

**LINCOLN WATER COMMISSION
96 OLD RIVER ROAD
LINCOLN, RI 02865**

**INVITATION TO BID
NEW DUCTILE IRON WATER MAIN INSTALLATION
RFP #2017-02**

BID OPENING DATE: WEDNESDAY, AUGUST 3, 2016

TIME: 2:00 PM

LOCATION: LINCOLN WATER COMMISSION
96 OLD RIVER ROAD
LINCOLN, RI 02865

PRESENT BIDS TO: ROMEO MENDES, P.E., SUPERINTENDENT
LINCOLN WATER COMMISSION
96 OLD RIVER ROAD
LINCOLN, RI 02865

BID FORMS AND SPECIFICATIONS MAY BE OBTAINED ONLINE AT [HTTP://WWW.LINCOLNRI.ORG/DEPARTMENTS/LIST/PURCHASING.PHP#MOBILETARGET](http://www.lincolnri.org/departments/list/purchasing.php#mobiletarget) OR FROM THE LINCOLN WATER COMMISSION AT 96 OLD RIVER ROAD, LINCOLN RI, BETWEEN THE HOURS OF 7:30 A.M. AND 4:00 P.M. WEEKDAYS.

ANYONE PICKING UP OR DOWNLOADING THE BID PACKET MUST SEND AN EMAIL TO [ROME0@LINCOLN WATER COMMISSION.COM](mailto:romeo@lincolnwatercommission.com) WITH THEIR CONTACT INFORMATION IN ORDER TO RECEIVE ANY ADDENDA.

QUESTIONS MAY BE EMAILED TO [ROME0@LINCOLN WATER COMMISSION.COM](mailto:romeo@lincolnwatercommission.com) BY END OF DAY ON MONDAY, JULY 25, 2016. QUESTIONS WILL BE ANSWERED AND EMAILED TO ALL BIDDERS BY END OF DAY ON WEDNESDAY, JULY 27, 2016.

INVITATION TO BID
LINCOLN WATER COMMISSION
NEW DUCTILE IRON WATER MAIN INSTALLATION
IN LINCOLN, RHODE ISLAND

The Lincoln Water Commission seeks sealed bids for the installation of NEW DUCTILE IRON WATER MAIN in Lincoln, Rhode Island. Bids will be received by the Lincoln Water Commission (The OWNER) at its Administrative Office, 96 Old River Road, Lincoln Rhode Island 02865, until 2:00 PM on August 3, 2016 and at that time and place will be publicly opened and read aloud.

Bids must be enclosed in a sealed envelope, submitted on the Forms in the Contract Documents and clearly marked:

LINCOLN WATER COMMISSION
NEW DUCTILE IRON WATER MAIN INSTALLATION

The work of this Contract consists of installing approximately 1,700 linear feet of 6" ductile iron water main in Lincoln, Rhode Island.

Substantial completion time for the project will be 90 calendar days from the date specified in the Notice to Proceed. Liquidated Damages in the amount of \$1,000.00 for each calendar day of delay from the date established for substantial completion.

Contract documents may be obtained from the Town of Lincoln website, <http://www.lincolnri.org/departments/list/purchasing.php#mobiletarget> or from the Commission by emailing Romeo Mendes at romeo@lincolnwatercommission.com or picked up at the Administrative Office at 96 Old River Road, Lincoln, RI between the hours of 7:30am and 4:00 pm, weekdays.

A non-refundable payment of \$50.00 in cash or check payable to the Lincoln Water Commission will be required for each hard copy set of the Contract Documents. Bidders requesting Contract Documents by mail shall add an additional non-refundable check payable to the Lincoln Water Commission in the amount of \$15.00 per set to cover costs of handling and mailing.

All work under this contract is subject to the prevailing wage rate of the State of Rhode Island. Certified payrolls will be required to be submitted for all work under this contract. Bid prices must reflect adherence to the provisions of State Labor Laws concerning payment of prevailing wages (see RI General Laws Sec 37-13-1 et seq. as amended). The rates of pay set forth in these provisions are the minimums to be paid during the life of the contract. Bidders shall inform themselves as to the local labor conditions such as the length of workday and workweek, overtime compensation, health and welfare contributions, labor supply, and prospective changes or adjustment of rates.

Each Bid shall be submitted in accordance with the Instructions to Bidders, and accompanied by a bid security of ten (10) per cent of the total Bid amount.

No Bidder may withdraw his Bid for a period of sixty days, excluding Saturdays, Sundays and legal holidays, after the actual date of the opening of the Bids.

