

CONTRACT DOCUMENTS AND SPECIFICATIONS

for

High-Hanover Sidewalk Restoration

Bid Proposal #04-17

John P. Bohenko, City Manager

City of Portsmouth, New Hampshire

Prepared by:

City of Portsmouth
Engineering Division
Public Works Department

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City of Portsmouth
Portsmouth, New Hampshire
Department of Public Works

High-Hanover Sidewalk Restoration

INVITATION TO BID

Sealed bid proposals, **plainly marked, High-Hanover Sidewalk Restoration**, Bid Proposal #04-17 **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 **2:30 p.m. on August 25, 2016**; at which time all bids will be publicly opened and read aloud. **A mandatory pre-bid meeting will be held at the Department of Public Works Facility located at 680 Peverly Hill Road, Portsmouth, NH on Thursday, August 18, 2016 at 11:00 a.m.**

This project consists of the restoration of sidewalks and paving in the High and Hanover Streets intersection area of downtown Portsmouth following the burial of overhead utilities under the sidewalks which took place this spring. Specifically, the work includes installation and resetting of some granite curbing, brick sidewalk (re)construction, a small concrete retaining wall and railing, asphalt pavement, drainage pipe & structures, lighting and various other amenities.

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 different businesses and residences at all times.**

The General Contractor for this project must be Pre-qualified with NHDOT for Road Construction. Any Bid submitted by a Bidder not pre-qualified will be rejected as non-conforming. Any subcontractor working on the project will be pre-approved by the City prior to the start of construction. All electrical work on this project, including conduit, will be installed under the supervision of a New Hampshire Licensed Electrician. An electrical permit is required prior to any project work being completed.

Specifications may be obtained from the City's web site: <http://www.cityofportsmouth.com/finance/purchasing.htm>, by contacting the Finance/Purchasing Department on the third floor at the above address, or by calling the Purchasing Coordinator at 603-610-7227. Addenda to this bid document, if any, including written answers to questions, will be posted 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 vendors. Questions may be addressed to the Purchasing Coordinator.

Work may begin on or after September 12, 2016. Final Completion of the project must be complete by December 23, 2016. Liquidated damages shall be assessed at \$100.00 per day. Hours of work will be Monday through Friday 7AM to 5 PM. Work will not be allowed on weekends unless the City grants permission. Work will not be allowed on Columbus Day. 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.

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 drawn upon a bank within the State of New Hampshire 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.

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.

The bidders must submit a statement of bidder's qualifications, if requested, subsequent to bid opening but prior to award.

Addenda to this proposal, if any, including written answers to questions, will be posted 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 proposal 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 Paving;
- 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

a) After the proposals are opened and read, they will be compared on the basis of the total price for all sections of work to be charged to perform the 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.

b) 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.

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.

The award shall not be considered official until such time that a Purchase Order, fully executed contract or an award letter has been issued by the Finance Director. No presumption of award shall be made by the bidder until such documents are in hand. Verbal notification of award is not considered official. Any action by the bidder to assume otherwise is done so at his/her own risk and the City will not be held liable for any expense incurred by a bidder that has not received an official award.

Determination of the lowest bidder will be based on the total price for the work described on the bid proposal form. Due to fluctuating prices and possible budget limitations, the City reserves the right to delete portions of the work prior to contract execution.

3. Cancellation of Award

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.

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 Bond

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

- 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 file an acceptable bond 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 work may be re-advertised as the Owner may determine in its sole discretion.

PROPOSAL FORM

High-Hanover Sidewalk Restoration

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 therefor the following item prices; and
6. 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.

SEE SPREADSHEET IN BACK OF DOCUMENT FOR SPECIFIC LOCATION OF ITEMS

ITEM #	EST. QTY.	UNITS	ITEM DESCRIPTION	UNIT PRICE IN FIGURES	ITEM TOTAL IN FIGURES
201.21	1	Ea.	Removal of Small Trees	_____	_____
202.5	2	Ea.	Remove Catch Basins	_____	_____
203.3	10,300	SF	Sidewalk & Pavement Excavation & Removal	_____	_____
304.3	300	CY	Crushed Gravel	_____	_____
403.11 W	380	Ton	1.5" Machine Pave (50GYR) 1/2" Wearing	_____	_____
403.12C	20	Ton	Pavement for Under Paver Crosswalk	_____	_____
403.12D	30	Ton	Hand Method Paving for Driveways	_____	_____
403.12S	100	Ton	Pavement for Under Brick Sidewalk	_____	_____
417	4,400	SY	Cold Planing Bituminous Surfaces (1.5")	_____	_____
520.1W	100	SF	Reinforced Concrete Retaining Wall, Including Earthwork	_____	_____
520.2	25	CY	Class B Concrete Backfill for Curb	_____	_____
570	1	LS	Repair Brick and Mortar Step w/ Granite Tread	_____	_____
603.81012	15	LF	12" PVC Drain Pipe Installed	_____	_____
603.82204	60	LF	4" PE Type S Drain Pipe Installed	_____	_____
604.0007	3	Ea.	CB/DI Polyethylene Liner	_____	_____
604.12	1	Ea.	New Type B Catch Basin (w/Frame & Grate)	_____	_____
604.12A	1	Ea.	Replace Top Structure of Catch Basin (w/F&G)	_____	_____
604.22	1	Ea.	New Type B Drop Inlet (w/ Frame & Grate)	_____	_____
604.45	1*	Ea.	Adjust CB or MH Covers w/ Brick and Mortar (Token)	_____	_____
604.45A	1*	Ea.	Adjust CB or MH Cover w/ Riser Ring (Token)	_____	_____
604.6	1	EA	Replace Catch Basin Frame & Grate w/ Manhole Frame & Cover	_____	_____

PROPOSAL FORM (continued)

606.6	65	LF	Handrail with banister	_____	_____
607.8	1	LS	Reinstall Ornamental Steel Fence	_____	_____
608.26	220	SF	6" Thick Concrete Sidewalk Tip-Downs	_____	_____
608.5B	2,100	SF	Brick Sidewalk – Running Bond	_____	_____
608.5H	7,400	SF	Brick Sidewalk – Herringbone Bond	_____	_____
608.5R	1,500	SF	Brick Sidewalk – Spot Repairs	_____	_____
608.5C	510	SF	Crosswalk Pavers	_____	_____
608.52	7	Ea.	Handicapped Truncated Dome Panel	_____	_____
609.01	110	LF	6" Vertical Granite Curbing	_____	_____
609.01C	120	LF	6"x12" Flush Vertical Granite Curbing w/1/2" Chamfer	_____	_____
609.02	70	LF	6" Curved Vertical Granite Curbing	_____	_____
609.5	910	LF	Reset Vertical Granite Curbing	_____	_____
611.90001A	1*	Ea.	Replace Broken Gate Valve Sleeves (Token)	_____	_____
611.90001B	1*	Ea.	Adjust Gate Valve Sleeve w/Riser Rings (Token)	_____	_____
614.511	4	Ea.	14" Concrete Pull Box w/ Cast Iron Cover Labeled 'ELECTRIC'	_____	_____
614.72114	470	LF	2" Schedule 40 Conduit, Installed	_____	_____
615.02	4	Ea.	Reinstall Traffic Sign onto New Galvanized U-Channel Post	_____	_____
615.4	2	Ea.	Reinstall Parking Meter	_____	_____
616	1	LS	Electrical Work for Lighting	_____	_____
618.6	400	HR	Portsmouth Police (Traffic Control)	<u>\$54.00</u>	<u>\$21,600.00</u>
619	1	U	Maintenance of Traffic	_____	_____
625	15	Ea.	Light Pole Bases	_____	_____
625A	5	Ea.	Remove Old Light Pole & Base	_____	_____
625.52A	5	Ea.	Light Type A - Period Light w/ Spring City Pole and Newstamp Lantern	_____	_____

PROPOSAL FORM (continued)

625.52AR	4	Ea.	Reinstall Existing Light Type A	_____	_____
625.52B	6	Ea.	Light Type B – Crosswalk Light w/ Millerbend Pole w/ Base Cover, Millerbend Arm & King Luminaire	_____	_____
626B	1	Ea.	Reset Electronic Parking Meter & Foundation	_____	_____
632.0104	1,450	LF	4" Painted Striping w/ Layout	_____	_____
632.02	1	Ea.	Painted Handicap Symbol	_____	_____
632.3112	500	LF	12" Thermoplastic Striping (Stop Bars, X-Walks)	_____	_____
632.32	2	Ea.	Thermoplastic Turn Arrows	_____	_____
641	50	CY	Loam and Seed	_____	_____
661.1	4	Ea.	3'x5' Tree Grates w/ Tree Guards	_____	_____
692	1	U	Mobilization	_____	_____
1010.2	1	\$	Asphalt Cement Adjustment	<u>\$2,000.00</u>	<u>\$2,000.00</u>

*Token item, quantity unknown.

