material as Directed for Maple Haven South (F)	\$ _____	\$ _____
306.212	19,200	Sy	12" Reclaim, Rehandled & Removed Material as Directed for Maple Haven North (F)	\$ _____	\$ _____
306.33	17,600	Gal	Emulsified Asphalt for injection (SS01 Emulsion)	\$ _____	\$ _____
306.5	35,300	Sy	6" Asphalt Emulsion Injection Process (Area based on new road width)	\$ _____	\$ _____

PROPOSAL FORM (continued)

ITEM #	EST. QTY.	UNITS	ITEM DESCRIPTION & UNIT PRICE IN WORDS	UNIT PRICE IN FIGURES	ITEM TOTAL IN FIGURES
403.11	4,065	Tons	Machine Paving – 2” compacted thickness	\$ _____	\$ _____
403.12	120*	Tons	Hand Method Bituminous Paving	\$ _____	\$ _____
520.421	100*	Cy	Class F Flowable Fill (trench backfill)	\$ _____	\$ _____
603.00330	8	Lf	30” R.C. Pipe, 3000D	\$ _____	\$ _____
603.30330	1	Ea	30” R.C. Flared End Sections (with grate)	\$ _____	\$ _____
603.36130	1	Ea	30” Metal Flared End Sections (with grate)	\$ _____	\$ _____
603.81004	139	Ea	4” PVC, SDR 35, Drain Laterals to Property Line (Incl. Pipe Core and Fittings)	\$ _____	\$ _____
603.82212	4,164	Lf	12” PE pipe (smooth interior)	\$ _____	\$ _____
603.82215	2,952	Lf	15” PE pipe (smooth interior)	\$ _____	\$ _____
603.82218	1,328	Lf	18” PE pipe (smooth interior)	\$ _____	\$ _____
603.82222A	78	Lf	22” HDPE Pipe Lining System (for 24” CMP)	\$ _____	\$ _____
603.82224	1,058	Lf	24” PE pipe (smooth interior)	\$ _____	\$ _____

PROPOSAL FORM (continued)

ITEM #	EST. QTY.	UNITS	ITEM DESCRIPTION & UNIT PRICE IN WORDS	UNIT PRICE IN FIGURES	ITEM TOTAL IN FIGURES
603.82230	373	Lf	30" PE pipe (smooth interior)	\$ _____	\$ _____
604.0007	59	Ea	Polyethylene Liner for CB	\$ _____	\$ _____
604.12	80	Ea	CB, 4-foot diameter, Type B (Includes Hood)	\$ _____	\$ _____
604.125	2	Ea	CB, 5-foot diameter, Type B (Includes Hood)	\$ _____	\$ _____
604.13	1	Ea	CB, 4-foot diameter, Type C	\$ _____	\$ _____
604.19	4	Ea	CB, 4-foot dia., 24"x36" grate (Inc. Hood)	\$ _____	\$ _____
604.195	2	Ea	CB, 5-foot dia., 24"x36" grate (Inc. Hood))	\$ _____	\$ _____
604.22	1	Ea	Drop Inlet Basin	\$ _____	\$ _____
604.32	32	Ea	Drainage manholes, 4-foot diameter	\$ _____	\$ _____
604.325	4	Ea	Drainage manholes, 5-foot diameter	\$ _____	\$ _____
604.326	4	Ea	Drainage manholes, 6-foot diameter	\$ _____	\$ _____
609.216	230	LF	New Straight Sloped Granite Curb 6" High	\$ _____	\$ _____

PROPOSAL FORM (continued)

ITEM #	EST. QTY.	UNITS	ITEM DESCRIPTION & UNIT PRICE IN WORDS	UNIT PRICE IN FIGURES	ITEM TOTAL IN FIGURES
609.236	30	LF	New Curved Sloped Granite Curb 6" High	\$ _____	\$ _____
611.71008A	10*	Ea	Replace Water Gate Valve Sleeve and Cover	\$ _____	\$ _____
611.05206	50*	Lf	6" DI Water Main Pipe CL52	\$ _____	\$ _____
611.05208	50*	Lf	8" DI Water Main Pipe CL52	\$ _____	\$ _____
611.71006	1*	Ea	6" Water Main Gate Valve	\$ _____	\$ _____
611.70008	1*	Ea	8" Water Main Gate Valve	\$ _____	\$ _____
615.01	4	Ea	Traffic Signs (See Details)	\$ _____	\$ _____
615.5A	2	Ea	Steel Bollard, 6" diameter with HDPE sleeve	\$ _____	\$ _____
618.6	100*	Hr	Uniformed Portsmouth Police Flaggers	<u>\$50.00</u>	<u>\$5,000.00</u>
618.7	400*	Hr	Flaggers	<u>\$17.00</u>	<u>\$6,800.00</u>
619.1	1	U	Maintenance of Traffic	\$ _____	\$ _____

PROPOSAL FORM (continued)

ITEM #	EST. QTY.	UNITS	ITEM DESCRIPTION & UNIT PRICE IN WORDS	UNIT PRICE IN FIGURES	ITEM TOTAL IN FIGURES
641A	10,000	Sy	Loam and Seed	\$ _____	\$ _____
645.531	660	Lf	Silt fence	\$ _____	\$ _____
645A	1	U	Suzanne Drive Outfall Reconstruction	\$ _____	\$ _____
645B	1	U	Mariette Drive Outfall Reconstruction	\$ _____	\$ _____
651.82	6	EA	Thuja Occidentalis Nigra (Dark American Arborvitae)	\$ _____	\$ _____
655.8	9	EA	Ilex Verticillata (Common Winter Berry)	\$ _____	\$ _____
692	1	U	Mobilization	\$ _____	\$ _____
1060	3	EA	Sewer Lateral Repairs Identified on Drawings (includes all labor, pipe, and fittings; not to be used for breakage by contractor)	\$ _____	\$ _____

* Indeterminate quantity

TOTAL FOR PROJECT AND BASIS OF AWARD

In Figures \$ _____

In Words \$ _____

PROPOSAL FORM (continued)

ITEM #	EST. QTY.	UNITS	ITEM DESCRIPTION & UNIT PRICE IN WORDS	UNIT PRICE IN FIGURES	ITEM TOTAL IN FIGURES
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Pavement Repairs – Alternate A

In lieu of item 306.33 & 306.5 Asphalt Emulsion Injection: Remove Additional Excess Reclaim Material, Pave Additional Hot Mix Asphalt, Add Emulsion Between Paving Layers

203.1	1,720	CY	Remove Additional Excess Reclaim (approx. 1.75" thickness)	\$ _____	\$ _____

403.11	3,535	Tons	Additional Machine Paving (Finished Road would be 2 ¼" Binder & 1 ½" Top) (This must be same unit price as item # 403.11 in base bid above)	\$ _____	\$ _____

410.21	35,300	Sy	Emulsified Tack Coat	\$ _____	\$ _____

Subtotal \$ _____

Deduct equals bid item totals for item #306.33 & 306.5 from a previous page

306.33	17,600	Gal	Emulsified Asphalt for injection	Deduct	-\$ _____
306.50	35,300	Sy	6" Asphalt Emulsion Injection	Deduct	-\$ _____

Total Difference in cost for Alternate A (Equals Subtotal – Deducts for no Injection)

\$ _____

- To Bidder:

The City reserves the right, after bid opening and prior to award of the contract, to modify the amount of the work in the event that bids exceed budgeted amounts.

It is the intention of this contract that the items listed above describe completely and thoroughly the entirety of the work as shown on the plans and as described in the specifications. All other items required to accomplish the above items are considered to be subsidiary work, unless shown as a pay item.

The undersigned agrees that for extra work, if any, performed in accordance with the terms and provisions of the Contract Documents, the bidder will accept compensation as stipulated therein.

Date

Company

By: _____
Signature

Business Address

Title: _____

City, State, Zip Code

Telephone: _____

<p>We certify that the Company is currently pre-qualified with the State of New Hampshire for Road Construction.</p> <p>_____</p> <p>Signature</p> <p>_____</p> <p>Printed Name & Title</p>
--

The Bidder has received and acknowledged Addenda No. _____ through _____. All Bids are to be submitted on this form and in a sealed envelope, plainly marked on the outside with the Bidder's name and address and the Project name as it appears at the top of the Proposal Form.

BID SECURITY BOND

(This format provided for convenience, actual Bid Bond is acceptable in lieu of, if compatible.)

KNOW ALL MEN BY THESE PRESENTS, that we the undersigned

_____, as Principal, and

_____, as Surety, are hereby

held and firmly bound unto _____

IN THE SUM OF _____

as liquidated damages for payment of which, well and truly to be made we hereby jointly and severally bind ourselves, our heirs, executors, administrators, successors and assigns.

The condition of this obligation is such that whereas the Principal has submitted to the

_____ A CERTAIN Bid attached hereto and hereby made a part hereof to enter into a contract in writing, hereinafter referred to as the "AGREEMENT" and or "CONTRACT", for

NOW THEREFORE,

- (a) If said Bid shall be rejected or withdrawn as provided in the INFORMATION FOR BIDDERS attached hereto or, in the alternative,
- (b) If said Bid shall be accepted and the Principal shall duly execute and deliver the form of AGREEMENT attached hereto and shall furnish the specified bonds for the faithful performance of the AGREEMENT and/or CONTRACT and for the payment for labor and materials furnished for the performance of the AGREEMENT and or CONTRACT,

then this obligation shall be void , otherwise it shall remain in full force and effect; it being expressly understood and agreed that the liability of the Surety for any and all claims hereunder in no event shall exceed the amount of this obligation.

BID SECURITY BOND (continued)

The Surety, for value received, hereby agrees that the obligation of said surety and its bond shall be in no way impaired or affected by any extensions of the time within such BID may be accepted, and said Surety does hereby waive notice of any such extension.

IN WITNESS WHEREOF, the parties hereto have duly executed

this bond on the _____ day of _____, 20__.

(Name of Principal) L.S.

(SEAL)

BY _____

(Name of Surety)

BY _____

SUPPLY WITH BID
COMPLETE ALL SECTIONS

STATEMENT OF BIDDER'S QUALIFICATIONS

All questions must be answered and the data given must be clear and comprehensive. This statement must be notarized. Add separate sheets if necessary

1. Name of Bidder
2. Permanent Main Office Address
3. Form of Entity
4. When Organized
5. Where Organized
6. How many years have you been engaged in the contracting business under your present name; also state names and dates of previous firm names, if any.
7. Contracts on hand; (schedule these, showing gross amount of each contract and the approximate anticipated dates of completion).
8. General character of work performed by your company.
9. Have you ever failed to complete any work awarded to you? ____ (no) ____ (yes). If so, where and why?
10. Have you ever defaulted on a contract?
____ (no) ____ (yes). If so, where and why?
11. Have you ever failed to complete a project in the time allotment according to the Contract Documents?
____ (no) ____ (yes). If so, where and why?
12. List the most important contracts recently executed by your company, stating approximate cost for each, and the month and year completed.
13. List your major equipment available for this contract.
14. List your key personnel such as project superintendent and foremen available for this contract.