The OWNER reserves the right to waive any informality or to reject any or all Bids if deemed to be in the Owner's best interest.

Insurance, as specified, is required for this project. The Successful Bidder must furnish a 100 per cent Construction Performance bond and a 100 per cent Construction Payment bond with a surety company acceptable to the OWNER.

All bonds shall be in conformance with the Contract Documents, which require sureties to be on the current list of "Companies Holding Certificates of Commission as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies", as published in Circular 570 (amended) by the Audit Staff Bureau of Accounts, U.S. Treasury Department. Additionally, any surety providing bonds or insurance for this project shall be licensed to do business in Rhode Island and must carry a Best financial rating of AA or better.

Individuals requesting interpreter services for the hearing impaired or require handicap accessible facilities for the Bid opening must call (401) 334-6735 forty-eight hours in advance of same.

TOWN OF LINCOLN GENERAL SPECIFICATIONS

1. SUBMITTAL

Sealed bids (proposals) will be accepted in the office of the Lincoln Water Commission, 96 Old River Road, Lincoln, Rhode Island, until the time indicated on the attached advertisement for bids, for the commodities, equipment or services listed in the specifications and will be then publicly opened and read at the prescribed time at the Lincoln Water Commission.

2. FORM OF BID

Proposals shall be submitted on the bid form provided within the invitation to bid package. The bidder is to copy the form, fill it out, and submit it in duplicate.

3. SUBMISSION OF BIDS

- a) Envelopes containing bids must be sealed and addressed to the Lincoln Water Commission, 96 Old River Road, Lincoln, RI 02865 and must be marked with the name and address of the bidder, date and hour of opening, and name of item in bid call.
- b) The Superintendent will decide when the specified time has arrived to open bids, and no bid received thereafter will be considered.
- c) Any bidder may withdraw his bid by written request at any time prior to the advertised time for opening. Telephone bids, amendments, or withdrawals will not be accepted.
- d) Unless otherwise specified, no bid may be withdrawn for a period of thirty (30) days from time of bid opening.
- e) Negligence on the part of the bidder in preparing the bid confers no rights for the withdrawal of the bid after it has been opened.
- f) Proposals received prior to the time opening will be securely kept, unopened. No responsibility will be attached to an officer or person for the premature opening of a proposal not properly addressed and identified.
- g) Any deviation from the specifications must be noted in writing and attached as part of the bid proposal. The bidder shall indicate the item or part with the deviation and indicate how the bid will deviate from specifications.

4. RHODE ISLAND SALES TAX

The Lincoln Water Commission is exempt from the payment of the Rhode Island Sales Tax under the 1956 General Laws of the State of Rhode Island, 44-18-30, Paragraph 1, as amended.

5. FEDERAL EXCISE TAXES

The Lincoln Water Commission is exempt from the payment of any excise tax or federal transportation taxes. The price bid must be exclusive of taxes and will be so construed.

6. QUALIFICATION OF BIDDERS

The Lincoln Water Commission may make such investigations as it deems necessary to determine the ability of the bidder to perform the work. The bidder shall furnish the Lincoln Water Commission with all such information and data for the purpose as may be requested.

7. ADDENDA AND INTERPRETATIONS

No interpretation on the meaning of the Contract Documents will be made to any bidder orally. Every request for such interpretations should be in writing, addressed to Romeo Mendes (emailed to romeo@lincolnwatercommission.com) by end of day on Monday, July 25, 2016. Any and all interpretations, and supplemental instructions which, if issued, will be emailed to all perspective bidders (at the respective email address furnished by the bidder for such purpose), not later than end of day on Wednesday, July 27, 2016. Failure of bidder to receive any such addendum or interpretations shall not relieve any bidder from obligation under his bid as submitted. All addenda so issued shall become part of the Contract Document

8. DELIVERY

All bids are to be From Origin of Business, delivery to be supplied with the Purchase Order. No extra charges for delivery, handling or other services will be honored. Only inside delivery and set-up, where required, will be accepted. TAILGATE DELIVERIES WILL BE REFUSED. The vendor must notify the Lincoln Water Commission 24 hours prior to delivery. All claims for damage in transit shall be the responsibility of the successful bidder. The Lincoln Water Commission will not make payment on damaged goods, they must be replaced or adjustments made at the option of the Commission. The Lincoln Water Commission is only represented by the Superintendent in these matters and that division, or its appointed representative or agent, shall be the only entity to negotiate any settlements. Deliveries must be made during normal working hours.

Bid price, where applicable, is to include the cost of uncrating and setting in place.
Bid price, where applicable, is to include installation.