TOTAL FOR PROJECT AND BASIS OF AWARD

Total in Figures \$ _____

In Words \$ _____

The City reserves the right to delete any portion of the work/reduce the quantities of work represented in this bid proposal form.

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: _____

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.

We certify that the Company is currently pre-qualified with the State of New Hampshire for Paving Work.

By: _____
Signature

In order to follow the City's sustainability practices, future bid invitations/specifications may be sent electronically. Please provide an email address as to where I could email future bid invitations/specifications of this type. Thank you in advance for your cooperation.

Email

Address: _____

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__.

L.S.
(Name of Principal)

(SEAL)

BY _____

(Name of Surety)

BY _____

STATEMENT OF BIDDER'S QUALIFICATIONS

Note: This is a required submittal, fill out completely.

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 will use for the following (unless this work is to be done by your own organization, if so please state).
 - a. Crack sealing and Joint adhesive _____
 - b. Adjusting Structures _____
 - c. Pavement Markings _____
 - d. Curbing _____
 - e. Traffic Signals _____
 - f. Drainage Structures _____
 (The City reserves the right to approve subcontractors for this project)

- 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 Statement 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**High-Hanover Sidewalk Restoration**

THIS AGREEMENT made as of the _____ in the year **2016**, 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 pavement repair of several roads in Portsmouth (roads to be designated by owner). 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.

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

ARTICLE III - CONTRACT TIME - The work shall commence in accordance with the Notice to Proceed. Hours of work will be Monday through Friday 7AM to 5 PM. Work will not be allowed on weekends unless the City grants permission. Work will not be allowed on Columbus Day.

All Work shall be completed prior to December 23, 2016.

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

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 certain amounts in the percentage of the Contract Price and for the time specified as provided 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 **one hundred dollars (\$100)** 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
- 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 shall defend, indemnify and hold harmless Owner and its officials and employees from and against all suits, claims, judgments, awards, losses, costs or expenses (including without limitation attorneys' fees) to the extent arising out of or relating to Contractor's alleged negligence or breach of its obligations or warranties under this Contract. Contractor shall 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 shall secure at its own expense, all permits and consents required by law as necessary to perform the work and shall 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.

CONTRACT AGREEMENT (continued)

- 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:

High-Hanover Sidewalk Restoration

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 fifteen (15) 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:

PROJECT: **High-Hanover Sidewalk Restoration**

TO:

YOU ARE HEREBY NOTIFIED TO COMMENCE WORK IN ACCORDANCE
WITH THE AGREEMENT DATED,

ALL WORK SHALL BE COMPLETED PRIOR TO December 23, 2016.

CITY OF PORTSMOUTH, N.H.

BY: Peter H. Rice

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 #
Owner: CITY OF PORTSMOUTH, N.H

Date of Issuance:

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:
December 23, 2016

Contract Price prior to this
Change Order:
\$

Contract Time prior to this
Change Order:

Net Increase of
this Change Order:
\$

Net Increase or Decrease of
this Change Order:

Contract Price with all
approved Change Orders:
\$

Contract Time with all
approved Change Orders:

RECOMMENDED:

APPROVED:

APPROVED:

by _____ by _____

by _____ by _____

PW Director

City Finance

City Manager

Contractor

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: **High-Hanover Sidewalk Restoration**

(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:

High-Hanover Sidewalk Restoration

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. Technical Specifications will govern General Requirements.
2. Special Provisions will govern Technical Specifications.
3. Plans will govern Special Provisions, Technical 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.

(g) Manhole and/or catch basin castings, frames, covers, and grates shall be protected and preserved during construction. A careful inventory shall be kept regarding which frames and covers/grates were removed so they can

CONTROL OF WORK (continued)

be replaced in the proper location. Any damaged or missing frames, covers, or grates shall be replaced by the contractor at no cost to the owner.

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.

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

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

- A) Workers Compensation Insurance coverage in minimum statutory amounts for all people employed by the Contractor to perform work on this project.
- 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.

ADDITIONAL INSURED

All liability policies (including any excess policies used to meet coverage requirements) shall include the City of Portsmouth, New Hampshire as an Additional Insured.

- 1) The contractor's insurance shall be primary in the event of a loss.
- 2) The Additional Insured endorsement must include language specifically stating that the entity is to be covered for all activities performed by, or on behalf of, the contractor, including the City of Portsmouth's general supervision of the contractor.
- 3) City of Portsmouth shall be listed as a Certificate Holder and Additional Insured. 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.
- (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.

MEASUREMENT AND PAYMENT (continued)

(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.

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.

MEASUREMENT AND PAYMENT (continued)**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.

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

MEASUREMENT AND PAYMENT (continued)

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.

(c) 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.

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.**

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 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 two (2) 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 to all technical and measurement aspects of this project only.

SPECIAL PROVISION

To Section 203 (NHDOT Standard Specifications) Excavation
(not a NHDOT Standard Specification)

Amend Section 203 to read:

**SECTION 203.3
Sidewalk and Pavement Excavation (F)**

1.01 Scope of Work: The work includes removing all existing pavement and sidewalks in the areas that are to receive improvements. In the roadway, this includes removal for curb installation, drainage, conduit installation etc.

1.02 Methods of Construction:

1.02a Materials will be saw cut as necessary (as determined by the Engineer) prior to excavation so that reasonable size pieces are being removed. The intent is that vibrations and noise associated with jackhammering or other methods may be minimized.

As material is removed, gravel fill should be installed in all pedestrian areas to ensure smooth operation of the local business and resident foot traffic. This is subsidiary to this item.

1.03 Methods of Measurement:

The quantity shown is the Engineer's best guess of the quantity of this item. This is a final quantity and will not be measured unless the work zone is increased in size. If the area is increased, additional payment will be made on the added area.

1.04 Basis of Payment:

This work shall be paid for at the Contract Unit Price as listed in Item #203.3 in the Bid Specification.

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

SUPPLEMENTAL SPECIFICATION
BITUMINOUS CONCRETE PAVING (NH[RD1])

PART 1 - GENERAL

1.1 DESCRIPTION

- A. Work Included: Furnish and install bituminous concrete pavement courses in accordance with Sections 401 of the NHDOT Standard Specifications for Road and Bridge Construction (latest edition) and as specified in this section.
- B. All reference to NHDOT, NHDOT personnel or the Department may be construed as the Engineer, the City of Portsmouth, their agents and their representatives.

1.2 QUALITY ASSURANCE

- A. Work shall conform to NHDOT Section 401, Tier 2 except as noted herein:
 - 1. Ride Smoothness: Section 401.3.17.3.4.1 shall apply except variations exceeding **3/8** inch in profile or cross slope shall be eliminated.
 - 2. Ride Smoothness: Section 401.3.17.3.4.4 shall apply except high points **0.5** inches in 25 feet shall corrected.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Materials shall conform to NHDOT Section 401 except the following:
 - 1. The maximum amount of Total Reused Binder (TRB) in the pavement mix design shall be **.5[RD2]**% and the mix shall meet all volumetric mix design criteria.
 - 2. Asphalt Cement shall not contain any form of used, recycled or refined oil. Suppliers of PG Binder shall certify that the PG Binder does not contain any used, recycled or refined oil.
 - 3. All 1/2"(12mm), 3/4" inch (19mm) and 1 inch (25mm) pavement mixes shall be designed using the 50 gyration N design, unless specified otherwise.
 - 4. Liquid asphalt cement binder shall have a Performance Grade (PG) of PG 64-28 for all standard bituminous and PG 64-E for all high strength bituminous pavements. NHDOT QC/QA Specifications shall be followed for high strength mixes.
 - 5. All high strength asphalt, when specified, shall be 50 gyration unless otherwise directed.