STATEMENT OF BIDDERS QUALIFICATIONS (continued)

- 15. List any subcontractors whom you would expect to use for the following (unless this work is to be done by your own organization).
 - a. Paving _____
 - b. Asphalt Injection_____
 - c. Curbing _____
 - d. Slip Lining _____

The City reserves the right to disallow any subcontractor.

- 16. With what banks do you do business?
 - a. Do you grant the Owner permission to contact this/these institutions?
____(yes) ____ (no).

b. Latest Financial Statements, certified audited if available, prepared by an independent certified public accountant, may be requested by Owner. If requested, such statements must be provided within five (5) business days or the bid proposal will be rejected. Certified Audited Statements are preferred. Internal statements may be attached only if independent statements were not prepared.

Dated at _____ this _____ day of _____, 20__.

Name of Bidder

BY _____

TITLE _____

State of _____

County of _____

_____ being duly sworn, deposes and

says that the bidder is _____ of _____
(Name of Organization)

and answers to the foregoing questions and all statements contained therein are true and correct.

Sworn to before me this _____ day of _____, 20__.

Notary of Public
My Commission expires _____

CONTRACT AGREEMENT

MAPLE HAVEN DRAINAGE IMPROVEMENTS

THIS AGREEMENT made as of the _____ day of _____ in the year **2011**, by and between the City of Portsmouth, New Hampshire (hereinafter call the Owner) and _____ (hereinafter called the Contractor),

WITNESSETH; that the Owner and Contractor, in consideration of the mutual covenants hereinafter set forth, agree as follows:

ARTICLE I - Work - The Contractor shall perform all work as specified or indicated in the Contract Documents for the completion of the Project. The Contractor shall provide, at his expense, all labor, materials, equipment and incidentals as may be necessary for the expeditious and proper execution of the Project.

Alternate A _____ (is/is not) a part of the contract.

ARTICLE II - ENGINEER - The City Engineer or his authorized representative will act as engineer in connection with completion of the Project in accordance with the Contract Documents.

ARTICLE III - CONTRACT TIME - The work will commence in accordance with the Notice to Proceed. **All work shall be completed no later than October 3, 2011.**

ARTICLE IV - CONTRACT PRICE - Owner shall pay Contractor for performance of the work in accordance with the Contract Documents as shown under item prices in the Bid Proposal.

Alternate A _____ (is/is not) a part of the contract.

ARTICLE V - PAYMENT - Partial payments will be made in accordance with the Contract Documents. Upon final acceptance of the work and settlement of all claims, Owner shall pay the Contractor the unpaid balance of the Contract Price, subject to additions and deductions provided for in the Contract Documents.

ARTICLE VI - RETAINAGE – To insure the proper performance of this Contract, the Owner shall retain **ten percent** of the Contract Price as specified in the Contract Documents.

ARTICLE VII - LIQUIDATED DAMAGES - In event the Contractor fails to successfully execute the work within the specified contract time the Owner shall assess the Contractor liquidated damages in the amount of **two hundred dollars (\$200)** for each calendar day beyond the specified completion date for each section of work. Liquidated damages shall be deducted from the Contract Price prior to final payment of the Contractor.

CONTRACT AGREEMENT (continued)

ARTICLE VIII – CONTRACT DOCUMENTS – The Contract Documents which comprise the contract between Owner and Contractor are attached hereto and made a part hereof and consist of the following:

- 8.1 This Agreement
- 8.2 Contractor’s Bid and Bonds
- 8.3 Notice of Award, Notice to Proceed
- 8.4 Instruction to Bidders
- 8.5 General Requirements, Control of Work, Temporary Facilities, Measurement and Payment, Standard Specifications
- 8.6 Insurance Requirements
- 8.7 Standard and Technical Specifications
- 8.8 Drawings
- 8.9 Special Provisions
- 8.10 Any modifications, including change orders, duly delivered after execution of this Agreement.

ARTICLE IX – TERMINATION FOR DEFAULT – Should contractor at any time refuse, neglect, or otherwise fail to supply a sufficient number or amount of properly skilled workers, materials, or equipment, or fail in any respect to prosecute the work with promptness and diligence, or fail to perform any of its obligations set forth in the Contract, Owner may, at its election, terminate the employment of Contractor, giving notice to Contractor in writing of such election, and enter on the premises and take possession, for the purpose of completing the work included under this Agreement, of all the materials, tools and appliances belonging to Contractor, and to employ any other persons to finish the work and to provide the materials therefore at the expense of the Contractor.

ARTICLE X – INDEMNIFICATION OF OWNER – Contractor will indemnify Owner against all suits, claims, judgments, awards, loss, cost or expense (including without limitation attorneys’ fees) arising in any way out of the Contractor’s negligent performance of its obligations under this Contract. Contractor will defend all such actions with counsel satisfactory to Owner at its own expense, including attorney’s fees, and will satisfy any judgment rendered against Owner in such action.

ARTICLE XI – PERMITS – The Contractor will secure at its own expense, all permits and consents required by law as necessary to perform the work and will give all notices and pay all fees and otherwise comply with all applicable City, State, and Federal laws, ordinances, rules and regulations.

ARTICLE XII – INSURANCE – The Contractor shall secure and maintain, until acceptance of the work, insurance with limits not less than those specified in the Contract.

ARTICLE XIII – MISCELLANEOUS –

- A. Neither Owner nor Contractor shall, without the prior written consent of the other, assign, sublet or delegate, in whole or in part, any of its rights or obligations under any of the Contract Documents; and, specifically not assign any monies due, or to become due, without the prior written consent of Owner.
- B. Owner and Contractor each binds himself, his partners, successors, assigns and legal representatives, to the other party hereto in respect to all covenants, agreements and obligations contained in the Contract Documents.
- C. The Contract Documents constitute the entire Agreement between Owner and Contractor and may only be altered amended or repealed by a duly executed written instrument.
- D. The laws of the State of New Hampshire shall govern this Contract without reference to the conflict of law principles thereof.
- E. Venue for any dispute shall be the Rockingham County Superior Court unless the parties otherwise agree.

IN WITNESS WHEREOF, the parties hereunto executed this AGREEMENT the day and year first above written.

BIDDER:

BY: _____

TITLE: _____

CITY OF PORTSMOUTH, N.H.

BY: _____

John P. Bohenko

TITLE: City Manager

NOTICE OF INTENT TO AWARD

Date:

TO:

IN AS MUCH as you were the low responsible bidder for work entitled:

MAPLE HAVEN DRAINAGE IMPROVEMENTS

You are hereby notified that the City intends to award the aforesaid project to you.

Immediately take the necessary steps to execute the Contract and to provide required bonds and proof of insurance within ten (10) calendar days from the date of this Notice.

The City reserves the right to revoke this Notice if you fail to take the necessary steps to execute this Contract.

City of Portsmouth
Portsmouth, New Hampshire

Judie Belanger,
Finance Director

NOTICE TO PROCEED

DATE:

MAPLE HAVEN DRAINAGE IMPROVEMENTS

TO:

YOU ARE HEREBY NOTIFIED TO COMMENCE WORK IN ACCORDANCE
WITH THE AGREEMENT DATED _____, ON OR AFTER _____ AND ALL
WORK SHALL BE COMPLETED BY October 3, 2011.

CITY OF PORTSMOUTH, N.H.

BY: Steven F. Parkinson, PE

TITLE: Public Works Director

ACCEPTANCE OF NOTICE

RECEIPT OF THE ABOVE NOTICE TO
PROCEED IS HEREBY ACKNOWLEDGED BY

This the _____ day of _____ 20__

By: _____

Title: _____

CHANGE ORDER

Change Order Number

Date of Issuance

Owner: CITY OF PORTSMOUTH, N.H

Contractor:

You are directed to make the following changes in the
Contract Documents:

Description:

Purpose of Change Order:

Attachments: _____

CHANGE IN CONTRACT PRICE

CHANGE IN CONTRACT TIME

Original Contract Price:
\$

Original Completion Date:

Contract Price prior to this
Change Order:
\$

Contract date prior to this
Change Order:

Net Increase or Decrease of
this Change Order:
\$

Net Increase or Decrease of
this Change Order:

Contract Price with all
approved Change Orders:
\$

Contract Due date with all
approved Change Orders:

RECOMMENDED:

APPROVED:

APPROVED:

by _____

by _____

by _____

by _____

PW Director

City Finance

City Manager

Contractor

PERFORMANCE BOND

(This format provided for convenience, actual Performance Bond is acceptable in lieu, if compatible)

Bond Number _____

KNOW ALL MEN BY THESE PRESENTS

that _____ as Principal, hereinafter called Contractor, and _____ (Surety Company) a corporation organized and existing under the laws of the State of _____ and authorized to do business in the State of New Hampshire as surety, hereinafter called Surety, are held and firmly bound unto the City of Portsmouth, N.H. Obligee, hereinafter called Owner, in the amount of _____ Dollars (\$ _____), for the payment whereof Contractor and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents. WHEREAS, Contractor has by written agreement dated _____ entered into a contract with Owner for _____ in accordance with drawings and specifications prepared by the Public Works Department, 680 Peaverly Hill Road, Portsmouth, N.H. 03801, which contract is by reference made a part hereof, and is hereinafter referred to as the Contract.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION is such that if the Contractor shall well and faithfully do and perform the things agreed by him to be done and performed, according to the terms of said Contract and such alterations as may be made in said Contract during progress work, and shall further indemnify and save harmless the said Owner in accordance with the Contract and shall remedy without cost to the Owner any defect which may develop within one year from the time of completion and acceptance of the work.

The Surety hereby waives notice of any alteration in work or extension of time made by the Owner or any of its agents or representatives.

Whenever Contractor shall be, and declared by Owner to be, in default under the Contract, the Owner having performed Owner's obligations thereunder, the Surety may promptly remedy the default, or shall promptly:

- (1) Complete the Contract in accordance with its terms and conditions, or

LABOR AND MATERIAL PAYMENT BOND

(This format provided for convenience, actual Labor and Material Bond is acceptable in lieu, if compatible)

Bond Number _____

KNOW ALL MEN BY THESE PRESENTS:

that _____

as Principal, hereinafter called Contractor, and _____ (Surety Company) a corporation organized and existing under the laws of the State of

_____ and authorized to do business in the State of New Hampshire hereinafter called Surety, are held and firmly bound unto the City of Portsmouth, N.H. Obligee, hereinafter called Owner, for the use and benefit of claimants as herein below defined, in the

amount of _____ Dollars (\$ _____), for the payment whereof Principal and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, Principal has by written agreement dated _____ entered into a

contract with Owner for _____ in accordance with drawings and specifications prepared by the Public Works Department, 680 Peverly Hill Road, Portsmouth, N.H. 03801, which contract is by reference made a part hereof, and is hereinafter referred to as the Contract.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION is such that the Principal shall promptly make payment to all claimants as hereinafter defined, for all labor and material used or reasonably required for use in the performance of the Contract and for the hire of all equipment, tools, and all other things contracted for or used in connection therewith, then this obligation shall be void, otherwise it shall remain in full force and effect, subject however, to the following conditions:

(1) A claimant is defined as one having a direct contract with the Principal or, with a subcontractor of the Principal for labor, material, equipment, or other things used or reasonably required for use in the performance of the Contract. "Labor and material" shall include but not be limited to that part of water, gas, power, light, heat, oil and gasoline, telephone service or rental of equipment applicable to the Contract.