**NOTICE TO
VENDORS**

1. Contracts shall be awarded by the Lincoln Water Commission to the lowest responsible bidder. In determining "lowest responsible bidder", in addition to price, the Commission may consider:

- a. The ability, capacity and skill of the bidder to perform the contract or provide the service required;
 - b. Whether the bidder can perform the contract or provide the service promptly or within the time specified without delay or interference;
 - c. The character, integrity, reputation, judgment, experience and efficiency of the bidder;
 - d. The quality of performance of previous contracts or services;
 - e. Previous and existing compliance by the bidder with laws and ordinances relating to the contract or service;
 - f. The sufficiency of the financial resources and ability of the bidder to perform the contract or provide the service;
 - g. The quality, availability and adaptability of the supplies or contractual services to the particular use required;
 - h. The ability of the bidder to provide future maintenance and service for the use of the subject contract;
 - i. The number and scope of conditions attached to the bid.
2. No proposal will be accepted if made in collusion with any other bidder.
3. A bidder who is an out-of-state corporation shall qualify or register to transact business in this State, in accordance with RI General Laws (as amended), Sections 7-1.1-99, 7-1.1-105, and 7-1.1-106.
4. The Lincoln Water Commission reserves the right to reject any and all bid(s).
5. In determining the lowest responsible bidder, cash discounts for payment less than thirty (30) days will not be considered.
6. Where prices are the same, the Lincoln Water Commission reserves the right to award to one bidder, or to split the award.
7. Competitive prices may be obtained by all bidders attending formal bid opening. After a reasonable lapse of time, tabulation bids may be seen by applying in person at the Lincoln Water Commission. Telephone or written requests for the above will not be honored.
8. As the Lincoln Water Commission is exempt from the payment of Federal Excise Taxes and Rhode Island Sales Tax, prices quoted are not to include these taxes.
9. In case of error in the extension of prices quoted, the unit price will govern.

10. The contractor will not be permitted to either assign or underlet the contract nor assign either legally or equitably any monies hereunder, or its claim thereto without the previous written consent of the Finance Director.
11. Delivery dates must be shown in your bid. If no delivery date is specified, it will be assumed that an immediate delivery from stock will be made.
12. A certificate of insurance shall be required of a successful vendor.
13. All vendors doing business within the Town are subject to the requirements as stated in the code of Ethics as established by the Town Ordinance No. 92-15 (9/22/92).
14. For contracts involving construction, alteration and/or repair work, the provisions of State Labor Laws concerning payment of prevailing wage rates apply. (See RI General Laws Section 37-13-1 et seq., as amended).
15. No goods should be delivered or work started without a Purchase Order.
16. The Town requests that you submit one original and one copy of your bid.
17. Compensation to the contractor for professional services shall be based upon and measured by the following elements which are set forth below:
 - a. The successful bidder will submit to the Lincoln Water Commission an invoice for each completed project no later than the 1st week of every month. This invoice will then be added to Lincoln Water Commission agenda; the Commission meeting is the 2nd Wednesday of every month. Following the review and acceptance of the Invoice by the Board of Water Commissioners, a payment will be made to the Contractor within 30 days.
 - b. Additional Work. If, during the performance of this Agreement, other or additional services are required for this contract, the Commission may order the Contractor to perform such additional services, payment to the Contractor for the same shall be as provided above. In order to be eligible for payment for additional services, Contractor must receive, prior to commencement of work, authorization from the Lincoln Water Commission.
 - c. Abandonment of Project. If the Lincoln Water Commission shall at any time during the performance of this Agreement, deem it necessary for the Commission to abandon or involuntarily defer the work under this Agreement, the Contractor shall be entitled to compensation for any work uncompensated, work performed prior to such time. Or compensation shall be withheld if the Commission deems the work performed of poor quality.
 - d. Termination. In the event that either party shall default in its obligations to perform in accordance with this Agreement, the other party may demand, in writing to terminate this Agreement by giving 48 hours written notice.