2.2 PAVEMENT MIX DESIGNS

Pavement mix designs shall meet NHDOT Section 401.2.5.1 except the following:

- A. Minimum asphalt binder content shall be as follows:

Minimum Binder Content		
Mix Type	50 Gyration	75
3/8-in (9.5 mm)	6.3	5.9
1/2-inch (12.5 mm)	5.9	*
3/4-inch (19 mm)	5.3%	*

The required minimum asphalt content is based on the use of aggregate with a specific gravity of 2.65 to 2.70. The minimum asphalt content requirement may be adjusted when aggregate with a higher specific gravity is used, or the minimum may be adjusted at the Engineer's discretion if it is believed to be in the best interest of the Owner. All mix designs shall be submitted to the Engineer for verification and approval.

*75 Gyrations mix not allowed without express written permission of the engineer.

- B. Method Requirements NHDOT Section 401.2.6 shall apply including the following:
1. Coarse Aggregate: Stockpiled coarse aggregate shall meet the requirements of 2.6.1, Table 2.
 2. Tolerances: All mixtures shall conform within the range of tolerances provided in NHDOT Section 401.2.6.2
 3. When Non-Compliant test result, it shall be the Contractor's responsibility to correct non-compliant pavement. The Contractor may be required to remove non-compliant material that is poorly graded or material exhibiting cracks, open joints or other imperfections (**no payment will be made for this material or its removal**).

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Construction requirements shall be in accordance with Sections 401 of the NHDOT Standard Specifications for Road and Bridge Construction (latest edition) **and** as specified in this section.
1. Prior to placing any mix, a pre-paving conference shall be held with the Owner, Contractor, and Engineer to discuss the proposed paving schedule, source of mix, type and amount of equipment to be used, sequence of paving pattern, rate of mix supply, traffic control, and general continuity of the operation. Special attention shall be made to the paving pattern sequence to minimize cold joints.
 2. The Contractor shall notify the Engineer one week in advance of paving operations to allow sufficient time for scheduling personnel.
 3. All wearing course pavements shall be constructed by October 31.
 4. Any pavement course four inches (compacted depth) or greater shall be placed and compacted in two lifts.
 5. Sweeping. Existing pavement or previously laid courses shall be thoroughly dry and free from all dust, dirt, and loose material. Sweeping with a power broom, supplemented by hand brooming, may be necessary.
 6. Tack coat. Surfaces of any pavement course shall have a tack coat of emulsified asphalt applied in accordance with NHDOT Specifications. Application of emulsified asphalt shall be between 0.02 and 0.05 gal/yd².
 7. Utility covers, frames and grates, valves and other castings shall be set and raised. Contact surfaces of the drainage and utility castings shall be painted with a thin coating of suitable bituminous material. Surface pavement shall be removed from covers and castings immediately following pavement operations.
 8. Method requirements NHDOT Section 401.3.1.2 shall apply.
 9. In addition to 3.1.A.7 above, the following performance requirements shall apply:
 - a). Tier 2 QA/QC performance requirements shall apply.
 - b). Ride Smoothness: NHDOT Section 401.3.17.3.4.1 shall apply except variations exceeding **3/8** inch in profile or cross slope shall be eliminated.
 - c). Ride Smoothness: Section 401.3.17.3.4.4 shall apply except high points 0.5 inches in 25 feet shall be corrected.

END OF SECTION

SPECIAL PROVISION

SECTION 520 (not a NHDOT Standard Specification)

Item 520.1W – Reinforced Concrete Retaining Wall, Including Earthwork

Description

- 1.1** This work shall consist of furnishing and constructing cast-in-place, steel-reinforced, form-lined retaining wall in accordance with the drawings and specifications and as directed by the Engineer. Work includes demolition, earth excavation, installing crushed gravel base, construction of retaining wall, installation of drain pipe, filter fabric, crushed stone backfill, and installation of granite cap.
- 1.2** Portland Cement Concrete shall conform to Section 502 of the NHDOT Standard Specifications for Road and Bridge Construction (latest edition).
- 1.3** Steel Reinforcement shall conform to Section 544 of the NHDOT Standard Specifications for Road and Bridge Construction (latest edition).

Materials

2.1 Reinforced Concrete Retaining Wall

- 2.1.1** Portland Cement Concrete – NHDOT 520, Type A
- 2.1.2** Reinforcing Steel shall meet the requirements of NHDOT 544
- 2.1.3** Form Liner – Sika Greenstreak, #440 River Rock, 1” relief or approved equivalent.
- 2.1.4** Granite Cap (2” thick, 12” wide) by Swenson Granite or approved equivalent.
- 2.1.5** Crushed Gravel Base shall meet the requirements of NHDOT 304.
- 2.1.6** 4-Inch Diameter Perforated HDPE Drain Pipe.
- 2.1.7** Filter Fabric.
- 2.1.8** Backfill shall be clean crushed stone, 3/4 inch to 1 inch, no fines.

Construction Requirements

3.1 General

3.1.1 The Contractor shall verify that layout dimensions are correct and substrate is in proper condition for installation. Do not proceed with installation until unsatisfactory conditions have been corrected.

3.1.2 The Contractor shall confirm the location of existing structures and utilities prior to excavation. The Contractor shall ensure all surrounding structures are protected from the effects of wall excavation.

3.1.3 The Contractor shall provide one foreman, experienced in the construction of at least 5,000 square feet of steel-reinforced, cast-in-place concrete retaining wall to oversee the construction of the walls.

3.1.4 Construction shall conform to all recommendations and guidelines of the selected form liner manufacturer.

3.1.5 Materials shall be stored and handled based on manufacturer's requirements. Any material damaged due to improper storage and handling shall be replaced at the expense of the Contractor.

3.2 SUBMITTALS

3.2.1 The Contractor shall submit manufacturer's product data for proposed materials and method of installation to the Engineer prior to ordering materials.

3.2.2 The Contractor shall submit a manufacturer's certification to the Engineer, prior to the start of work, that the retaining wall system components meet the requirements of these Specifications.

3.3 EXCAVATION

3.3.1 The Contractor shall excavate to the lines and grades shown on the construction drawings.

3.4 REINFORCED CONCRETE WALL

3.4.1 The wall shall be built according to the plan and construction detail.

3.4.2 Portland Cement Concrete shall be NHDOT Type A with a minimum 28-day compressive strength of 3,000 psi conforming to all provisions of NHDOT 520.

3.4.3 Reinforcing steel shall conform to NHDOT 544.

3.4.4 Form liner shall be Sika Greenstreak, #440 River Rock, 1" relief or approved equivalent. Construction shall adhere to all guidelines and recommendations of the approved form liner's manufacturer.

3.5 DRAINAGE PIPE

3.5.1 4" Perforated HDPE Drain Pipe shall be installed behind the wall, and tying into catch basin approximately 60 feet away as shown on the construction detail.

3.6 FILTER FABRIC

3.6.1 Filter fabric shall be wrapped around the drainage aggregate layer as shown on the construction detail.

3.6 BACKFILL

3.6.1 The wall excavation shall be backfilled with ¾”-1”, clean crushed stone which shall also be placed to a depth of 1-foot under the adjacent sidewalk.

3.6.2 The crushed stone shall be placed and compacted to 95% of the maximum Standard Proctor density in layers not to exceed 6 inches.

3.6.3 The Contractor shall be responsible for independent soil testing services during earthwork operations to ensure that materials and compaction conform to the specifications.

3.7 GRANITE CAP

3.7.1 A granite cap shall be laid on top of the wall, set in mortar. The cap shall be 2” thick and 1’ wide and run the entire length of the wall. The cap shall overhang the wall 1”.

Method of Measurement

4.1 Reinforced concrete retaining wall will be measured by the square foot to the nearest 0.1 of a foot for the full face of wall from top to bottom and end to end.

Basis of Payment

5.1 The accepted quantity of the reinforced concrete retaining wall will be paid for at the Contract Unit Price per square foot of front wall face, complete in place. The price bid under this item shall be considered as fair compensation for all labor, equipment, tools, supervision, and materials necessary to complete the work associated with construction and installation of the reinforced concrete retaining wall as shown on the Plans, and specified herein. The work shall include, but not be limited to, excavation and removal of existing fill material, Portland cement concrete, reinforcing steel, granite cap, HDPE drain pipe (behind the wall), placement and compaction of crushed stone, filter fabric, and all other work required to complete the reinforced concrete retaining wall installation not paid for under other items as specified herein.