(2) The above named Principal and Surety hereby jointly and severally agree with the Owner that every claimant as herein defined, who has not been paid in full before the expiration of a period of ninety (90) days after the date on which the last of such claimant's work or labor was done or performed, or materials were furnished by such a claimant, may sue on this bond for the use of such claimant, prosecute the suit by final judgment for such sum or sums as may be

LABOR AND MATERIAL PAYMENT BOND (continued)

justly due claimant, and have execution thereon. The Owner shall not be liable for the payment of any such suit or any costs or expenses of any such suit, and principal and surety shall jointly and severally indemnify, defend and hold the Owner harmless for any such suit, costs or expenses.

(3) No suit or action shall be commenced hereunder by any claimant:

(a) Unless Claimant, other than one having a direct contract with the Principal, shall have given notice to all the following:

The Principal, the Owner and the Surety above named, within six (6) calendar months after such claimant did or performed the last of the work or labor, or furnished the last of the materials for which said claim is made, stating with substantial accuracy the amount claimed and the name of the party to whom the materials were furnished, or for whom the work or labor was done or performed. Such notice shall be served by mailing the same by registered mail or certified mail, postage prepaid, in an envelope addressed to the Principal, Owner, and Surety, at any place where an office is regularly maintained for the transaction of business, or served in any manner in which legal process may be served in the State of New Hampshire save that such service need not be made by a public officer.

(b) After the expiration of one (1) year following the date on which Principal ceased all work on said contract, it being understood, however, that if any limitation embodied in this bond is prohibited by any law controlling the construction hereof, such limitation shall be deemed to be amended so as to be equal to the minimum period of limitation permitted by such law.

(c) Other than in a State court of competent jurisdiction in and for the county or other political subdivision of the State in which the project, or any part thereof, is situated, or in the United States District Court for the district in which the project, or any part thereof, is situated, and not elsewhere. (4) The amount of this bond may be reduced by and to the extent of any payment of payments made in good faith hereunder, inclusive of the payment by Surety of mechanics' liens which may be filed on record against said improvement, whether or not claim for the amount of such lien by presented under and against this bond.

Signed and sealed this _____ day of _____, 20____. In the presence of:

(Witness) BY: _____
(Principal) (Seal)

(Surety Company)

(Witness) BY: _____
(Title) (Seal)

LABOR AND MATERIAL PAYMENT BOND (continued)

Note:

If the Principal (Contractor) is a partnership, the Bond should be signed by each of the partners.

If the Principal (Contractor) is a corporation, the Bond should be signed in its correct corporate name by its duly authorized Officer or Officers.

If this bond is signed on behalf of the Surety by an attorney-in-fact, there should be attached to it a duly certified copy of his Power of Attorney showing his authority to sign such Bonds.

There should be executed an appropriate number of counterparts of the bond corresponding to the number of counterparts of the Agreement.

MAINTENANCE BOND

At the Owner's election, a maintenance bond may be substituted for retainage at the completion of the project. If the Owner permits a maintenance bond, it shall be in the amount of **Twenty Percent (20%)** of the contract price with a corporate surety approved by the Owner. Such bond shall be provided at the time of Contract completion and shall guarantee the repair of all damage due to faulty materials or workmanship provided or done by the Contractor. This guarantee shall remain in effect for a period of one year after the date of final acceptance of the job by the Owner.

CONTRACTOR'S AFFIDAVIT

STATE OF _____:

COUNTY OF _____:

Before me, the undersigned, a _____
(Notary Public, Justice of the Peace)

in and for said County and State personally appeared, _____
(Individual, Partner, or duly authorized representative of Corporate)

who, being duly sworn, according to law deposes and says that the cost of labor, material, and equipment and outstanding claims and indebtedness of whatever nature arising out of the performance of the Contract between

CITY OF PORTSMOUTH, NEW HAMPSHIRE

and _____
(Contractor)

of _____

Dated: _____

has been paid in full for Construction of: **Maple Haven Drainage Improvements**

(Individual, Partner, or
duly authorized
representative of
Corporate Contractor)

Sworn to and subscribed
before me this _____ day
of _____ 20__

CONTRACTOR'S RELEASE

KNOW ALL MEN BY THESE PRESENTS that _____

(Contractor) of _____, County of _____ and State of

_____ does hereby acknowledge

that _____ (Contractor)

has on this day had, and received from the CITY OF PORTSMOUTH NEW HAMPSHIRE, final and completed payment for the Construction of:

Maple Haven Drainage Improvements

NOW THEREFORE, the said _____

(Contractor)

for myself, my heirs, executors, and administrators) (for itself, its successors and assigns) do/does by these presents remise, release, quit-claim and forever discharge the City of Portsmouth, New Hampshire, its successors and assigns, of and from all claims and demands arising from or in connection with the said Contract dated _____, and of and from all, and all manners of action and actions, cause and causes of action and actions, suits, debts, dues, duties, sum and sums of money, accounts, reckonings, bonds, bills, specifications, covenants, contracts, agreements, promises, variances, damages, judgments, extents, executions, claims and demand, whatsoever in law of equity, or otherwise, against the City of Portsmouth, New Hampshire, its successors and assigns, which (I, my heirs, executors, or administrators) (it, its successors and assigns) ever had, now have or which (I, my heirs, executors, or administrators) (it, its successors and assigns) hereafter can shall or may have, for, upon or by reason of any matter, cause, or thing whatsoever; from the beginning of record time to the date of these presents.

IN WITNESS WHEREOF,

Contractor:

print name of witness: _____

By: _____
Its Duly Authorized _____

Dated: _____

GENERAL REQUIREMENTS

SCOPE OF WORK

1. INTENT OF CONTRACT

The intent of the Contract is to provide for the construction and completion in every detail of the work described. The Contractor shall furnish all labor, materials, equipment, tools, transportation and supplies required to complete the work in accordance with the terms of the Contract. The Contractor shall be required to conform to the intent of the plans and specifications. No extra claims shall be allowed for portions of the work not specifically addressed in the plans and specifications but required to produce a whole and complete project, such work will be considered subsidiary to the bid items.

2. INCIDENTAL WORK

Incidental work items for which separate payment is not measured includes, but is not limited to, the following items:

- a. Clearing, grubbing and stripping (unless otherwise paid for)
- b. Clean up
- c. Plugging existing sewers and manholes
- d. Signs
- e. Mobilization/Demobilization (unless otherwise paid for)
- f. Restoration of property
- g. Cooperation with other contractors, abutters and utilities.
- h. Utility crossings, (unless otherwise paid for)
- i. Minor items - such as replacement of fences, guardrails, rock wall, etc.
- j. Steel and/or wood sheeting as required.
- k. Accessories and fasteners or components required to make items paid for under unit prices or lump sum items complete and functional.

3. ALTERATION OF PLANS OR OF CHARACTER OF WORK

The Owner reserves the right, without notice to Surety, to make such alterations of the plans or of the character of the work as may be necessary or desirable to complete fully and acceptably the proposed construction; provided that such alterations do not increase or decrease the contract cost. Within these cost limits, the alterations authorized in writing by the Owner shall not impair or affect any provisions of the Contract or bond and such increases or decreases of the quantities as a result from these alterations or deletions of certain items, shall not be the basis of claim for loss or for anticipated profits by the contractor. The contractor shall perform the work as altered at the contract unit price or prices.

4. EXTRA WORK ITEMS

Extra work shall be performed by the Contractor in accordance with the specifications and as directed, and will be paid for at a price as provided in the Contract documents or if such pay items are not applicable than at a price negotiated between the contractor and the Owner or at the unit bid price. If the Owner determines that extra work is to be performed, a change order will be issued.

5. CHANGE ORDERS

The Owner reserves the right to issue a formal change order for any increase, decrease, deletion, or addition of work or any increase in contract time or price. The contractor shall be required to sign the change order and it shall be considered as part of the Contract documents.

6. FINAL CLEANING UP

Before acceptance of the work, the contractor shall remove from the site all machinery, equipment, surplus materials, rubbish, temporary buildings, barricades and signs. All parts of the work shall be left in a neat and presentable condition. On all areas used or occupied by the contractor, regardless of the contract limits, the bidder shall clean-up all sites and storage grounds.

The items prescribed herein will not be paid for separately, but shall be paid for as part of the total contract price.

7. ERRORS AND INCONSISTENCY IN CONTRACT DOCUMENTS

Any provisions in any of the Contract Documents that may be in conflict with the paragraphs in these General Requirements shall be subject to the following order of precedence for interpretation.

1. Standard Specifications for Road & Bridge Construction without regard to Section 100 "General Conditions" of those Standard Specifications will govern General Requirements.
2. Technical Specifications will govern Standard Specifications.
3. Special Provisions will govern Technical Specifications, Standard Specifications and General Requirements.

CONTROL OF WORK

1. AUTHORITY OF ENGINEER

(a) All work shall be done under supervision of the City Engineer and to his satisfaction. The City Engineer will decide all questions which may arise as to the quality and acceptability of materials furnished and work performed and as to the rate of progress of the work; all questions that may arise as to the interpretation of the plans and specifications; and all questions as to the acceptable fulfillment of the Contract by the Contractor.

(b) The City Engineer will have the authority to suspend the work wholly or in part for such periods as he may deem necessary due to the failure of the Contractor to correct conditions unsafe for workers or the general public; for failure to carry out provisions of the Contract; for failure to carry out orders; for conditions considered unsuitable for the prosecution of the work, including unfit weather; or for any other condition or reason deemed to be in the public interest. The Contractor shall not be entitled any additional payments arising out of any such suspensions.

(c) The Owner reserves the right to demand a certificate of compliance for a material or product used on the project. When the certificate of compliance is determined to be unacceptable to the City Engineer the Contractor may be required to provide engineering and testing services to guarantee that the material or product is suitable for use in the project, at its expense (see Sample of Certificate of Compliance).

2. PROTECTION AND RESTORATION OF PROPERTY AND LANDSCAPES

(a) The Contractor shall use every precaution to prevent injury or damage to wires, poles, or other property of public utilities; trees, shrubbery, crops, and fences along and adjacent to the right-of-way, all underground structures such as pipes and conduits, within or outside of the right-of-way; and the Contractor shall protect and carefully preserve all property marks until an authorized agent has witnessed or otherwise referenced their location.

(b) The Contractor shall be responsible for all damage or injury to property of any character, during the prosecution of the work, resulting from any act, omission, neglect, or misconduct in his manner or method of executing the work, or at any time due to defective work or materials, and said responsibility will not be released until the project shall have been completed and accepted.

(c) When or where any direct or indirect damage or injury is done to public or private property by or on account of any act, omission, neglect, or misconduct in the execution of the work, or as a result of the failure to perform work by the Contractor, the Contractor shall restore, at its own expense, such property to a condition similar or equal to that existing before such damage or injury was done, by repairing rebuilding, or otherwise restoring as may be directed, or the Contractor shall make good such damage or injury in an acceptable manner.