SECTION 00100
INFORMATION TO BIDDERS

NEW DUCTILE IRON WATER MAIN INSTALLATION

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SECTION 00100 INFORMATION FOR BIDDERS

ARTICLE 1. QUALIFICATIONS OF BIDDERS

- 1.1 Bidders may be investigated by OWNER to determine if they are qualified to perform the Work. All Bidders shall be prepared to submit additional information about themselves within five days of OWNER'S request, written evidence of such information and data necessary to make determination of qualification.
- 1.2 The investigation of a Bidder will seek to determine whether the organization is adequate in size, is authorized to do business in the jurisdiction where the project is located, has had previous experience of-the-type and whether available equipment and financial resources are adequate to assure OWNER that the Work will be completed in accordance with the terms of the Contract Documents. The amount of other work to which the Bidder is committed may also be considered.
- 1.3 In evaluating Bids, OWNER will consider the qualifications of only those Bidders whose Bids are in compliance with the prescribed requirements.
- 1.4 OWNER reserves the right to reject any Bid if the evidence submitted by, or the investigation of, such Bidder fails to satisfy OWNER that such Bidder is properly qualified to carry out the obligations of the Contract Documents and to complete the Work contemplated therein.

ARTICLE 2. CONTRACT DOCUMENTS

- 2.1 The Contract Documents shall be used in preparing Bids; OWNER does not assume any responsibility for errors or misinterpretations resulting from the use of incomplete Documents.

The intent of the Contract Documents is to obtain a complete project in a first-class workmanlike manner and it shall be understood that the bidder has satisfied himself as to the complete requirements of the contract and has prepared his proposal upon such understanding.

ARTICLE 3. EXAMINATION OF CONTRACT DOCUMENTS AND SITE

- 3.1 Before submitting a Bid, each Bidder must (a) examine the Contract Documents thoroughly, (b) visit the site to familiarize himself with local conditions that may in any manner affect cost, progress or performance of the Work, (c) familiarize himself with Federal, State and Local laws, ordinances, rules and regulations that may in any manner affect cost, progress or performance of the Work; and (d) study and carefully correlate Bidder's observations with the requirements of the Contract Documents.
- 3.2 Before submitting his Bid, each Bidder may, at his own expense, make such additional investigations and tests as the Bidder may deem necessary to determine his Bid for performance of the Work in accordance with the terms and conditions of the Contract Documents.

- 3.3 The submission of a Bid will constitute an incontrovertible representation by the Bidder that he has complied with every requirement, and that the Contract Documents are sufficient in scope and detail to indicate and convey understanding of all terms and conditions for performance of the Work.

ARTICLE 4. INTERPRETATIONS

- 4.1 All questions about the meaning or intent of the Contract Documents shall be received in writing by the OWNER at least five days before the date herein set for the opening of bids. If a bidder finds any omissions, discrepancies or errors in the Contract Documents or is in doubt as to the meaning of the Plans, Specifications or other Contract Documents, he should notify the Owner in writing who may correct, amend or clarify such documents by an interpretation or addendum. If such bidder fails to notify the Owner he will be held rigidly to the Owner's interpretation of the plans and specifications after the contract is executed.
- 4.2 No interpretation of the meaning of the plans, specifications or other Contract Documents will be made to any bidder orally. Every request for such interpretation should be in writing addressed to the Owner and to be given consideration must be received at least five (5) days prior to the date fixed for the opening of bids. Any and all such interpretations and any supplemental instructions will be in the form of written addenda to the specifications which, if issued, will be emailed to all prospective bidders not later than three (3) business days prior to the date fixed for the opening of bids.
- 4.3 Each Bidder shall be responsible for determining that he has received all Addenda issued. If the Owner shall deem any matter arising thereafter of such importance as to require correction, amendment or clarification, it may postpone the time for the opening of bids by notifying each prospective bidder of such postponement by telegraph or telephone and issue an additional addendum.

Failure of any bidder to receive any addendum shall not relieve the bidder from any obligations under his bid if such addendum is actually sent to the bidder at the address furnished by him at the time he obtains copies of the Contract Documents. All addenda so issued shall become part of the Contract Documents.

ARTICLE 5. LAWS AND REGULATIONS

- 5.1 The bidder's attention is directed to the fact that all applicable Federal, State and Municipal laws, ordinances, rules and regulations, codes of all authorities having jurisdiction over construction work in the locality of the project shall apply to the contract throughout and they are deemed to be included herein the same as though herein written out in full.

All work under this contract is subject to the prevailing wage rate of the State of Rhode Island. Certified payrolls will be required to be submitted for all work under this contract. Bid prices must reflect adherence to the provisions of State Labor Laws concerning payment of prevailing wages (see RI General Laws Sec 37-13-1 et seq. as amended). The rates of pay set forth in these provisions are the minimums to be paid during the life of the contract. Bidders shall inform themselves as to the local labor conditions such as the

length of workday and workweek, overtime compensation, health and welfare contributions, labor supply, and prospective changes or adjustment of rates.