Pay Item and Unit: 520.1W

520.1W. Reinforced Concrete Retaining Wall, Including Earthwork SF

SPECIAL PROVISION**SECTION 570 (not a NHDOT Standard Specification)****Item 570 – Repair Brick and Mortar Step w/ Granite Tread**

The Contactor shall repair the bottom step of brick and mortar stair case with granite tread pieces. The bottom step moved/sunk slightly as a result of the adjacent utility installation within the sidewalk. The step is approximately, 5'-4" long, 1' wide, and three courses of brick high. Construction methods shall be selected by the Contractor to match the existing stairs as closely as possible.

The Contractor shall complete this work as follows:

1. Carefully remove and store the existing granite tread for reuse.
2. Remove the existing brick step. Brick may be salvaged for reuse if brick is possible/practical.
3. Remove the remaining piece of concrete sidewalk that the step was built on. This work is included under bid item #203.2 Sidewalk & Pavement Excavation & Removal.
4. Prepare the base material with crushed gravel and/or stone dust and compact.
5. Install a new brick step to match the existing. Brick and mortar shall be carefully selected to match the rest of the stairs to the satisfaction of the property owner.
6. Reinstall granite tread.

SPECIAL PROVISION

AMENDMENT TO SECTION 604 – Catch Basins, Drop Inlets, and Manholes

Frames, grates and covers to be replaced will be fabricated in the USA.

SPECIAL PROVISION

AMENDMENT TO SECTION 604 – Catch Basins, Drop Inlets, and Manholes

Item 604.45A Adjust CB & Manhole Covers using grade rings

Amend 3.3.1 to read

Prefabricated adjustable rings may be used where allowed by Engineer and shall be installed in accordance with the manufacturer’s recommendations so that the cover or grate is flush with the new pavement. If the existing frame grades are too low to be raised with one adjustable riser the structure under the frame is in failure or the existing frame is an odd size or worn, than the frame and cover/grate shall be raised using bricks and mortar. If specified for replacement, the frame and grate will be replaced with a new frame & grate or cover that has been fabricated in the USA except as specified otherwise..

Fabricated Steel Specs:

- Risers are manufactured of A-36 steel.
- Round rings will be adjustable in diameter
- All welding to American Welding Society specifications.
- Upper sections are 3/8" thick, lower sections are 3/4" thick, continuously welded.
- Adjustment device is solid 3/4" Type 304 stainless steel not plated with mild steel nuts, which would quickly deteriorate after installation.
- Adjustment nuts are solid 1" x 1 3/4" C1010 steel.
- Entire ring coated with black asphalt paint.
- Rings will come standard with locking ‘dogs’ that will be fastened to the existing structure

604.45	Adjust CB or MH Covers with brick and mortar	Ea
604.45A	Adjust CB or MH Covers with riser ring	Ea

SPECIAL PROVISION

SECTION 6 (not a NHDOT Standard Specification)

Item 606.6 - Retaining Wall Handrail

Description

1.1 This work shall consist of furnishing and installing retaining wall railing at the locations shown on the Plans or as ordered.

Materials

2.1 Retaining Wall Railing

2.1.1 Retaining wall railing shall be 1-1/2-inch O.D. color galvanized tubular steel round posts with continuous top rail balustrade. With 1/2 solid steel balusters placed 4" O.C. placed between top and bottom rails. Railing shall be 42" high above the sidewalk grade and conform to IBC 2006.

2.1.2 High-strength non-shrink grout or epoxy shall be on the NHDOT Qualified Products List.

Construction Requirements

3.1 General

3.1.1 Retaining Wall Railing shall be prefabricated and installed on-site at locations shown on the Plans, set plumb and installed in a manner to result in a smooth continuous top rail conforming to the line and grade of the pathway and extending along the top of the retaining wall. Railing shall be anchored into retaining wall to 12" depth centered on wall every six feet with high-strength non-shrink grout or approved equal. Railing dimensions shall conform to AASHTO standards.

3.1.2 **All steel railing members and fasteners shall be color galvanized black using Colorgalv10 system by Duncan Galvanizing of Everett Ma 1-800-638-1011 or approved equal.**

3.1.3 Material damaged due to the Contractor's negligence shall be replaced with new materials at the Contractor's expense.

Method of Measurement

4.1 Railing will be measured by the linear foot to the nearest 0.1 of a foot.

Basis of Payment

5.1 The accepted quantity of the retaining wall railing will be paid for at the Contract Unit Price per linear foot, complete in place. The price bid under this item shall be considered as fair compensation for all labor, equipment, tools, supervision, and materials necessary to complete the work associated with construction and installation of the railing as shown on the Plans, and specified herein. The work shall include, but not be limited to, retaining wall railing, and all other work required to complete the railing installation not paid for under other items as specified herein.

Pay Item and Unit:

606.6 Retaining Wall Handrail Linear Foot

SPECIAL PROVISION

SECTION 607 (not a NHDOT Standard Specification)

Item 607.8 – Reinstall Ornamental Steel Fence

Contractor shall reinstall seven (7) sections and seven (7) posts of existing fence which are currently being stored in the adjacent parking garage. Fence shall be reinstalled in accordance with original construction detail drawing shown on plan set, layout and manufacturer’s specifications.

Method of Measurement

This item is measured as a single Lump Sum which includes all materials, equipment, and labor necessary for construction.

Basis of Payment

Pay Item and Unit

607.8	Reinstall Ornamental Steel Fence	Lump Sum
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SPECIAL PROVISION

To Section 608 (NHDOT Standard Specifications) Sidewalks

**SECTION 608.24 & 608.26
CONCRETE SIDEWALK CONSTRUCTION**

Amend sections of section 608 to read:

Materials:

2.2 Portland cement concrete shall be Class AA conforming to 520.

2.3.1 Handicapped ramps (at street intersections) shall be 6” deep, class AA 4000 psi synthetic fiber reinforced with 6” x 6” x 10ga welded wire mesh sheets.

2.3.2 4” Sidewalks shall be reinforced with synthetic fibers.

Construction Requirements:

3.2.6 Joints: Construct crack control joints at 5’ intervals. Construct expansion joints at 25’ intervals.

Methods of Measurement:

4.1 This work shall be measured by the square yard of concrete sidewalk successfully & completely installed and approved by the Engineer.

Basis of Payment:

5.1 This work shall be paid for at the Contract Unit Price as listed in Item #608.24 & 608.26 in the Bid.

Pay Items and units:

608.24	4” Concrete sidewalk	Square yard
608.26	6” Concrete sidewalk (HC Ramps)	Square yard

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

SPECIAL PROVISION

To Section 608 (NHDOT Standard Specifications) Sidewalks
(not a NHDOT Standard Specification)

Amend Section 608 to read:

SECTIONS 608.5B, 608.5H, 608.5R
Brick Sidewalk (Herringbone or Running Bond)

6.01 SCOPE OF WORK

- A. The work shall consist of constructing brick sidewalks as directed in the field by the Engineer.

6.02 METHODS OF CONSTRUCTION

- A. All labor and materials shall conform to the State of New Hampshire Standard Specifications for Road and Bridge Construction, Section 608.
- B. New bricks shall conform to the requirements of ASTM Standard Specifications for Building Bricks Designation C902 SX for Grade SW. The bricks shall be No. 1, wire cut type for paving, with a compressive strength of not less than 6,000 pounds per square inch. The bricks shall not be cored or have frogs and shall be of a standard size (2.25" x 3.625" x 7.625"). The Engineer will have 5 working days to approve the brick submittals before they are installed. It is the responsibility of the Contractor to provide suitable brick samples for approval.
- C. Excavation for sidewalks shall be at a depth of 13 inches below finish grade. In areas not butting curbing or buildings, the excavation shall be 6 inches wider than the finished sidewalk width. At all drive crossings, the depth of excavation shall be increased accordingly. The Contractor's price shall include neat and square cutting of existing asphalt road surface as needed. All unsuitable material shall be removed and disposed of off-site at the Contractor's own expense.
- D. The base material for sidewalks shall consist of 8" of type 304.3 crushed gravel.
- E. The Contractor shall lay the bricks so that approximately 5 bricks shall cover one square foot.
- F. The sidewalk shall pitch 1/4 inch per foot towards the street or as directed.
- G. In areas where the edge of the brick sidewalk is not adjacent to granite curbing, the Contractor shall install edging to hold the bricks in place. Such edging shall be installed per the manufacturer's recommendations.
- H. In areas with a closed drainage system, the contractor shall provide "silt sacks" to prevent brick dust from entering the collection system. Also, the area will be swept daily to keep dust levels as low as possible.