(d) The Contractor shall paint with tree paint all scars made on fruit or ornamental trees by equipment, construction operations, or the removal of limbs larger than one inch in diameter. Damaged trees must be replaced if so determined by the City Arborist, in his or her sole discretion.

(e) If the Contractor fails to repair, rebuild or otherwise restore such property as may be deemed necessary, the Owner, after 48 hours notice, may proceed to do so, and the cost thereof may be deducted from any money due or which may become due the Contractor under the contract.

(f) It is the intent of the Parties that the Contractor preserve, to as great an extent as possible, the natural features of the site.

CONTROL OF WORK (continued)

3. MAINTENANCE DURING CONSTRUCTION

The Contractor shall maintain the work during construction and until the project is accepted. This maintenance shall constitute continuous and effective work prosecuted day by day, with adequate equipment and workers to ensure that the structure is kept in satisfactory conditions at all times.

4. SAFETY PRECAUTIONS

Upon commencement of work, the Contractor shall be responsible for initiating, maintaining and supervising all safety precautions necessary to ensure the safety of employees on the site, other persons who may be affected thereby, including the public, and other property at the site or adjacent thereto.

5. PERMITS

It will be the responsibility of the Contractor to obtain all permits required for the operation of equipment in, or on, all city streets and public ways.

The City has applied for a wetland permit from NHDES wetlands bureau allowing work within 100' of the highest observable tide line. As of this date, the City has not received final approval for the work. Upon the City's receipt of the approved permit, the Contractor will be furnished with a copy of the permit and the Contractor will be required to abide by all conditions of that permit.

The City has received its release of funds from the US Housing and Urban Development in accordance with the National Environmental Policy Act of 1969 (as amended).

6. BARRICADES, WARNING SIGNS AND TRAFFIC OFFICERS

(a) The Contractor shall provide, erect and maintain all necessary barricades, suitable and sufficient lights, danger signals, signs and other traffic control devices, and shall take all necessary precautions for the protection of the work and safety of the public. Roadway closed to traffic shall be protected by effective barricades. Obstructions shall be illuminated during hours of darkness. Suitable warning signs shall be provided to control and direct traffic in a proper manner, as approved by the engineer.

(b) The Contractor will be held responsible for all damage to the work from traffic, pedestrians, animals or any other cause due to lack of adequate controlling devices.

(c) The Contractor shall provide such police officers as the City Engineer deems necessary for the direction and control of traffic within the site of project.

The work prescribed herein will not be paid for separately but will be paid for as part of the Contract Price unless specifically appearing as a bid item.

TEMPORARY FACILITIES

1. STORAGE FACILITIES

(a) The Contractor shall not store materials or equipment in a public right-of-way beyond the needs of one working day. Equipment and materials shall be stored in an approved location.

(b) The Contractor shall protect all stored materials from damage by weather or accident and shall insure adequate drainage at and about the storage location.

(c) Prior to final acceptance of the work all temporary storage facilities and surplus stored materials shall be removed from the site.

2. SANITARY FACILITIES

(a) The Contractor shall provide for toilet facilities for the use of the workers employed on the work.

(b) Temporary toilet facilities may be installed provided that the installation and maintenance conform with all State and local laws, codes, regulations and ordinances governing such work. They shall be properly lit and ventilated, and shall be kept clean at all times.

(c) Prior to final acceptance of the work all temporary toilet facilities shall be removed from the site.

3. TEMPORARY WATER

The Contractor shall make all arrangements with the local water department for obtaining water connections to provide the water necessary for construction operations and shall pay all costs.

4. TEMPORARY ELECTRICITY

The Contractor shall make all arrangements with the Public Service Company for obtaining electrical connections to provide the electrical power necessary for construction operations and security lighting and shall pay all electrical connection and power costs.

The Contractor shall be responsible with obtaining an electrical permit from the City Electrical Inspector.

INSURANCE REQUIREMENTS

Insurance shall be in such form as will protect the Contractor from all claims and liabilities for damages for bodily injury, including accidental death, and for property damage, which may arise from operations under this contract whether such operation by himself or by anyone directly or indirectly employed by him.

AMOUNT OF INSURANCE

- A) Comprehensive General Liability:
Bodily injury or Property Damage - \$2,000,000
Per occurrence and general aggregate
- B) Automobile and Truck Liability:
Bodily Injury or Property Damage - \$2,000,000
Per occurrence and general aggregate

Coverage amounts may be met with excess policies

Additionally, the Contractor shall purchase and maintain the following types of insurance:

- A) Full Workers Comprehensive Insurance coverage for all people employed by the Contractor to perform work on this project. This insurance shall at a minimum meet the requirements of the most current laws of the State of New Hampshire.
- B) Contractual Liability Insurance coverage in the amounts specified above under Comprehensive General Liability.
- C) Product and Completed Operations coverage to be included in the amounts specified above under Comprehensive General Liability.
- D) Installation Floater in an amount sufficient to cover the cost of the pipe work.

ADDITIONAL INSURED

All liability policies (including any excess policies used to meet coverage requirements) shall include the City of Portsmouth, New Hampshire as named Additional Insureds. **Also, for the work required in the Route 1 corridor, the State of New Hampshire shall also be named as Additional Insureds.**

- 1) The contractor's insurance shall be primary in the event of a loss.
- 2) City of Portsmouth shall be listed as a Certificate Holder. The City shall be identified as follows:

City of Portsmouth
Attn: Legal Department
1 Junkins Avenue
Portsmouth, NH 03801

MEASUREMENT AND PAYMENT

1. MEASUREMENT OF QUANTITIES

- (a) All work completed under the contract will be measured according to the United States standard measure.
- (b) The method of measurement and computations to be used in determination of quantities of material furnished and of work performed under the contract will be those methods generally recognized as conforming to good engineering practice. Unless otherwise stated all quantities measured for payment shall be computed or adjusted for "in place" conditions.
- (c) Unless otherwise specified, longitudinal measurements for area computations will be made horizontally, and no deductions will be made for individual fixtures having an area of 9 square feet or less. Unless otherwise specified, transverse measurements for area computations will be the dimensions shown on the plans or ordered in writing.
- (d) Structures will be measured according to lines shown on the plans or as ordered unless otherwise provided for elsewhere in the specifications.
- (e) In computing volumes of excavation, embankment, and borrow, the average end area method will be used. Where it is impracticable to measure by the cross-section method, acceptable methods involving three-dimensional measurement may be used. When measurement of borrow in vehicles is permitted, the quantity will be determined as 80 percent of the loose volume.
- (f) In computing volumes of concrete, stone and masonry, the prismatic method will be used. The term "ton" will mean the short ton consisting of 2,000 pounds avoirdupois.
- (g) Except as specified below, all materials that are measured or proportioned by weight shall be weighed on scales which the Contractor has had sealed by the State or by a repairman registered by the Commissioner of Agriculture. All weighing shall be performed in a manner prescribed under the Rules and Regulations of the Bureau of Weights and Measures of the New Hampshire Department of Agriculture.
- (h) Weighing of materials on scales located outside New Hampshire will be permitted for materials produced or stored outside the state, when requested by the Contractor and approved. Out-of-state weighing in order to be approved, must be performed by a licensed public weigh master or a person of equal authority in the state concerned on scales accepted in the concerned state.
- (i) Each truck used to haul material being paid for by weight shall bear a plainly legible identification mark, and if required, shall be weighed empty daily at such times as directed.
- (j) When material is weighed, the individual weight slips, which shall be furnished by the Contractor, for trucks, trailers, or distributors, shall show the following information: the date; the project; the material or commodity; the dealer or vendor; the Contractor or Subcontractor; the location of the scales; the vehicle registration number or other approved legible identification mark; the tare and net weights, with gross weights when applicable; and the weigher's signature or his signed initials.

MEASUREMENT AND PAYMENT (continued)

(k) The right is reserved to weight any truck, trailer, or distributor, at locations designated, before and after making deliveries to the project.

(l) Bituminous materials will be measured by the gallon or ton.

(m) When material is specified to be measured by the cubic yard but measurement by weight is approved, such material may be weighed and the weight converted to cubic yards for payment purposes. Necessary conversion factors will be determined by the Owner.

(n) The term "lump sum" when used as an item of payment will mean complete payment for the work described in the item.

(o) When a complete structure or structural unit (in effect, "lump sum" work) is specified as the unit of measurement, the unit will be construed to include all necessary fittings and accessories, so as to provide the item complete and functional. Except as may be otherwise provided, partial payments for lump sum items will be made approximately in proportion to the amount of the work completed on those items.

(p) Material wasted without authority will not be included in the final estimate.

2. SCOPE OF PAYMENT

(a) The Contractor shall receive and accept compensation provided for in the contract as full payment for furnishing all materials and for performing all work under the contract in a complete and acceptable manner and for all risk, loss, damage or expense of whatever character arising out of the nature of the work or the prosecution thereof.

(b) The Contractor shall be liable to the Owner for failure to repair, correct, renew or replace, at his own expense, all damage due or attributable to defects or imperfections in the construction which defects or imperfections may be discovered before or at the time of the final inspection and acceptance of the work.

(c) No monies, payable under the contract or any part thereof, except the first estimate, shall become due or payable if the Owner so elects, until the Contractor shall satisfy the Owner that the Contractor has fully settled or paid all labor performed or furnished for all equipment hired, including trucks, for all materials used, and for fuels, lubricants, power tools, hardware and supplies purchased by the Contractor and used in carrying out said contract and for labor and parts furnished upon the order of said Contractor for the repair of equipment used in carrying out said contract; and the Owner, if he so elects, may pay any and all such bills, in whole or in part, and deduct the amount of amounts so paid from any partial or final estimate, excepting the first estimate.

MEASUREMENT AND PAYMENT (continued)

3. COMPENSATION FOR ALTERED QUANTITIES

(a) Except as provided for under the particular contract item, when the accepted quantities of work vary from the quantities in the bid schedule the Contractor shall accept as payment in full, so far as contract items are concerned, at the original contract unit prices for the accepted quantities of work done. No allowance will be made for any increased expense, loss of expected reimbursement, or loss of anticipated profits suffered or claimed by the Contractor resulting either directly from such alterations or indirectly from unbalanced allocation among the contract items of overhead expense on the part of the Bidder and subsequent loss of expected reimbursements therefore or from any other cause.

(b) Extra work performed will be paid for at the contract bid prices or at the price negotiated between the Owner and the Contractor if the item was not bid upon. If no agreement can be negotiated, the Contractor will accept as payment for extra work, cost plus 15% (overhead and profit). Costs shall be substantiated by invoices and certified payroll.

4. PARTIAL PAYMENTS

Partial payments will be made on a monthly basis during the contract period. From the total amount ascertained as payable, an amount equivalent to ten percent (10 %) of the whole will be deducted and retained by the Owner until such time as the work receives final acceptance.

5. FINAL ACCEPTANCE

Upon due notice from the Contractor of presumptive completion of the entire project, the City Engineer will make an inspection. If all construction provided for and contemplated by the contract is found complete to his satisfaction, this inspection shall constitute the final inspection and the City Engineer will make the final acceptance and notify the Contractor in writing of this acceptance as of the date of the final inspection.