5.2 Labor Regulations:

The following paragraphs regarding labor regulations shall be included and become part of these Specifications:

- A. Non-Resident Contractors are subject to 44-1-6 of the Rhode Island General laws, as amended. (OUT OF STATE CONTRACTORS.)
- B. The successful Bidder will be required to comply with the Contract Work Hours and Safety Standards Act (40 USC 327-330) as supplemented by Department of Labor Regulations. (29 CFR, Part 5)
- C. The successful Bidder will be required to comply with the Safety and Health Regulations (29 CFR, Part 1926 and all subsequent amendments) as promulgated by the Department of labor.
- D. The successful Bidder will be required to comply with Title VI of the Civil Rights Act of 1964 (P.L. 88-352).

ARTICLE 6. PRECONSTRUCTION CONFERENCE

- 6.1 The selected Contractor shall be prepared to attend a preconstruction conference scheduled by the Owner after award of the contract, but prior to the actual commencement of work at the site. The main item of discussion will be the Contractor's construction schedule.

ARTICLE 7. BID SECURITY

- 7.1 Each Bid must be accompanied by cash, bid bond, or a certified check or a treasurer's or cashier's check issued by a responsible bank or trust company, payable to OWNER. The Bid Security shall be in the amount stated in the Invitation to Bid.

The surety on the bid bond must be a corporate surety licensed to sign surety bonds in the State of Rhode Island and also listed by the United States Treasury Department in its latest lists as a qualified surety acceptable to the United States Government. No bid bonds will be accepted if the amount of the bond is less than ten percent (10%) of the TOTAL BASE BID for the contract or if the amount of the bond exceeds the limit for which the United States Treasury Department has qualified the surety any one bond. Deposits accompanying bids shall be sealed in the bid envelope

Cash, certified checks or bid bonds will be returned to all except the three apparently lowest formal bidders within approximately two (2) weeks after the formal opening of the bids. The remaining cash, certified checks or bid bonds will be returned promptly after the Owner and the successful Bidder has executed the proposed contract, or if any one of the proposed contracts has not then been executed within 90 days after the date of the opening of the bids. If the bid holding period is to be extended beyond 90 days, by mutual agreement of the Owner and Bidder, the Bidder may demand his security at any time

thereafter, so long as he has not been notified of the acceptance of his bid. The applicable requirements pertaining to the bid bond shall also apply to the certified check.

- 7.2 In case the party to whom the Contract is awarded shall fail or neglect to execute the Agreement or furnish the satisfactory bonds within the time specified, OWNER may determine that the Bidder has abandoned the Contract, and thereupon the Bid Forms and acceptance shall be null and void, and the Bid Security accompanying the Bid Form shall be forfeited by OWNER as liquidated damages for such failure or neglect and to indemnify the OWNER for any loss which may be sustained by failure of the Bidder to execute the Agreement and/or furnish the bonds as aforesaid, provided that the amount forfeited to OWNER shall not exceed the difference between the Bid Price of said Bidder and that of the next lowest responsible and eligible bidder, and provided further that, in case of death, disability, or other unforeseen circumstances affecting the Bidder, such Bid Security may be returned to him. After execution of the Agreement and acceptance of the bonds by the OWNER, the Bid Security accompanying the Bid Form of the successful Bidder will be returned.

ARTICLE 8. PERFORMANCE, PAYMENT AND OTHER BONDS

- 8.1 Upon the execution of the contract, the Contractor shall furnish a Performance Bond and a Labor and Material Bond, both issued simultaneously in the amount of at least equal to 100 percent of the bid price as security for faithful performance of the contract and for the payment of all persons performing labor on the project under the contract and furnishing materials in connection with the contract. The bonds shall be submitted utilizing "Industry Standard" type forms for such contract documents. Acceptable bond documents to be furnished by the Contractor shall be AIA Document A312 (latest revision) or EJCDC Documents C-160 and C-615 (latest revisions). The surety on the bonds must be a corporate surety and must meet the requirements stated under Bid Security hereof except that the amount of the bonds may exceed the limit for which the United States Treasury Department has qualified the Surety if the excess is reinsured with surety companies that are qualified on the United States Treasury Department list for an amount equal to the amount of the reinsurance. Written evidence of how any excess suretyship has been placed by the Surety signing the bond must accompany the bond.
- 8.2 If the Contractor is a partnership, the bonds should be signed by each of the individuals who are partners; if a corporation, the bonds should be signed in the correct corporation name by a duly authorized Officer, agent or attorney-in-fact. There should be executed an appropriate number of counterparts of the bonds corresponding to the number of counterparts of the contract. Each executed bond should be accompanied by (1) appropriate acknowledgments of the respective parties; (2) appropriate duly certified copy of Power of Attorney or other certificate of Commission where bond is executed by agent, officer or other representative of Contractor or Surety; (3) a duly certified extract from by-laws or resolutions of Surety under which Power of Attorney or other certificate of Commission of its agent, officer or representative was issued.