- I. All half bricks will be snapped if possible and all efforts will be made to keep brick dust to a minimum. All cuts not made by snapping will be wet cut.
- J. Prior to placing the brick, the sidewalks will be paved parallel to grade with 3/8” bituminous asphalt hot mix paving 1 1/2” compacted thickness. Paving for this will be paid for under item 403.12. 1” of 1:3 portland cement / course sand mix will then be placed on the asphalt base and the pavers will be dry laid on the mixture.

Method of Measurement

This item is measured by the square foot. Areas of existing brick that are to be removed and reset that are smaller than 100 square feet per occurrence are intended to get paid for under 608.5R.

Basis of Payment

Pay Item and Unit

304.3	Crushed Gravel in Place	Cubic Yard
403.11S	Bituminous Paving	Ton
608.5H	Brick Sidewalk – Herringbone Bond	Square Foot
608.5B	Brick Sidewalk – Running Bond	Square Foot
608.5R	Repair Brick Sidewalk in small areas	Square Foot

SPECIAL PROVISION

SECTION 608 (not a NHDOT Standard Specification)

Item 608.5C – Paver Crosswalk

1.1 General: Contractor shall construct a paver crosswalk in accordance with the detail drawing provided.

2.1 Materials:

- 2.1.1** Unilock Enduracolor Plus, Town Hall Paver, 3 Color Blend
- 2.1.2** Polybind Xtra Performance Polymeric Sand, Oxford Gray
- 2.1.3** Sand/cement Mix, (3 parts sand, 1 part cement), sand conforming to ASTM C33 and portland cement Type I/Type II
- 2.1.4** Item #304.11, hot-bituminous paving, fine-graded binder course (12mm, 50 gyration)
- 2.1.5** Item #304.3, crushed gravel
- 2.1.6** Item #609.01C, 6"x12" flush vertical granite curbing with 1/2" chamfer
- 2.1.7** Item #520.2, Class B portland cement concrete (curb backfill)

Method of Measurement

3.1 This item is measured by the square foot.

Basis of Payment

4.1 The price bid under this item 304.3 shall be considered as fair compensation for all labor, equipment, tools, supervision, and materials necessary to complete the work associated with construction and installation of the paver crosswalk as shown on the Plans, and specified herein. The work shall include, but not be limited to, furnishing and installing Unilock Pavers, Polybind polymeric sand joint filler, sand/cement mix bedding, 1/2 chamfer on granite curb, and all other work required to complete the paver crosswalk installation not paid for under other items as specified herein.

Pay Item and Unit

304.3	Crushed Gravel in Place	Cubic Yard
403.11C	Bituminous Paving	Ton
608.5C	Paver Crosswalk	Square Foot
609.01C	Flush Vertical Granite Curbing w/1/2" Chamfer	Linear Foot

SPECIAL PROVISION

To Section 608 (NHDOT Standard Specifications) Sidewalks **Item 608.52 – ADA Compliant Handicap Ramp Panels**

This special provision provides for the installation of handicap accessible ramp surfaces (Detectable Warning Pavers) to be in compliance with the Americans with Disabilities Act (ADA). This Special Provision provides for Item 608.52 and neither modifies nor amends any other provisions of this section unless specifically noted.

Description

1.1 This work shall consist of furnishing and installing a detectable warning surface and accessories on sidewalk ramps at locations shown on the plans, as specified herein, or as ordered including any and all required surface preparation. Detectable warnings shall be installed at sidewalk ramps where a sidewalk crosses a vehicular way, excluding unsignalized driveway crossings. The edge nearest the curblines shall be located 150 to 200 mm (6 to 8 in) from the back of the curblines. The paver shall be centered on the ramp.

Materials

2.1 Detectable Warning Device:

2.1.1 Material. The detectable warning surface shall consist of Engineered Plastic units. The units will be pressed into Portland cement or other Owner approved material. **The paver units shall be Armor Tile as manufactured and supplied by Engineered Plastic, Inc., 300 International Dr Suite 100, Williamsville, NY 14221, 1-800-769-4463, www.armor-tile.com**

2.1.2 Color. The color of the tile used shall be as determined by the Engineer, and would be installed in a concrete ramp as described above (608.26).

2.1.3 Paver Dimensions. Nominal paver dimensions shall be **2' deep x 3' wide.**

2.1.4 Detectable Warning Truncated Dome Geometry:

2.1.4.1 Detectable warnings shall be in full compliance with ADAAG guidelines (Title 49 DFR Transportation, Part 37.9 Standard for Accessible Transportation Facilities, Appendix A, Section 4.29.2- Detectable Warning on Walking Surfaces).

2.1.4.2 Size and spacing for truncated domes shall be as follows: base diameter of nominal 0.9 inch, top diameter of nominal 0.4 inch, height of nominal 0.2 inch, with a center to center spacing of nominal 2.35 inches.

2.1.4.3 The truncated dome pattern shall align properly from paver to paver if more than 1 paver is required.

2.2 Setting Bed Material

2.2.1 Material. Pavers shall be set into fresh concrete before it sets. See ramp specification above (608.26). Also see manufacturer instructions.

Construction Requirements

3.1 The Contractor shall submit manufacturer's installation instructions and descriptive literature for materials specified herein.

3.2 Transport, storage, and handling of products shall be in accordance with manufacturer's instructions.

- 3.2.1 All sealants/adhesives shall be protected from freezing conditions.
- 3.3 The air and surface temperatures during construction shall be in accordance with manufacturer's recommendations.
- 3.4 Concrete foundation shall be installed in accordance with the specifications included within Section 608 to depths indicated in the section shown on the plans.
- 3.5 Install detectable warning pavers in accordance with manufacturer's instructions directly in the setting bed and the allowing the top surface of the paver units to be at or just below the required finish grade.
- 3.6 Care shall be taken to ensure the safety of pedestrians when sidewalks must remain in service during construction.

Method of Measurement

- 4.1 These are measured by each panel installed successfully.

Basis of Payment

Pay Item and Unit

608.52	Detectable Warning Surface Panels	Each
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SPECIAL PROVISION

AMENDMENT TO SECTION 609 – Curbing Installation

Item 609.01, 609.02, 609.5A

Materials:

Add to 2.1: Curbing will be manufactured by Swenson Granite Works, Concord NH or approved equal.

Basis of Payment:

Amend 5.3: Class B Concrete backfill will be used for curb installation and will be paid for under item 520.1 by the cubic yard installed.

SPECIAL PROVISIONS
(not a NHDOT Standard Specification)

Sections 614, 616, 625

ELECTRICAL WORK

PART I – GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings also apply to work of this section.
- B. The Contractor must be familiar with all other Sections of this specifications and the associated Drawings, which affect the scope of work. Where paragraphs of this Section conflict with similar paragraphs elsewhere, the more stringent requirements shall prevail.

1.02 DESCRIPTION OF WORK

- A. The Contractor shall furnish a complete finished product, which meets all applicable codes and standards, and the intent and specific requirements of the Drawings and specifications for this project. It is the intent of these specifications that the electrical system shall be suitable in every way for the service (and use) required. All materials and all work, which may be reasonably implied as being incidental to the work of this Section, shall be furnished at no extra cost to the Owner.
- B. As used in this Section, “*provide*” means “furnish and install”, “*furnish*” means “to purchase and deliver to the project site complete with every necessary appurtenance and support”, and “*install*” means “to unload at the delivery point at the site and perform every operation necessary to establish secure mounting and correct operation at the proper location in the project”.
- C. Perform work and provide (furnish and install) material and equipment as shown on Drawings and as specified, or indicated, in this Section of the specifications. Completely coordinate work of this Section with work of other trades and provide a complete and fully functional installation. Drawings and specifications form complimentary requirements; provide work specified and not shown, and work shown and not specified as though explicitly required by both. Although work is not specifically shown or specified, provide supplementary or miscellaneous items, appurtenances, devices and materials obviously necessary for a sound, secure and complete installation.
- D. Remove all debris caused by Contractors’ work.