If, however, the inspection discloses any work in whole or in part, as being unsatisfactory, the City Engineer will give the Contractor the necessary instructions for correction of such work, and the Contractor shall immediately comply with and execute such instructions. Upon correction of the work, another inspection will be made which shall constitute the final inspection provided the work has been satisfactorily completed. In such event, the City Engineer will make the final acceptance and notify the Contractor in writing of this acceptance as of the date of final inspection.

MEASUREMENT AND PAYMENT (continued)

6. ACCEPTANCE AND FINAL PAYMENT

(a) When the project has been accepted and upon submission by the Contractor of all required reports, completed forms and certifications, the Owner will review the final estimate of the quantities of the various classes of work performed. The Contractor may be required to certify that all bills for labor and material used under this contract have been paid.

(b) The Contractor shall file with the Owner any claim that the Contractor may have regarding the final estimate at the same time the Contractor submits the final estimate. Failure to do so shall be a waiver of all such claims and shall be considered as acceptance of the final estimate. From the total amount ascertained as payable, an amount equal to ten percent (10%) of the whole will be deducted and retained by the Owner for the guaranty period. This retainage may be waived, at the discretion of the City, provided the required Maintenance Bond has been posted. After approval of the final estimate by the Owner, the Contractor will be paid the entire sum found to be due after deducting all previous payments and all amounts to be retained or deducted under the provisions of the contract.

(c) All prior partial estimates and payments shall be subject to correction in the final estimate and payment.

7. GENERAL GUARANTY AND WARRANTY OF TITLE

(a) Neither the final certification of payment nor any provision in the contract nor partial or entire use of the improvements embraced in this Contract by the Owner or the public shall constitute an acceptance of work not done in accordance with the Contract or relieve the Contractor of liability in respect to any express or implied warranties or responsibility for faulty materials or workmanship. The Contractor shall promptly remedy any defects in the work and pay for any damage to other work resulting therefrom which shall appear within a period of twelve (12) months from the date of final acceptance of the work. The Owner will give notice of defective materials and work with reasonable promptness.

(b) No material, supplies or equipment to be installed or furnished under this Contract shall be purchased subject to any chattel mortgage or under a conditional sale, lease purchase or other agreement by which an interest therein or in any part thereof is retained by the Seller or supplier. The Contractor shall warrant good title to all materials, supplies and equipment installed or incorporated in the work and upon completion of all work, shall deliver the same together with all improvements and appurtenances constructed or placed thereon by him to the Owner free from any claims, liens or charges. Neither the Contractor nor any person, firm or corporation furnishing any material or labor for any work covered by this Contract shall have the right to a lien upon any improvements or appurtenances thereon.

Nothing contained in this paragraph, however, shall defeat or impair the right of persons furnishing materials or labor to recover under any bond given by the Contractor for their protection or any rights under any law permitting such persons to look to funds due the Contractor in the hands of the Owner. The provisions of this paragraph shall be inserted in all subcontractors and material contracts and notice of its provisions shall be given to all persons furnishing materials for the work when no formal contract is entered into for such materials.

MEASUREMENT AND PAYMENT (continued)

8. NO WAIVER OF LEGAL RIGHTS

(a) Upon completion of the work, the Owner will expeditiously make final inspection and notify the Contractor of acceptance. Such final acceptance, however, shall not preclude or stop the Owner from correcting any measurement, estimate, or certificate made before or after completion of the work, nor shall the Owner be precluded or be stopped from recovering from the Contractor or his Surety, or both, such overpayment as it may sustain by failure on the part of the Contractor to fulfill his obligations under the contract. A waiver on the part of the Owner of any breach of any part of the contract shall not be held to be a waiver of any other or subsequent breach.

(b) The Contractor, without prejudice to the Contract shall be liable to the terms of the Contract, shall be liable to the Owner for latent defects, fraud or such gross mistakes as may amount to fraud, and as regards the Owner's right under any warranty or guaranty.

9. TERMINATION OF CONTRACTOR'S RESPONSIBILITY

Whenever the improvement provided for by the Contract shall have been completely performed on the part of the Contractor and all parts of the work have been released from further obligations except as set forth in his bond and as provided in Section 8 above.

STANDARD SPECIFICATIONS

The Standard Specifications for Road and Bridge Construction of the State of New Hampshire Department of Transportation and any Addenda shall apply to all technical and measurement aspects of this project only.

However, the Standard Specifications for Road and Bridge Construction of the State of New Hampshire Department of Transportation and any Addenda shall NOT apply to General Requirements, Control of Work, Temporary Facilities, Payment, Insurance Requirements, etc. **with the exception that pavement escalation will be allowed in accordance with the NHDOT standard specifications. This will apply to the emulsion in item 306.33 (Emulsified Asphalt for injection) and item 403.11 (Machine Paved Hot Mix Asphalt) only.**

SHOP DRAWINGS

Shop Drawings for this project shall be submitted under the following conditions:

1. The Contractor shall submit working and detail drawings, well in advance of the work, to the City Engineer & Building Inspector for review.
2. The Contractor's drawings shall consist of shop detail, erection and other working plans showing dimensions, sizes and quality of material, details and other information necessary for the complete fabrication and erection of the pertinent work.
3. The Contractor shall submit three (3) sets of drawings to the City Engineer.
4. Prior to the approval of the drawings, any work done or materials ordered for the work involved shall be at the Contractor's risk.
5. One (1) set of the drawings will be returned to the Contractor approved or marked with corrections to be made. After approval has been given, the Contractor shall supply the City Engineer with two sets of the revised detail working drawings.
6. The City Engineer's approval of the Contractor's working drawings will not relieve the Contractor from responsibility for errors in dimensions or for incorrect fabrication processes, or from responsibility to complete the contract work.

TECHNICAL SPECIFICATIONS

As noted above, the Standard Technical Specifications for this project are the Standard Specifications for Road and Bridge Construction of the State of New Hampshire Department of Transportation and any Addenda shall apply. Additional Technical Specifications and Special Provisions for this project are attached.

SPECIAL PROVISION

ALL MANHOLES AND GRATES SHALL BE SUPPLIED IN ACCORDANCE WITH:
BUY AMERICA REQUIREMENTS

In accordance with the BUY AMERICA requirements of the Federal regulations, all manufacturing processes for steel and iron materials furnished for permanent incorporation into the work on this project shall occur in the United States. The only exception to this requirement is the production of pig iron and the processing, pelletizing and reduction of iron ore which may occur in another country. Other than these exceptions, all melting, rolling, extruding, machining, bending, grinding, drilling, coating, etc. must occur in the United States.

Products of steel include, but are not limited to, such products as structural steel, piles, reinforcing steel, structural plate, steel culverts, guardrail and steel supports for signs, signals and luminaires. Products of iron include, but are not limited to, such products as cast iron grates. Coatings include, but are not limited to, the applications of epoxy, galvanizing and paint. The coating material is not subject to this clause, only the application process.

A Certificate of Compliance, conforming to the requirements of Section 106.04, may be requested for steel and iron materials. The certificates, in addition to certifying that the materials comply with the specifications, shall also specifically certify that all manufacturing process of the materials, except as allowed by this Special Attention, occurred in the United States.

The requirements of said law and regulations do not prevent a minimal use of foreign steel and iron materials if the cost of such materials used does not exceed one-tenth of one percent (0.1%) of the total contract price or \$2,500.00, whichever is greater. The Contractor shall furnish the Engineer acceptable documentation of the quantity and value of any foreign steel and iron prior to incorporating such materials into the work.

SPECIAL PROVISION

AMENDMENT TO SECTION 202

Item 202.5A Fill and Abandon Drainage Structures

Description:

- 1.1 This work shall consist of partial excavation, filling and abandoning in-place existing drainage structures as designated on the plans.
- 1.2 This work shall also consist of the plugging pipes connected to the structures and other items as designated on the plans or ordered

Materials:

- 2.1 Backfill material within the drainage structure shall conform to Section 202.

Construction Requirements:

- 3.1 Existing drainage structures to be abandoned in place shall have the frame, cover, masonry and concrete removed to an elevation of three (3) feet below the proposed roadway surface or finished ground. Existing pipes shall be plugged by approved means. The structure shall be backfilled with gravel to within two feet of the proposed roadway surface or finished ground. Roadway base and pavement materials shall be installed as designated on the plans.
- 3.2 Structure parts removed shall be disposed of by the Contractor.

Method of Measurement:

- 4.1 Drainage structures filled and abandoned in-place will be measured by each.

Basis of Payment:

- 5.1 The accepted quantity of filled and abandoned structures will be paid at the contract unit price.
- 5.2 Gravel for backfill the structure will be subsidiary.
- 5.3 Plugging of pipes will be subsidiary.

END OF SECTION

SPECIAL PROVISION

AMENDMENT TO SECTION 306 – Reclaimed Stabilized Base

Item 306.5 Injected Emulsion Asphalt Stabilized Base (IASB)

Description:

1.1 This work shall consist of the preparation of an injected asphalt stabilized base course composed of a mixture of the existing bituminous concrete pavement, the existing base course material & asphalt emulsion. The manufacture of the IASB stabilized base course shall be done by in-place.

The first step in the process is the pulverizing and blending of the existing pavement and base materials as covered under item 306.210 & 306.212. The excavation of surplus material and the shaping and rough grading of the sub grade, will be accomplished and paid for under item 306.210 & 306.212.

Asphalt Injection of the base material (IASB) shall commence once the City has approved the finished base elevations accomplished under 306.210 & 306.212. The Contractor, after gaining approval from the Engineer to begin, will begin the process of blending the asphalt emulsion with the reclaimed stabilized base by injecting the asphalt emulsion into the material while reclaiming the stabilized base this time to a depth of 6”.

After the injection process has been completed the contractor shall perform final grading & compaction of the IASB that will ready the base for pavement.

Traffic will need to be maintained in at least one lane while the work is proceeding.

Materials:

2.1 The stabilized base shall conform to the following before asphalt injection has begun:

<u>Sieve designation</u>	<u>% passing by weight</u>
2”	100
1 ½”	70-100
¾”	55-90
#4	40-75
#40	10-30
#200	3-10

The base will be reclaimed while adding the emulsion to a depth of 6”.Emulsion used shall be SS01 with 60% solids. Emulsion shall be added at the rates indicated on the drawings.

Construction Requirements:

3.1 The contractor shall provide a machine that is capable of reclaiming a minimum of 6-12 inches of pavement surface material(s) and will perform at a productive and efficient manner throughout construction.

3.2 The moisture content of the stabilized base shall be approximately 7.3% prior to adding the emulsion.

3.3 In order to maintain the quality of the injected base material the liquid emulsion shall be added directly through the reclaimer thus insuring that the suspended base material shall receive a

uniform application of liquid asphalt. For proper application, the emulsion must be added simultaneously to the reclaimed material through a spray bar located over the rotor housing of the reclaimer, so as not to allow the emulsion to cool before the mixing process is complete. The injection and mixing shall be accomplished in a single operation by means of a machine specifically designed for in place mixing and shall be approved by the City. The machine shall have a positive displacement variable speed pump and control system capable of metering the additive. The machine shall be equipped with a foot per minute instrument that is integral to the variable speed pump controller to ensure the emulsion is added only when the machine is moving. The metering system shall include a totalizer, so that the amount of emulsion used during any given period can be read directly, and a gallons per minute gauge to indicate the simultaneous flow rate during the mixing operation.