ARTICLE 9. INSURANCES

- 9.1 The Contractor shall secure and maintain insurance of the type and in the amounts described in Article 10 of the General Conditions, from an insurance company authorized to write casualty insurance in the State of Rhode Island. Such insurance shall protect the Contractor, his subcontractors, and the Owner from claims for bodily injury, death or property damage which may arise from operations under this contract, including blasting. The Contractor shall not commence work under this contract until he has obtained all insurance required and filed the certificate of insurance policy with the Owner. Each insurance policy shall contain a clause providing that it shall not be cancelled or altered by the insurance company without thirty (30) days written notice to the Owner of the intention to cancel.

ARTICLE 10. TAXES

- 10.1 The Bidder's attention is directed to the fact that certain taxes, including Federal, excise and/or Rhode Island Use Taxes are not applicable to Lincoln Water Commission work. LWC will execute exemption certificates, prepared by the Contractor, for the materials and equipment used in the work.

ARTICLE 11. BID FORM

- 11.1 Each Bid shall be submitted on the Bid Form appended to the Contract Documents. Appendix A shall be completed, removed and submitted. All blank spaces for bid prices must be filled in with the unit price for the item or lump sum, as applicable.

In the event that there is a discrepancy between the unit prices and the extended totals, the unit prices shall govern. In the event that there is a discrepancy between the price written in words and written in figures, the prices written in words shall govern. No bid will be accepted which does not contain a unit or lump sum price for every item contained in the bid form.

- 11.2 **BIDS MUST BE SUBMITTED IN DUPLICATE.** Bid Forms shall be completed in ink or be typed. All blank spaces must be filled in correctly, where indicated for each and every item. Proposals must give the prices proposed both in words and figures, and no changes shall be made in the forms or in the items mentioned therein. Erasures or other changes in the bid must be explained or noted over the signature of the bidder.
- 11.3 A Bid which includes for any item a Bid Price that is abnormally low or high may be rejected as unbalanced.
- 11.4 Bids by corporations shall be executed in the corporate name by the president or a vice-president (or other corporate officer accompanied by evidence of Commission to sign) and the corporate seal shall be affixed and attested by the secretary or an assistant secretary. The corporate address and state of incorporation shall be shown below the signature.
- 11.5 The bidder shall sign his proposal in the blank space provided for this purpose. If the proposal is made by a partnership or corporation, the name and address of the partnership or corporation shall be indicated, together with the names and addresses of the partners or

officers. If the proposal is made by a partnership, it must be acknowledged by one of the partners; if made by a corporation, by one of the officers. Bidders shall furnish with their proposals the following:

1. Bid Bond
2. Anti-Collusion Declaration
3. Contractor's Qualification Statement
4. Proposed Subcontractors

The information required under (1) to (4) inclusive, shall be furnished on the forms included in the bound proposal.

- 11.6 All names shall be typed or printed below the signatures.
- 11.7 The Bid shall contain an acknowledgment of receipt of all Addenda, if any (the number and date of which shall be filled in on the Bid Form).
- 11.8 The address to which communications regarding the Bid are to be directed shall be shown.
- 11.9 Two full sets of documents included in Appendix A shall be submitted in a sealed opaque envelope bearing on the outside the name of Bidder, his address, and the Title.

LINCOLN WATER COMMISSION

NEW DUCTILE IRON WATER MAIN INSTALLATION

(If forwarded by mail, sealed envelope with the notation "BID ENCLOSED" and Title on the face must be addressed as indicated in the Invitation to Bid).

- 11.10 All work under this contract is subject to the prevailing wage rate of the State of Rhode Island. Certified payrolls will be required to be submitted for all work under this contract. Bid prices must reflect adherence to the provisions of State Labor Laws concerning payment of prevailing wages (see RI General Laws Sec 37-13-1 et seq. as amended). The rates of pay set forth in these provisions are the minimums to be paid during the life of the contract. Bidders shall inform themselves as to the local labor conditions such as the length of workday and workweek, overtime compensation, health and welfare contributions, labor supply, and prospective changes or adjustment of rates.