- E. Provide demolition, removal and relocation of existing electrical items as shown on the drawings.
- F. The work under this section shall require that the Contractor provide all labor, materials, equipment, tools, supplies and transportation involved in the installation of electrical equipment as specified.
- G. The work to be done under this contract generally includes, but is not limited to the following:

Electrical System

1. Provide new conduit and handhole system for outdoor electrical work, in locations as shown on Contract Drawings. Provide precast concrete electric handholes (14"x14"x24") in locations as shown or as needed and "Electric" logo on cover rated for H-20 loading.
2. Provide new light pole pre-cast or cast in place concrete bases for new proposed lighting poles in locations and quantities as shown on Contract Drawings. Precast foundations to be reinforced with wire and bolt patterns shall be as shown on Manufacturer Drawings, to match the proposed light poles.
3. Install new light poles and fixtures, along with necessary accessories in quantities and locations as shown on Contract Drawings.
4. Provide conduit and cabling for outdoor lighting between fixtures, hand holes, etc.
5. Conduits outside below grade to be PVC Schedule 40. Conduit sizes as indicated on Contract Drawings. Provide all necessary grounding, including ground rods at each light pole foundation if required by NEC or local authorities.
6. Provide startup services for new lighting system.
7. Provide other associated electrical equipment necessary for a complete system, shown, or implied in these Specifications and on Contract Drawings.

1.03 SITE VISIT

- A. Each bidder shall visit the site of the proposed work and fully acquaint himself with the conditions there relating to construction and labor, and should fully inform himself as to the facilities involved, and the difficulties and restrictions attending the performance of the Contract. The Bidder should thoroughly examine and familiarize himself with Drawings, Technical Specifications and all other Bid and Contract Documents. The Contractor, by the execution of the

Contract, shall in no way be relieved of any obligation under it due to his failure to receive or examine any form or legal document or to visit the site and acquaint himself with the conditions there existing and the Owner will be justified in rejecting any claim thereof.

1.04 GUARANTEE

- A. Guarantee work of this Section in writing for one year from date of Owner’s acceptance. Repair or replace defective materials, equipment, workmanship and installation that develop within this period, promptly and to Owner’s satisfaction and correct damage caused in making necessary repairs or replacements under guarantee with no extra cost to Owner. Contractor shall transfer all equipment warranties for all systems to Owner.

1.05 REFERENCE STANDARDS AND SPECIFICATIONS

- A. Perform work strictly as required by rules, regulations, standards, codes, ordinances, and laws of local, state, and federal government, and other authorities that have lawful jurisdiction.
- B. All materials and installations shall be in accordance with the latest edition of the National Code, and all applicable local codes and ordinances. Materials and equipment shall be listed by Underwriters Laboratories (UL). Special Attention shall be paid to the latest edition of the following standards:

American National Standards Institute	ANSI
American Society for Testing & Materials	ASTM
Illuminating Engineering Society	IES
Institute of Electrical & Electronics Engineers IEEE	
Insulated Cable Engineers’ Association	ICEA
National Electrical Code	NEC
National Electrical Manufacturer’s Association NEMA	
National Electrical Safety Code	NESC
InterNational Electrical Testing Association	NETA

National Fire Protection
Association

NFPA

Occupational Safety & Health Administration

OSHA

Underwriter's Laboratories,
Inc.

UL

- C. The above listed codes and standards are referenced to establish minimum requirements and wherever this Section requires higher grades of materials and workmanship than required by the listed codes and standards, this Section shall apply. In the event a conflict occurs between the above listed codes and standards and this Section, the more stringent requirement shall govern.

1.06 SUBMITTALS

- A. Within 10 days after Award of General Contract, submit shop drawings and product data on below listed items for approval. Submit copies as requested.
- B. Check, stamp and mark with project name shop drawings and product data before submitting for approval. Specifically indicate on shop drawing transmittal form, or by separate letter any deviations from Contract Documents because of standard shop practice or other reason. Rectify with no extra cost to Owner, deviations which escape Engineer's scrutiny and have not been indicated on shop drawings.
- C. List of materials and equipment requiring shop drawings shall include:
1. Concrete Products and Light Bases
 2. Hand holes
- D. The Engineer's review shall be only for conformance with the design concept of the project and compliance with the specifications and Drawings. The responsibility of, and the necessity of, furnishing materials and workmanship required by the specifications and Drawings which may not be indicated on the shop drawings is included under the work of this Section.

1.07 INSPECTIONS AND FEES

- A. Obtain all necessary permits and licenses, file necessary plans and pay all fees for hookups. Permit fees will be waived as part of his bid, as is all coordination as fees with the local utility. Contractor is also responsible for obtaining any site-specific utility requirements for this project prior to the start of construction and notifying local utility for all inspections prior to backfilling, etc.

1.08 INTERPRETATION OF DRAWINGS

- A. Drawings are diagrammatic and indicate general arrangement of systems and work included in Contract. Drawings are not intended to specify or show every offset, fitting or component; however, Contract Documents require components and materials whether or not indicated or specified as necessary to make installation complete and operational.
- B. Any work installed contrary to, or without review by, the Engineer shall be subject to change as directed by the Engineer, and no extra compensation will be allowed for making these changes.
- C. Circuit layouts are not intended to show the number of fittings, or other installation details. Additional circuits shall be installed wherever needed to conform to the specific requirements of the equipment or local codes.
- D. As work progresses and for duration of Contract, maintain complete and separate set of prints of Contract Drawings at job site at all times. Record work completed and all changes from original Contract Drawings clearly and accurately, including work installed as a modification or addition to the original design

PART II – MATERIALS & PRODUCTS

2.01 GENERAL

- A. Materials and products furnished shall be designed for the intended use, shall meet all requirements of the latest edition of the National Electric Code (NEC), and all local codes.
- B. Materials shall be manufactured in accordance with the standards indicated in this Section, and typical industry standards and codes for the products specified. Materials and equipment shall be Underwriter's Laboratory (UL) listed.
- C. The materials used shall be new, unused, and of the best quality for the intended use. All equipment shall have the manufacturer's name, address, model or type designation, serial number and all applicable ratings clearly marked thereon in a location which can be readily observed after installation. The required information should be marked on durable nameplates that are permanently fastened to the equipment.
- D. Electrical equipment shall at all times during construction be adequately protected against mechanical injury or damage by water. Electrical equipment shall not be stored outside exposed to the elements. If any equipment or apparatus is damaged, such damage shall be repaired at no additional cost, or replaced at no additional cost as directed by the Engineer.

2.02 RACEWAYS

- A. Rigid Metallic Conduit: UL6 and ANSI C80.1.
- B. Polyvinyl Chloride (PVC) Conduit, electrical, gray, Schedule 40 or 80 as specified, meeting the requirements of UL 651 and NEMA TC-2. If concrete encasement is required, a minimum of 3,000 psi concrete shall be used.
- C. Minimum size of conduit shall be 2". Unless indicated on Drawings, conduit sizes can be sized in accordance with National Electric Code (NEC). Conduit bends shall not have kinks or flats, and shall not be less than standard radii.
- D. Expansion fittings shall be provided on all conduits as required by the 2008 National Electrical Code, and as required by local and state codes. This includes, but is not limited to, vertical conduit risers coming from below-grade.

2.03 WIRE AND CABLE

- A. Unless otherwise noted, conductors for power, lighting, and grounding *above grade* shall be No. 12 through No. 2 AWG, NEC type THWN/THHN, meeting the requirements of UL 83. Conductors for power and lighting shall be no smaller than No. 12 AWG. **All underground pole to pole conductors shall be No. 8 (or larger if required). Provide voltage drop calculations to determine wire size required.**
- B. Where required by code, conductors for power, lighting, grounding, and control *below grade* (and in wet locations) shall be No. 2 AWG and larger, NEC type XHHW (or XHHW-2), meeting the requirements of NEMA WC7 and ICEA S-66-524.
- C. All conductors shall be annealed copper, 98% conductivity, Class B stranded, except conductors used for power and lighting circuits No. 10 AWG and smaller which may be solid. All conductors should be rated for 600 volts or less, with a thermal rating of 90° C.
- D. The outside covering of all wiring for power, lighting, grounding, and control uses shall be color coded to identify polarity.