- 3.4 After the injection phase, the Contractor will be required to replace the finish base elevations by performing final grading and compaction of the IASB product. The product will be graded to match the grades previously approved before the emulsion introduction. The contractor will be responsible for compacting the material to a minimum density of 135.2 pounds per cubic foot.

Method of Measurement:

- 4.1 The work will be measured to the nearest square yard.

Basis of Payment:

- 5.1 The accepted quantities will be paid for by the square yard.
5.2 **Asphalt emulsion (SS-01) shall be paid for under item 306.33.**

END OF SECTION

SPECIAL PROVISIONS

AMENDMENT TO SECTION 603 – Culverts and Storm Drains

Add to 4.1:

- 4.1.2** Measurement for 4” PVC, schedule 35, drain laterals, Item 603.8104 shall be made from the service tap to the end cap at or near the property line.

Add to 5.1

- 5.1.4** Contract unit price for 4” PVC, schedule 35, drain laterals, Item 603.8104 shall include all labor and materials for tapping the main line drain, tap, insert, PVC pipe, fittings, and bedding materials. Restoration of sidewalks, lawns and private property associated with the pipe installation is subsidiary.

SPECIAL PROVISION

AMENDMENT TO SECTION 603

Item 603.82222A HDPE Lining System

Description:

1.1 This item shall govern for furnishing, installing, grouting and providing all labor, material and equipment necessary to rehabilitate existing culvert pipe by slip lining an existing culvert pipe with high density polyethylene (HDPE) pipe. The pipes shall be sizes, types, design and dimensions shown on the plans and shall include all connections, joints and other appurtenances as required to complete the work. The slip lining process will require the contractor to completely grout the annular void between the host and insert pipe. The grouting process shall be considered subsidiary to this item.

Materials:

- 2.1 Culvert pipe renewal shall conform to the following: Snap-Tite® Culvert Liner as provided by ISCO Industries or approved equal.
 - A. Liner Material – High Density Polyethylene (HDPE) Pipe
 - 1. High density polyethylene pipe and fittings shall meet the requirements in the AASHTO M326-08 Specification.
 - 2. Raw Materials. The pipes and the fittings shall be manufactured from PE resin compounds, which conform to the requirements of cell class 345464C as defined and described in ASTM D 3350.
 - 3. HDPE Resin Specifications.

Property	Specifications	Unit	Nominal Value
Material Designation	PPI/ASTM		PE3408/PE3608
Cell Classification	ASTM D 3350		345464C
1. Density (3)	ASTM D 1505	Gm/cm3	0.955
2. Melt Index (4)	ASTM D 1238	gm/10 min.	0.11
3. Flexural Modulus (5)	ASTM D 790	psi	135,000
4. Tensile Strength (4)	ASTM D 638	psi	3,200
5. Slow Crack Growth	ASTM D 1693		
a. ESCR	ASTM F 1473	hours in 100% igepal	>5,000
b. PENT (6)	ASTM D 2837	hours	>100
6. HDB @ 73 deg. F (4)	ASTM D 1603	psi	1,600
7. UV Stabilizer (C)		%C	2.5%

- B. Designation of Type
 - 1. The HDPE pipes used for liners in gravity flow culverts shall be solid wall construction with mechanical end connectors, male and female.
 - 2. Individual liner section lengths shall be a minimum of 6-ft but shall not exceed 50 ft. unless pre-approved
- C. Pipe joints shall comply with ASTM D 3212 Standard Specification and gaskets must be installed on male ends per manufacturer’s recommendations for Joint tightness.
- D. Hydraulic flow characteristics for the liner pipe shall provide a Manning’s coefficient of n = 0.010 or less

- 2.2 Grouting Material – Contractor shall utilize material specifications for solidification of the annular void between host and the inserted liner with low density flowable fill or cellular grout. The cellular grout with a density between 40 and 80 lbs. per cubic foot may be used. Reduced density flowable fill grout with a density between 80 and 120 lbs. per cubic foot may be used.
- 2.3 End Treatment – The upstream/inlet end of the new liner pipe shall be fitted with a flow enhancement device to reduce inlet control effects. The device shall be HDPE material, same as the liner pipe, and have a male connector included for connection to the liner pipe. The opening at the end of the device shall be larger than the ID of the host pipe. Test data shall be provided upon request to show improvement of flow by at least 10%. The device shall be the Hydro-Bell or approved equal.

Construction Requirements:

- 3.1 The existing culvert pipe shall be cleaned by whatever means necessary to remove all obstructions which may be encountered that would prevent insertion of the pipe liner into the host pipe as approved by the engineer. This work will not be paid for directly, but shall be considered subsidiary to this item.
- 3.2 Liner Pipe – Liner pipe shall be inserted and installed in accordance with manufacturer’s recommendations. Slip liner pipe grade shall be maintained parallel to grade of host pipe.
- 3.3 Grouting – Upon completion or partial completion of the slip lining process grouting will be required to be placed in the annular void between the insertion pipe and the host pipe. Cellular grout with a density between 40 and 80 lbs. per cubic foot may be used. Reduced density flowable fill grout with a density between 80 and 120 lbs. per cubic foot may be used. A detailed plan on holding the liner pipe on the invert of the host pipe shall be submitted to the engineer for approval. The annular void shall be completely grout filled without deflecting the insertion pipe greater than 1.5 percent. The contractor shall provide end seals at the open points of each run of pipe to be grouted.

Penetration of the host pipe shall be permitted for host pipe constructed with Corrugated Metal Pipe (CMP) to facilitate grouting of the annular void. Multiple fills pipes will be required. The annular void shall be grouted solid by injecting grout from one end of the pipe run and allowing it to flow toward the other end. Venting of the annular void shall be performed to assure uniform filling of the void space during the grouting process.

An open ended, high point tap or equivalent vent must be provided and monitored at the bulkhead opposite to the point of grouting. Pressure on the annular void shall not exceed 2 PSI to avoid damage to the liner pipe. Regardless of the pressure, the contractor shall be solely responsible for any damage or distortion to the insertion pipe due to the grouting process.

- 3.4 Pipe Stockpiling and Handling – Pipe and fittings shall be stockpiled in a safe manner at each contractor staging area or pit location. The stockpiling shall be arranged to cause a minimum of interference to pedestrian and stored outside the safety clear zone of vehicular traffic. When handling slip lining pipe, the contractor shall take all precautions necessary to avoid damaging the pipe. Pipe with cuts greater than 10% of the wall thickness shall be rejected or replaced at the entire expense of the contractor.
- 3.5 Upon acceptance of the installation work and testing, the contractor shall clean-up and restore the project area affected by operations as approved by the engineer.

Method of Measurement:

- 4.1 This item shall be measured by the foot. Such measurement shall be made along the flowline of the liner pipe complete in place.

Basis of Payment:

- 5.1 The accepted quantity of lining system will be paid for at the contract unit price per linear foot. This price shall be full compensation for cleaning existing pipe; for furnishing, hauling, installing liner pipe and placing grout, all connections and for all labor, tools equipment, materials, clean-up and incidentals.

END OF SECTION

SPECIAL PROVISION

SECTION 611

Item 611.71008A.1 Replace Water Gate Valve Sleeves and Covers

Description:

- 1.1 This work shall consist of furnishing, installing all labor, material and equipment necessary to complete the replacement of water gate valve sleeves and covers where shown on the drawings, including excavation, backfill and height adjustment

Materials:

- 2.1 Water gate valve sleeves and cover shall conform to City of Portsmouth standard specifications.

Construction Requirements:

- 3.1 Water gate valve sleeves and covers shall be installed in conformance with City of Portsmouth standard specifications. The top of sleeves and covers shall be installed 1/4 inch below the final roadway surface. Adjust height as necessary to protect sleeves and covers from damage during construction.

Method of Measurement:

- 4.1 Each water gate valve sleeve with cover will be measured as a unit.

Basis of Payment:

- 5.1 Each water gate valve sleeve with cover will be paid at the contract price complete.
- 5.2 No payment will be made for water gate valve sleeves and covers replaced due to damage by the contractor.

END OF SECTION

SPECIAL PROVISION

SECTION 611 -- WATER MAIN INSTALLATION

Description

1.1 General Description of Work. The purpose of this work is to install water works as directed by the Owner. The CONTRACTOR is responsible for furnishing, installing the new water mains and appurtenances in accordance with the water main plans and as specified herein or as ordered by the OWNER.

1.1.1 The City of Portsmouth, hereinafter called OWNER will inspect, accept and/or reject work related to the water main herein specified.

1.1.2 The CONTRACTOR shall furnish all materials, labor, tools and equipment, and perform all operations, testing, and incidentals necessary for a complete operating water main installation, as outlined herein and on the plans and maintain water service at all times, except for authorized shutdowns approved by the OWNER.

1.2 Sequence/Maintenance of Service. The CONTRACTOR is responsible for maintaining continuous water service to affected customers . A service interruption may last for a maximum of six (6) hours. The CONTRACTOR must obtain written approval from the OWNER prior to interruption of water service to affected water users. The OWNER requires that a written notice be sent to all water customers 24 hours in advance of the scheduled shutdown. The OWNER will provide written notification, but it is the CONTRACTOR's responsibility to establish and address needs and coordinate with the OWNER.

1.3 Reference Drawings and Information. Neither the Engineer nor the OWNER guarantees the accuracy or completeness of existing conditions shown on the project construction plans for this water main work. Sufficient investigations shall be made by the CONTRACTOR so that the CONTRACTOR is knowledgeable of existing conditions prior to tendering a bid.

Materials

2.1 The CONTRACTOR shall provide the following material for the installation of the water mains, services, and appurtenances.

2.1.1 Common Backfill. Common backfill shall be granular material, consisting of hard sand and gravel so graded that, of the material passing the No. 4 (4.75 mm) sieve, not more than 35 percent shall pass the No. 200 (0.075 mm) sieve. Common backfill shall be free of organic matter, trash, roots or other deleterious material and shall contain no stone measuring greater in any dimension than two-thirds of the loose lift thickness or 8 inches (200 mm), whichever is smaller. Common backfill shall be capable of forming a firm, stable base when spread and compacted in accordance with this specification. In addition, common backfill shall be non-plastic (plasticity index zero, defined as liquid limit minus plastic limit). Common backfill may be obtained from either on-site excavations or off-site sources. Any materials excavated from the trench not conforming to this specification shall be disposed of as specified and replaced with approved material, as required, at no additional cost to the OWNER.

2.1.2 Sand Bedding and Blanket. Sand bedding and blanket material required for installation of the water mains, services, and appurtenances shall meet the following gradation requirements, 100% passing the 1/2" (12.5 mm) sieve and, of the material passing the #4 (4.75 mm) sieve, no more than 12% shall pass the #200 (0.075 mm) sieve.