ARTICLE 12. RECEIPT OF BIDS

- 12.1 OWNER may consider informal and disqualify any Bid not prepared and submitted in accordance with the provisions hereof.
- 12.2 Bidders are cautioned that it is the responsibility of each bidder to assure that his bid is in the possession of the responsible official or his designated alternate prior to the stated time and at the place of the Bid Opening. OWNER is not responsible for bids delayed by mail and/or delivery services of any nature.

ARTICLE 13. LOCATION AND DESCRIPTION OF WORK

The work consists of, but is not necessarily limited to, furnishing all labor, equipment, appurtenances and incidentals, and performing all operations in connection with **NEW DUCTILE IRON**

WATER MAIN INSTALLATION in LINCOLN, RI, including excavation and backfill, restoration of pavement surfaces as required, lawns, and rights-of-way; furnishing and installing required ductile iron pipe, valves, fire hydrants, bends, thrust blocks, water service materials, and temporary by-pass service pipe for maintaining water service as required, all as specified in these documents.

ARTICLE 14. SEQUENCE OF WORK

Based upon a Notice to Proceed for the contract work included in the TOTAL BASE BID (Proposal), the work sequence shall be determined at the preconstruction meeting. The successful bidder shall submit to the Owner, in writing, a detailed time schedule delineating the order in which he intends to carry out the work under this contract.

ARTICLE 15. TIME OF COMPLETION AND LIQUIDATED DAMAGES

15.1 The bidder must agree to substantially complete all work under this contract within 90 consecutive calendar days of the Owners written "Notice to Proceed" including the removal of all equipment, debris, supplies, barriers, temporary piping, etc., from the work areas and render all areas in the vicinity of the work in a clean, unobstructed and unobtrusive condition. There is a \$1,000.00 per day penalty for each consecutive calendar day after the 90 day time of completion limit until actual completion.

Substantial completion shall be achieved when all work items EXCEPT Permanent Pavement and Loaming and Seeding shall be complete. To achieve Substantial Completion of the Work, all newly installed water mains shall be accepted and returned to service, the Contractor shall restore permanent water service to all customers, remove all temporary by-pass piping, building service connections and all other temporary work from the project site. The Contractor shall place temporary paving as required; restore to their original condition all walks, drives, curbs, grassed areas and such other parts which have been disturbed as a result of the Contractor's operations; and do all other work as necessary and directed to leave all work and property in a clean, safe and acceptable condition. A schedule shall be submitted and approved for Loaming and Seeding.

ARTICLE 16. MODIFICATION AND WITHDRAWAL OF BIDS

16.1 Bids may be modified only by an appropriate document duly executed (in the manner that Bid must be executed) and delivered to the place where Bids are to be submitted at any time prior to the opening of Bids. No oral, written or telegraphic amendments to this bid will be accepted.

16.2 Bids may be withdrawn prior to the scheduled time (or authorized postponement thereof) for the opening of Bids.

16.3 Any Bid received after the time and date specified shall not be considered. No Bidder may withdraw his Bid for a period of sixty days, excluding Saturdays, Sundays, and legal holidays, after the actual date of the opening of the Bids.

ARTICLE 17. RIGHT TO REJECT PROPOSALS

- 17.1 The Owner reserves the right to reject any and all proposals or to accept the proposal or proposals which in its judgment will be for the best interests of the Owner. Any proposals which contain any omissions, alterations of form, additions or alternates not called for, erasures or corrections which fail to conform to the regulations stated herein, may be disregarded and rejected as improper, except that the Owner may waive any defects or irregularities. Any proposals which are submitted or received after the scheduled closing time for the receipt of proposals will be rejected. Proposals in which the prices obviously are unbalanced may be rejected.

ARTICLE 18. EQUAL BIDS

- 18.1 When two or more bids are equal in all respects, award shall be made by lot which shall be witnessed by at least three persons and which may be attended by the bidders or their representatives.

ARTICLE 19. BALANCED BIDDING

- 19.1 Bids should be made on each separate item of work shown in the bid (proposal) with reasonable relation to the probable cost of doing the work included in such item, and the right is reserved to reject wholly any bid in case an item or items thereof are obviously unbalanced, under the minimum unit price, or appear to the Owner to be so unbalanced as to affect or be liable to affect adversely any interests of the Owner. The attention of the bidder is called to the fact that unbalancing of bids may adversely affect the Contractor if certain portions of the work are increased or decreased as provided in the Contract Documents.