2.04 WIRE AND CABLE CONNECTORS AND DEVICES

- A. Wire and cable connectors and devices shall meet the requirements of UL 486. Connectors, including miscellaneous nuts, bolts, and washers shall be silicon bronze. Ferrous materials shall not be used. All connectors below grade shall be water-proof secondary type, gel-filled, bolted submersible connectors

(gel-port style). No “wire-nuts” are allowed to be used below grade. **All electrical connections shall be coated in anti-corrosive grease.**

2.05 BOXES

- A. Pull Boxes, Junction Boxes, and Equipment Enclosures: NEMA ICS 6.
- B. Pull boxes, junction boxes, and equipment enclosures shall be of NEMA Type 1 construction for indoor use, and NEMA Type 3R construction for outdoor or wet location use, unless otherwise noted.
- C. Box sizes shall not be less than that required by the National Electrical Code.

2.06 WARNING TAPE

- A. Warning tape shall be six (6) inches wide, polyethylene not less than 3.5 mil thick with a minimum strength of 1,500 psi. Install 12 inches below final grade. Tape shall be red for electric conduit, and red or yellow for communication conduit. Tape shall have black lettering on two lines as indicated below:
- B. For Electric conduit:

CAUTION	CAUTION	CAUTION
BURIED	ELECTRIC LINE	BELOW

2.07 ELECTRIC HANDHOLES

- A. Electric Handholes are to be precast concrete and provided in the dimensions as shown on the Contract Drawings. Handhole size as indicated on Contract Drawings.
- B. Handholes shall be provided with skid-resistant cast iron surface covers, with an “Electric” logo. Handholes and Covers shall be design for street-rated, heavy duty applications, meeting the requirements of the either: AASHTO HS-20 loading, with a minimum design load of 15,000 lbs for both the handhole box and cover. . Handholes shall meet the requirements of the latest edition of the National Electric Code (2008 or later) with regards to structural integrity, installation methods, grounding of the cover and metallic parts, etc.
- C. A layer of 6-inches of crushed rock shall be installed below and in the bottom of each handhole to assist with drainage, and this compacted gravel base material

shall extend out beyond the sidewalls of the handhole. Conduits shall sweep up and be at least 4-inches above top of crushed rock layer.

- D. Handhole size to be 14"W x 14"L x 24"D minimum for this project.

2.08 FOUNDATIONS FOR LIGHTING POLES

- A. Provide approved precast foundations, and other devices as necessary and as required.
- B. Foundations for light poles shall be as required by manufacturer, including number, type and location of anchor bolts. Foundations shall be made of minimum 5,000 psi concrete (at 28 days) and have steel reinforcement meeting ASTM A-615, grade 60 (cover to steel, 1" minimum). Foundations shall have 2-2" conduits for lighting circuits, 180 degrees apart. Foundations to be installed with the top of the concrete approximately 30" inch above final grade. Foundation minimum size is 24" diameter x 7'-0" in length or as determined by the pole manufacturer. Conduits to be flush with top of concrete to not interfere with anchor bolts or pole base.
- C. Pole to base connection threads shall be coated in 'blue' removable type locktite or approved equal. All access door connections will be coated in non-corrosive grease.

2.09 DECORATIVE LIGHTING

- A. Install light poles and fixtures in quantities and locations as shown. Pole to be Spring City “Hancock”, 10-foot, with 12-inch bolt circle. All fasteners for the access panels of the poles shall be coated in never seize grease.
- B. Fixture is Newstamp RUS-TUR-177 “PORTSMOUTH”. Fixture to be 120V.
- C. Lamps shall be Cree LED, 9.5 watts, 800 lumens, 2,700 K color temperature.

2.10 CROSSWALK LIGHTING

- A. Install light poles and fixtures in quantities and locations as shown. Pole to be Millerbernd, MFG #RSTA1-190-BSG, 19-foot, round, tapered, stainless steel construction. All fasteners for the access panels of the poles shall be coated in never seize grease. Bolt circle and pattern shall be as recommended by the manufacturer. Pole shall include a matching base cover.
- D. Fixture and arm shall be King Luminaire/Millerbernd MFG #K902-A-P4FL-75(SSL)-III-X-BK LED luminaire with #KA120-A-4-BK, 4’ long upsweep aluminum arm.

PART III – EXECUTION

3.01 GENERAL

- A. This Section covers the requirements for installation of materials, proper workmanship, testing, cleaning, grounding, and work methods to be followed by the Contractor. This Section also includes specific instructions and to be used in conjunction with the contract Drawings. Any discrepancies noted between the specification, Drawings, and actual installation shall be reported immediately to the Owner, Engineer, and Architect. Failure on the part of the Contractor to report discrepancies immediately will be considered negligent and Contractor will be responsible for correcting actions at no cost to Owner.
- B. Contractor is responsible for coordinating work with other trades, Owner, and Architect’s schedule. Work will be coordinated such that systems can be properly located, and conflicts and delays are avoided. Contractor shall consider commencement of work acceptance of existing conditions.

3.02 MATERIALS AND WORKMANSHIP

- A. Work shall be executed in workmanlike manner and shall present neat, rectilinear and mechanical appearance when completed. Do not run raceway exposed unless

shown exposed on Drawings. Material and equipment shall be new and installed according to manufacturer's recommended best practice so that complete installation shall operate safely and efficiently.

3.03 CONTINUITY OF SERVICES

- A. Do not interrupt existing services without Owner's, Utilities, Engineer's and Architect's approvals.

3.04 TESTING, INSPECTION AND CLEANING

- A. Test wiring and connections for continuity and grounds before fixtures are connected; demonstrate insulation resistance by megger test as required at not less than 500 volts. Insulation resistance between conductors and grounds for secondary distribution systems shall meet National Electrical Code (NEC) and interNational Electrical Testing Association (NETA) requirements.
- B. Verify and correct as necessary: voltages, tap settings, trip settings and phasing on equipment from secondary distribution system to point of use. Test secondary voltages at transformers, bus in panelboards, and at other locations on distribution systems as necessary. Test secondary voltages under no-load and full-load conditions.
- C. Test lighting fixtures with specified lamps in place for 100 hours. Replace lamps that fail within 90 days after acceptance by Owner at no extra cost to Owner (no exceptions).
- D. Provide necessary testing equipment and testing services.
- E. Failures or defects in workmanship or materials revealed by tests or inspection shall be corrected promptly and retested. Replace defective material.

3.05 WIRING METHODS

- A. Install wire and cables in approved raceways as specified and as approved by authorities that have jurisdiction.
- B. Follow homerun circuit numbers and/or notes as shown on Drawings to connect circuits to panelboards. Where homerun circuit numbers are not shown on Drawings, divide similar types of connected loads among phase buses so that currents are approximately equal in normal usage.
- C. Run concealed conduit in as direct lines as possible with a minimum number of bends of longest possible radius. Run exposed conduit parallel to or at right angles to building/field lines. Bends shall be free from dents or flattening. The

exact locations and routing of conduit shall be determined by the Contractor subject to the approval of the Owner and Engineer.

- D. Polarity of all electrical connections shall be observed in order to preserve phase relationship in all feeders and equipment.
- E. Splices shall be made in neat, workmanlike manner using approved mechanical connectors. After splicing, insulation equal to that on the spliced wires shall be applied at each splice. Splices are permitted only in junction boxes, outlet boxes, or other permanently accessible locations. Splices installed in electric handholes shall be weather and waterproof, pre-molded polymer splices. Hand taping of splices below-grade is not acceptable.

3.06 GROUNDING

- A. Bond and ground equipment and systems connected under this Section in accordance with standards of the NEC and other applicable regulations and codes.
- B. Copper fittings for ground connections shall conform to the requirements of ASTM B 30. All bolts, u-bolts, cap screws, nuts, and lock washers for copper fitting shall be of approved corrosion-resisting material. Compression connectors required for all below-grade grounding connections. Exothermic (cad-weld) connectors are also acceptable for use below grade. The use of bolted grounding and ground rod connectors below grade is not acceptable.
- C. Ground Rods shall be 5/8" diameter and 8' in length, as required by applicable codes (NEC, NESC). All wire used for grounding shall be no smaller than #4 Awg copper, stranded conductor.