2.1.3 Gravel Fill. Gravel fill shall consist of hard, durable gravel free from trash, organic matter, clay, surface coatings, and other deleterious materials. Gravel fill shall have a maximum stone size of two-thirds of the loose lift thickness or 6 inches, whichever is smaller. That portion passing the 4-inch (100 mm) sieve shall meet the following gradation requirements, as determined by ASTM C 136 and ASTM C 117:

<u>Sieve Size</u>	<u>Percent Passing</u>
6 inch (150 mm)	100
No. 4 (4.75 mm)	25-70
No. 200 (0.075 mm) *	0-12

* Based on fraction passing the No. 4 (4.75 mm) sieve.

2.2 Water Mains and Appurtenances. All products and materials shall conform to the latest appropriate section of American Water Work Association (AWWA) and American National Standards Institute (ANSI) Standards and as otherwise specified hereinafter.

2.2.1 Ductile Iron Water Main Pipe:

2.2.1.1 Class 52 push-on type ductile iron water pipe - Water pipe shall be ductile iron complying with ANSI A21.51 and AWWA C 151, Class 52. Pipe shall be double cement-lined 1/8" (3 mm) thick and seal coated inside and out in accordance with ANSI A21.4 and AWWA C 104. Joints shall be rubber gasket, push-on type in accordance with ANSI A21.11 and AWWA C 111. Use only lubricant that is specified by the pipe manufacturer.

2.2.2 Ductile Iron Fittings shall be mechanical joint type with a 350 psi (2.40 Mpa) pressure rating in accordance with ANSI A21.10 and AWWA C 110. Fittings shall be double cement-lining 1/8" (3 mm) thick and seal coated inside and out in accordance with ANSI A21.4 and AWWA C 104. Fitting shall be Tyler or approved equal. See paragraph 2.3 for thrust restraint. Fittings shall conform to City of Portsmouth standards specifications.

2.2.3 Mechanical Joint Restraining Devices shall be used with all mechanical joints. Glands shall be manufactured of ductile iron conforming to ASTM A 536. The ring shall be grade 65-45-12 ductile iron in accordance with ASTM A 536. M.J. restraining devices shall be "Grip-Ring" as manufactured by Romec or approved equal. Restraining devices shall conform to City of Portsmouth standards specifications.

2.2.4 Couplings shall be mechanical joint ductile iron solid sleeve type meeting the requirements stated above for ductile iron fittings. Couplings shall conform to City of Portsmouth standards specifications.

2.2.5 Gate Valves shall be in accordance with AWWA C 509. Gate valves shall be resilient-wedge type with a non-rising bronze stem, 2-inch (50 mm) AWWA operating nut and fusion bonded epoxy coated both inside and out. Gate valves shall have mechanical joints as specified above. The valves shall conform to City of Portsmouth Standards.

2.2.6 Valve Boxes shall be heavy pattern cast iron, two piece, slip type, 5-inch (125 mm) shaft, with extension pieces sufficient to allow proper cover. The upper section of the box shall be top-flange type to prevent settlement. The lower section shall be belled type to enclose the operating nut of the valve. The cover shall be cast iron with the word "WATER" plainly cast thereon. Valve boxes shall conform to City of Portsmouth standards specifications

Construction Requirements

3.1 General. The CONTRACTOR shall furnish all water main pipe and appurtenances, labor, tools and equipment, granular material, and concrete; and perform all operations and incidentals necessary for complete excavation, installation, backfill, and testing as outlined herein and on the plans; and maintain service at all times.

3.1.1 Consequential damages resulting from the CONTRACTOR not locating the facilities as shown on the plan are the responsibility of the CONTRACTOR.

3.1.2 The CONTRACTOR, at the completion of each part of the work, shall furnish the as-built locations of the water main and appurtenances referenced to the Owner. The as-built locations shall be to an accuracy of plus or minus 0.10 feet (0.03 m) in plan and elevation.

3.1.3 Any deviations from the locations shown on the plans require the OWNER's approval. Any discrepancies with locations shown on the plans will be brought to the ENGINEER's attention and subsequently resolved between the OWNER, the ENGINEER and the CONTRACTOR.

3.2 Trench Excavation:

3.2.1 General. Excavation, dewatering, sheeting, and bracing shall be carried out in such a manner as to eliminate any possibility of undermining or disturbing the foundations of any existing structure, utilities or any work previously completed under this contract.

3.2.2 All lawns, paved surfaces, roadways, and structures which have been damaged or disturbed by the CONTRACTOR's operations outside of the project work areas shall be restored to a condition at least equal to that in which they were found immediately prior to the beginning of operations or as specified on the drawings.

3.2.3 The CONTRACTOR shall provide trench shoring and dewatering, if necessary, to provide a stable and dry trench at all times. The pipe trench must be dewatered to 1 foot 6 inches (0.5 m) below the invert of the new water main pipe. Trench width shall be 2 feet (0.6 m) plus the diameter of the pipe. Cover on pipe shall be a minimum of 5 feet 6 inches (1.7 m). Trench depth shall extend to 6 inches (150 mm) below the invert of the main.

3.2.4 As the excavation approaches pipes, conduits, or other underground structures, digging by conventional trenching machine methods shall be discontinued. Only manual methods of excavating shall be employed around buried utilities.

3.2.5 Prior to doing any work outside the right-of-way line on private property, the CONTRACTOR shall advise the property owner of the work and/or disturbance of the person's property that will be done, and the restoration thereof.

3.2.6 The CONTRACTOR shall maintain utilities, utility services and sewers encountered in the excavation, and repair or replace them to their owner's satisfaction and be responsible for consequential damages thereof.

3.2.7 The CONTRACTOR shall not be compensated for any additional work involved if a utility line, sewer or underground structure is in the trench line above or below the water main, except for common structure excavation if required.

3.2.8 Excavations shall be kept dry until the pipes and appurtenances to be built therein have been completed to such extent that they will not be damaged.

3.2.9 Provide, operate and maintain any dewatering system required to lower and control groundwater levels and groundwater hydrostatic pressure during the construction of the Work as required by this Section and the Contract Documents. The CONTRACTOR shall assume full responsibility and expense for the adequacy of the

dewatering system with no additional time for performance. Maintain continual and complete effectiveness of the dewatering system operation to provide a firm, stable, excavated subgrade at all times as required for proper performance of the Work.

3.3.10 Over-Excavation. If, in the opinion of the OWNER, the material at or below the depth of the trench is unsuitable for foundation, it shall be removed to such depths as directed by the OWNER and shall be replaced with Granular Backfill (sand), conforming to 209.2.1.1 and placed as provided in 209.3.

3.3.11 If the bottom of the excavation is deeper than the depth shown on the drawings, by error of the CONTRACTOR, the condition shall be corrected by refilling to the proper grade with compacted Granular Backfill (sand), conforming to 209.2.1.1. All costs shall be borne by the CONTRACTOR.

3.4 Trench Backfill:

3.4.1 General. After the pipe has been placed and has been inspected by the OWNER, backfilling shall be performed without delay.

3.4.2 Bedding. Bedding shall meet the requirements of 2.1.2 and shall extend the full width of the trench from 6 inches (150 mm) below the pipe, to the springline of the pipe. Compact the bedding material to 95% modified proctor (in accordance with ASTM D 157 and ASTM D 2922) prior to the placement of the blanket material.

3.4.3 Blanket. Blanket material shall meet the requirements of 2.1.2 and shall be placed from the springline of the pipe to a minimum of 12 inches (300 mm) above the pipe crown. The trench shall be backfilled by placing and compacting the sand in lifts of 6 inches (150 mm) or less. The blanket shall be carried up evenly on both sides of the pipe, so as not to disturb the pipe. Compact the blanket material to 95% modified proctor (in accordance with ASTM D 157 and ASTM D 2922) with approved hand-operated devices.

3.4.4 Backfill. Backfill material from 12 inches (300 mm) above the pipe to the underside of the pavement select material profile, or to the underside of loam and grassed areas, shall be backfilled with common backfill described herein and as approved by the OWNER.

3.4.4.1 Backfill shall be placed and compacted in layers of 6 inches (150 mm) or less. Compact the backfill material to 95% modified proctor (in accordance with ASTM D 157 and ASTM D 2922). Compaction shall be by hand-operated compactors or other approved method.

3.5 Pipe Installation:

3.5.1 There shall be no physical connection between a public or private potable water supply system and a sewer, or sewer appurtenance which would permit the passage of any sewage or polluted water into the potable supply. No water pipe shall pass through or come in contact with any part of a sewer manhole. Locate the new water main with a 10-foot (3 m) horizontal separation between it and the existing or proposed sewer main.

3.5.2 Piping in place shall be subject to inspection and approval of the OWNER.

3.5.3 Pipe and accessories shall be kept in a sound, undamaged condition. They shall, at all times, be handled with care and shall not be dropped, dumped or bumped against any other object. Damaged material shall be replaced at no cost to NHDOT or OWNER, at any time during the construction that the damage is identified or occurs.

3.5.4 Pipe shall be stored off the ground.

3.5.5 Buried Pipe Installation. Installation of all buried piping shall be in accordance with AWWA Standard for installation of ductile iron water mains and their appurtenances, AWWA C 600 and the City of Portsmouth Standard Specifications.

3.5.6 Pipe and fittings shall be thoroughly cleaned before they are placed. All lumps, blisters, and excess coal tar coating shall be removed from the spigot and from the interior of the bell, and these surfaces shall be wire-brushed, wiped clean and dry, and be free from oil and grease before the pipe is laid.

3.5.7 The interior of pipe, fittings and valves shall be kept clean and free of foreign material or soils at all times during storage and installation, or the material may be rejected by the OWNER.

3.5.8 All pipes and appurtenances laid in open trench excavation shall be bedded and uniformly supported over their full-length on bedding of the types specified herein and shown on the drawings. All work shall be performed in a dry trench.

3.5.9 At all times when pipe laying is not actually in progress, the open ends of pipe in the trench shall be closed by temporary water-tight plugs or by other approved means. If water is in the trench when work is resumed, the plug shall not be removed until all danger of water entering the pipe has passed.

3.5.10 Pipe and fittings shall be laid accurately to the line and grades. Care shall be taken to provide a firm bearing for the pipe along its entire length. Pipes shall not be laid in water, nor shall water be allowed to flow through them.

3.5.11 Wherever it is necessary to deflect pipe from a straight line, either in the vertical or horizontal plane, the amount of deflection allowed shall not exceed that required for making a satisfactory joint and shall be subject to the approval of the OWNER.

3.5.12 The CONTRACTOR shall furnish and install all supports necessary to hold the piping and appurtenances in a firm, substantial manner at the lines and grades indicated on the drawings or as directed by the OWNER.

3.6 Valve Installation. Valves and boxes shall be set with the stem vertical and box vertically centered over operating nut. Valves shall be set on a firm foundation and supported by tamping selected excavated material under and at the sides of the valve. The gate box shall be supported during backfilling and maintained in vertical alignment with the top flush with finish grade.

3.7 Inspection. Each section of installed water main will be visually inspected by the OWNER. The pipe shall be true to both line and grade, shall contain no broken pipe, shall show no leaks, and shall contain no debris or other deposits of which shall in any way reduce the full cross-sectional area of the pipe.

3.7.1 Any section of water pipe which does not comply with these inspection criteria, as determined by the OWNER, shall be promptly corrected, replaced or repaired by the CONTRACTOR at no cost to the OWNER. Such methods as are employed for the correction shall be approved by the OWNER.

3.8 Pressure and Leakage Testing. The CONTRACTOR shall furnish all necessary equipment and labor for, and perform, pressure testing and leakage tests on the pipeline in accordance with AWWA C 600 Specifications and City of Portsmouth Standard Specifications.

3.9 Disinfection. Before being placed in service, all new pipelines shall be chlorinated by the CONTRACTOR in accordance with the requirements of AWWA C 651. The procedure shall be discussed with the OWNER prior to proceeding with the work.

3.9.1 The location of the chlorination and sampling points will be determined by the OWNER in the field. Taps for chlorination and sampling shall be uncovered and backfilled by the CONTRACTOR, as required. The general procedure for chlorination shall be first to flush all dirty or discolored water from the lines, and then introduce chlorine in approved dosages through a tap at one end, while water is being withdrawn at the other end of the line. The chlorine solution shall remain in the pipeline for a minimum of 24 hours.

3.9.2 Following the chlorination period, all treated water shall be flushed from the lines at their extremities, and replaced with water from the distribution system. Bacteriological sampling and analysis of the replacement water shall then be made after the replacement water has occupied the chlorinated pipeline for a minimum of 16 hours. Bacteriological analysis shall be completed by a state-certified laboratory in full accordance with AWWA C 651. The CONTRACTOR will be required to rechlorinate at no cost to the OWNER if the test fails to achieve satisfactory results. The line shall not be placed in service until the requirements of the NHDES, Water Supply Engineering Bureau are met.

3.9.3 Special disinfection procedures, such as soaking or swabbing approved by the OWNER, shall be used in connections to existing mains.

Method of Measurement

4.1 Pipe of the kind, type and size specified, including fittings and bends, will be measured by the linear foot to the nearest 0.1 foot of furnished and installed and operational water main. Measurements will be taken along the centerline of the pipe, end to end, with no deductions for any valves and fittings.

4.2 Valves will be measured by the each for the number of units furnished and installed.

Basis of Payment

5.1 The accepted quantity of ductile iron pipe, bends and fittings will be paid for at the contract unit price per linear foot of the kind, type, and size specified complete in place, with the following stipulations:

5.1.2 All rock structure excavation and any exploratory excavation shall be paid as provided in 206.

5.2 The accepted quantity of valves will be paid for at the contract unit price of each of the kind, type, and size specified complete in place.

5.3 Excavation, bedding, sheeting and shoring, dewatering, concrete thrust blocks, thrust restraining systems, restoration of existing service connections, bends, fittings, MJ glands, valve boxes, pressure testing, disinfection, flushing, maintaining water service, abandonment of existing water pipe, couplings, connections to existing water mains, backfill, temporary trench pavement repair, removal and decommissioning of temporary water system, restoration of property, utilities, loam and seed, as-built drawings, and any other work necessary or required for a complete operational water main relocation shall be subsidiary to the pipe and valves.

Pay items and units

611.05206	6" CEMENT LINED DUCTILE IRON WATER PIPE, CL. 52	LF
611.05208	8" CEMENT LINED DUCTILE IRON WATER PIPE, CL 52	LF
611.71006	6" GATE VALVE	EA
611.71008	8" GATE VALVE	EA

SPECIAL PROVISIONS

AMENDMENT TO SECTION 615 – Traffic Signs and Bollards

Amend to 4.1 to read:

- 4.1.** Each traffic sign shall be measured as a unit.

Amend to 5.1 to read:

- 5.1** Contract unit price for traffic signs shall include all labor and materials for furnishing and installing sign and sign posts where shown on the drawings.

Add to Method of Measurement:

- 4.3** Each bollard shall be measured as a unit.

Add to Basis of Payment:

- 5.3** Contract unit price for traffic signs shall include all labor and materials for furnishing and installing bollards where shown on the drawings.

SPECIAL PROVISIONS

AMENDMENT TO SECTION 618.6 – Uniformed Officers

AMENDMENT TO SECTION 618.7 – Traffic Control Flaggers

AMENDMENT TO SECTION 619.1 – Maintenance of Traffic

The construction work zone(s) designated for this contract shall extend approximately 100 feet, beyond the work limits as described below and/or shown on the project layout map

618.6 UNIFORMED OFFICERS

Whenever the contractor is working in Lafayette Road or Ocean Road Police officers will be hired to conduct traffic details. Traffic details on the other streets will be under the discretion of the Engineer.

618.6 TRAFFIC CONTROL FLAGGERS

Whenever the contractor is working in intersections or roads that cannot be closed to thru traffic, flaggers may be hired under the discretion of the Engineer.

619.1 MAINTENANCE OF TRAFFIC

All work shall be prosecuted so pedestrian and traffic flow can be maintained whenever possible. No travel lane or sidewalk closures will be allowed without prior approval from the Engineer.

The Contractor will develop a construction staging plan for this project. The plan shall be submitted to be approved by the Engineer.

Access shall be maintained to the abutting driveways at all times during construction.

Pedestrian walkways etc. may be ordered by the Engineer if the need arises.

Dust and traffic control may be ordered by the Engineer.

All costs associated with the application of these measures or other measures directed by the Engineer shall be paid for under this item and will not be further chargeable to the project, except as stipulated and specified under Contract Items.

Method of Measurement:

The uniformed officer work shall be measured by the exact cost billed to the contractor based on the man-hours worked.

The flagger work shall be measured by the exact cost billed to the contractor based on the man-hours worked.

The traffic control items shall be measured on a unit basis under Maintenance of Traffic.

Basis of Payment:

This work shall be paid for from the Contract Price Allowance as listed under Items 618.6 & 618.7 in the Bid Proposal Form using the actual man-hours worked in the field on the project.

This work shall be paid for from the Contract Unit Price as listed under Item 619.1 (Maintenance of Traffic). This unit price shall include all equipment, materials and labor thereto.

END OF SECTION

SPECIAL PROVISION

**SECTION 641A
LOAM & SEED**

641.01 Scope of Work: The work shall consist of furnishing and installing loam & seed in all areas indicated on the plan or as ordered by the Engineer, including necessary excavation for placing loam.

641.02 Methods of Construction:

641.02a The work shall conform to all applicable materials and subsections of the State of New Hampshire Standard Specifications for Road and Bridge Construction; including sections 641, 642, 643 and 644. Lawns and grass strips shall be restored to their original condition as existing prior to roadway construction.

641.02b The minimum and maximum PH value shall be from 5.5 to 7.6. Limestone shall be used as ordered to raise the PH of the soil as determined by the Engineer.

641.02c Fertilizer shall be used as ordered, a standard commercial grade fertilizer conforming to all State and Federal regulations and to the Standards of the Association of Official Agricultural Chemists.

641.02d Loam shall be spread upon previously prepared subgrade surface to the depth of 4" or as specified by the Engineer and shall be raked carefully to remove all questionable materials. Loam shall be spread in such a manner as to establish a loose, friable seedbed. In order to maintain a consistent grade, loam placed adjacent to lawns or where directed shall be compacted with a roller weighing approximately 100 pounds per foot of roller width. All depressions exposed during the rolling procedure shall be filled with additional loam, and rolled.

641.02e Loam shall consist of loose friable topsoil with no admixture of refuse or material toxic to plant growth. Loam shall be free from stones, lumps, stumps or similar objects larger than 1" in greater diameter, subsoil, roots or weeds.

641.02f Grass seed shall be standard Park Seed Type 15. Hay mulch shall be applied at the same time as the seed; or later, or both as directed by the Engineer.

641.02g Contractor shall be responsible for protecting and caring for all seeded areas until final acceptance of the work. Contractor shall repair at his own expense any damage to seeded areas caused by pedestrian or vehicular traffic.

641.03 Method of Measurement:

This work shall be measured by the square yard of lawn area restored as specified herein.

Loam and seed for the Suzanne Drive and Mariette Drive outfalls is included in Items 645A and 645B and shall not be measured for payment under Item #641A.

641.04 Basis of Payment:

This work shall be paid for at the Contract Unit Price as listed in Item # 641A in the Bid Specification.

This price shall include all equipment, material and labor incidental thereto.

END OF SECTION

SPECIAL PROVISION

AMENDMENT TO SECTION 645

Items 645A and 645B Outfall Reconstruction

Description:

1.1 This work shall consist of furnishing, installing all labor, material and equipment necessary to complete the outfall reconstructions shown on the drawings, including erosion control measures, excavation, grading, loam and seed, mulch riprap, geotextiles, erosion control matting and restoration.

1.2 The work shall also include plugging, removing and disposal of existing drain pipe where encountered within the work area.

Materials:

2.1 Organic material excavated from the work area shall be stockpiled and reused within the limits of the outfall. Excess material shall be removed from the site and disposed at no additional cost. Do not place any materials or debris in the adjacent wetlands.

2.2 Field stone, quarry stone, or rock fragments used for riprap shall be sound, of approved quality, and free from structural defects. These stones shall have approximate rectangular shapes with one reasonably flat side for the top surface and shall be the size listed on the drawings.

2.3 Permanent turf reinforcement shall conform to the following: SC250 Vmax Permanent Composite Turf Reinforcement Mat manufactured by North American Green, or approved equal.

Construction Requirements:

3.1 Contactor shall employ all necessary erosion control method, whether shown on the drawings or not, to prevent siltation beyond the work limits.

3.2 The work shall conform to the requirements of Wetland Permit No. 2011-00510 issued by the New Hampshire Department of Environmental Services Wetland Bureau

Method of Measurement:

4.1 Each outfall reconstruction will be will be measured as a unit.

Basis of Payment:

5.1 Each outfall reconstruction will be paid at the contract lump sum price complete with the following stipulation(s):

5.1.1 Clearing and grubbing for each outfall will be paid under Item 201.1

5.1.2 Drain pipe and flared end sections will be paid under their respective Items.

5.1.3 Common Winter Berry plants at the Suzanne Drive Outfall will be paid for under Item 655.8.

5.2 Loam and seed for the outfall reconstruction is subsidiary to Items 645A and 645B.

5.3 Filling, regrading and restoration of parking lot area at Suzanne Drive Outfall is subsidiary to Item 645A.

END OF SECTION

SPECIAL PROVISION

SECTION 1060

Item 1060 Sewer Lateral Repairs Identified on Drawings

Description:

- 1.1 This work shall consist of furnishing, installing all labor, material and equipment necessary to complete the repair of sewer laterals where shown on the drawings, including excavation and backfill.
- 1.2 This work does not include repair of sewer laterals damaged by the contractor during the project.

Materials:

- 2.1 Sewer lateral repair materials shall conform to City of Portsmouth standard specifications for sewer works.

Construction Requirements:

- 3.1 Sewer lateral repairs shall be installed in conformance with City of Portsmouth standard specifications.

Method of Measurement:

- 4.1 Each sewer lateral repair will be measured as a unit.

Basis of Payment:

- 5.1 Each sewer lateral repair will be paid at the contract price complete.
- 5.3 No payment will be made for sewer laterals replaced due to damage by the contractor.