3.07 INSTALLATION OF LIGHTING FIXTURES

- A. Verify construction of light pole foundations is suitable, and provide fixtures, poles, hardware, and other accessories suitable for construction encountered.
- B. Coordinate installation of fixtures with installation of surrounding materials and landscaping (if applicable). Investigate lighting fixture locations and foundation supports to ensure that no interference exists between lighting fixtures, supports, and other equipment including that provided by other trades. Report any possible interference's to the Engineer.

3.08 EXECUTION – INSTALLATION OF ELECTRICAL EQUIPMENT

- A. Contractor to Provide (furnish & install) all items.
- B. Contractor to meet with local wiring inspector prior to the start of any work and obtain any local site requirements and restrictions, which must be followed. Contractor shall also meet with local utility, any other Town/City officials, as

directed by Owner and wire inspector, prior to the start of work, or ordering of materials. Failure to meet with the local officials and utility prior to ordering materials and start of construction will be considered negligent and all necessary corrections resulting from this failure will be at no cost to Owner.

- C. Provide, furnish and install all products and work outlined in this Specification.
- D. Provide all grounding of electrical lighting. Grounding to be installed per installation details and National Electrical Code.
- E. Balance the lighting, or electrical load evenly on all circuits and on all phases of each circuit.
- F. Provide new hand holes and conduit system for lighting and electrical work, in locations as shown on Contract Drawings.
- G. Install all equipment in locations as shown on Contract Drawings. All deviations must be approved, in advance by Engineer.
- H. Install all equipment per manufacturer's instructions.
- I. Clean-up excavated areas, and restore with new loam & seed or pave to match existing surfaces, as directed by Engineer.

SPECIAL PROVISION

SECTION 615 (not a NHDOT Standard Specification)

Item 615.4 – Reinstall Parking Meter

Contractor shall reinstall two (2) parking meters from their current locations to the back of the sidewalk, as directed by the Engineer. The parking meters shall be set in 18” diameter x 18” deep concrete footings. The top of the footing shall be flush with the bottom of the bituminous pavement sidewalk sub-layer. Concrete shall be NHDOT Type B.

Method of Measurement

This item is measured as per parking meter reinstalled which includes all materials, equipment, and labor necessary for reinstallation of a single parking meter.

Basis of Payment

Pay Item and Unit

615.4	Reinstall Parking Meter	Each
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SPECIAL PROVISIONS

AMENDMENT TO SECTION 618.6 – Uniformed Officers

AMENDMENT TO SECTION 618.7 – Traffic Control Flaggers

AMENDMENT TO SECTION 619 – Maintenance of Traffic

The construction work zone(s) designated for this contract shall extend approximately 500 feet, beyond the work limits as described below and/or shown on the project layout map

618.6 UNIFORMED OFFICERS

Portsmouth Police will be hired at the discretion of the Engineer. Only Portsmouth Police can be hired for traffic details.

618.7 TRAFFIC CONTROL FLAGGERS

Whenever the contractor is working in areas where uniformed officers are not required by the City, flaggers may be hired under the discretion of the Engineer.

619 MAINTENANCE OF TRAFFIC

Add to 619:

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 these items 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 (Maintenance of Traffic). This unit price shall include all equipment, materials and labor thereto.

**SPECIAL PROVISION
(not a NHDOT Standard Specification)
AMENDMENT TO SECTION 650 - MISCELLANEOUS INCIDENTALS**

Item 650 Tree Grates with Tree Guards

Description

1.1 This work shall consist of furnishing and installing all materials as shown on the detail and described below for a complete installation. The tree will be paid for under its own item.

Materials

2.1 TREE GRATES

A. Tree grates shall be "Avenue" Series as manufactured by Neenah, or approved equal. Grates shall be rectangular, (36x60 inches) and shall meet ADA requirements, latest edition. Neenah type E tree guards shall be furnished and installed around each tree with a grate.

B. Grates shall be cast iron. Contractor shall provide all required hardware. All hardware shall be galvanized as per ASTM A153 latest requirements.

C. Pea stone shall be free of all deleterious materials, and shall conform to the following graduation:

US Sieve Size or No. (#)	% Passing
3/8"	85-100
1/2"	15-45
3/4"	0-20

D. Concrete for frame support shall be 4,000 psi 28-day concrete.

E. GEOTEXTILE: Shall be one of the following geofabrics:

1. Non-woven polypropylene fabric with the following properties:

- Grab tensile strength: 370 lb
- Grab tensile elongation: 50%
- Mullen burst strength: 380 psi
- Puncture strength: 130 lb.
- Apparent opening size: US sieve 80
- Water flow rate: 95 gpm/square foot

2. Geotextile shall be delivered in 12 feet wide rolls minimum.

3. Geotextile shall be non woven polypropylene geotextile, Mirafi 180 N as manufactured by Ten Cate Nicolon, Norcross, GA, or an approved equal

Construction Requirements

3.1 General

3.1.1 This item shall be constructed in accordance to manufacture instruction.

3.1.2 The Contractor shall submit manufacturer’s descriptive literature for materials specified and shop drawings showing procedures for installation of items.

3.1.3 Material damaged due to the Contractor's negligence shall be replaced with new materials at the Contractor's expense.

Method of Measurement

4.1 These will be measured per each.

Basis of Payment

5.1 The accepted quantity of this item will be paid for at the Contract Unit Price per each, complete in place. The price bid under this item shall be considered as fair compensation for all labor, equipment, tools, supervision, and materials necessary to complete the work associated with construction and installation of items as shown on the Plans, and specified herein. The work shall include, but not be limited to all materials, and all other work required to complete installation not paid for under other items as specified herein.

Pay Item and Unit:

650	3' x 5' Tree Grates with 4' Tree Guards	Each
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SPECIAL PROVISION

SECTION 661 (not a NHDOT Standard Specification)

Item 661.1 – Install Granite Bollard

Contractor shall install one (1) granite bollard in the location shown on the plans and constructed as shown on the construction detail drawing.

Method of Measurement

This item is measured as a single Lump Sum which includes all materials, equipment, and labor necessary for construction.

Basis of Payment

Pay Item and Unit

661.1	Granite Bollard	Each
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March 15, 2013

**SPECIAL ATTENTION
ASPHALT CEMENT ADJUSTMENT**

All bid items involving asphalt concrete mixtures (except items 403.4 & 403.6) listed in Sections: 403, Hot Bituminous Pavement and 411, Plant Mix Surface Treatment; containing asphalt cement will be subject to a price adjustment. This adjustment will take effect when the monthly price for asphalt cement as furnished by the Bureau of Materials and Research differs from the base price contained in the proposal.

The price adjustment will be based on the percent of virgin asphalt cement stated in the Approved Mix Design containing the maximum percentage of reclaimed asphalt pavement. In the event of breakdown or unforeseen circumstances other than weather, an Approved Virgin Mix Design may be used. The price adjustment will then be based on the total percent of virgin asphalt cement in that approved design.

**The base price* of asphalt cement for this Contract is:
\$ xxx.xx per ton on English Projects.**

* Source: The base price is developed from data published in the *Asphalt Weekly Monitor*, a publication from Poten and Partners, Inc. (Applies to contracts advertised after January 1, 2012)

The **monthly price** of asphalt cement will be furnished by the Bureau of Materials and Research on the first business day following the 14th calendar day of each month.

The contract prices of Hot Bituminous Pavement, Recycled Bituminous Pavement and Plant Mix Surface Treatment will be paid under the respective items in the contract. The price adjustment, as provided herein, upwards or downwards, will be made at the end of each month in which the work was accomplished as follows:

A contract adjustment will be made under Item 1010.2 based on; [monthly price minus the base price] X [Approved Mix Design percent of virgin asphalt cement] X [tons of pavement used].

When no item for Asphalt Cement Adjustment is included in the contract no adjustments will be made.

Item 1010.2 Asphalt Cement Adjustment 1 Dollar
1 Not a bid item