ARTICLE 20. ITEMS NOT LISTED IN THE BID

- 20.1 The lump sum and unit price items listed in the bid are intended to cover all items of work to be done and materials and work to be furnished to fully complete the work in accordance with the Contract Documents. Appurtenant items of work shown on the drawings or specified or required to complete the work but not listed separately under list of items in the bid shall be provided and shall be included in the cost of payment under the various applicable bid items of work and no separate payment will be made for such items. It shall be the responsibility of the Contractor to verify any missing or incomplete data.

ARTICLE 21. UNCERTAINTY OF QUANTITIES

- 21.1 The quantities listed in the bid (proposal) are approximate and are given only for use in comparing bids and to indicate approximately the total amount of the contract, and the Owner does not expressly or by implication represent that the actual amounts of work will even approximately correspond therewith, but does call particular attention to the uncertainty in the quantities of the work involved which cannot be predicted in advance. The work under certain items may be materially greater or less than those given in the bid as maybe necessary in the judgment of the Owner to complete the work contemplated in

the contract. Attention is particularly called to the fact that the quantity of work to be done under some bid items may be largely dependent on subsurface ground conditions encountered and therefore the quantities of work to be done under the various items may vary substantially from the estimated quantities or may even be omitted.

- 21.2 Under the contract, the Owner reserves the right to increase or decrease the approximate quantities for or to omit entirely any of the items as listed in the bid.
- 21.3 Only such quantities of the respective items of work actually performed and accepted will be paid for. An increase or decrease in the quantity for any item shall not be regarded as grounds for an increase or decrease in the bid prices.

ARTICLE 22. AWARD OF CONTRACT

- 22.1 Bids will be compared on the basis of the experience of the bidder, and on the lowest TOTAL BID listed in the bid proposal. The Contract will be awarded to the lowest responsible and eligible Bidder (Successful Bidder). Such a Bidder shall possess the skill, ability, and integrity necessary for the faithful performance of the work. The term "lowest responsible and eligible Bidder" as used herein shall mean the Bidder whose Bid is the lowest of those Bidders possessing the skill, ability and integrity (in the sole judgment of the Commission), necessary to the faithful performance of the Work.
- 22.2 If, at the time this Contract is awarded, the lowest Base Bid submitted by a Responsible Bidder does not exceed the amount of funds then estimated by the Owner as available to finance the Contract, the Contract may be awarded on the base Bid. If such Bid exceeds such amount, the Owner expressly reserves the right to increase or decrease any class, item, or part of the Work, and this reservation includes the omission of any such item, items, class or part of the Work as may be decided by the Owner at the Unit Prices submitted by the Bidder to bring the Contract within available funds; or the Owner may reject all bids.
- 22.2 OWNER reserves the right to reject any and all Bids, to waive any and all informalities if it is in Owner's best interest to do so, and the right to disregard all nonconforming, nonresponsive or conditional Bids.
- 22.3 If the Contract is to be awarded, OWNER will give the Successful Bidder a Notice of Award within sixty (60) days, excluding Saturdays, Sundays, and legal holidays, after the actual date of the opening of the Bids. All bids shall remain open for sixty (60) days, excluding Saturdays, Sundays, and legal holidays, after the actual date of the opening of the Bids but OWNER may, in his sole discretion, release any Bid prior to that date.

ARTICLE 23. ACCEPTANCE AND AWARD OF CONTRACT

- 23.1 Within 90 days after the opening of the bids, unless extended by mutual agreement of the Owner and the bidder, the Owner will accept one of the bids or will reject all bids. Acceptance of the bid and Notice of Award will be in writing signed by an officer of the Owner and mailed to the address designated in the Proposal. The notice shall contain appropriate instructions and

information as to the time and place set for the execution of the contract. The successful bidder or his duly authorized representatives shall appear at the time and place designated and shall execute the contract and furnish all bonds and certificates of insurance which may be required.

- 23.2 A contract will not be awarded to any corporation, firm or individual who is in arrears to the owner by debt or contract, or who is in default as security or otherwise by an obligation to the Lincoln Water Commission.

ARTICLE 24. LIQUIDATED DAMAGES FOR FAILURE TO ENTER INTO CONTRACT

- 24.1 The successful bidder, upon his failure or refusal to execute and deliver the contract and bonds required within five (5) days after he has received "Notice of Award" indicating the acceptance of his bid, shall forfeit to the Owner, as liquidated damages for such failure or refusal, the security deposited with his bid.

ARTICLE 25. EXECUTION OF AGREEMENT

- 25.1 When OWNER gives a Notice of Award to the Successful bidder, it will be accompanied by at least four unsigned copies of the Agreement and any other applicable Documents. Within five (5) days, excluding Saturdays, Sundays and legal holidays, after the date of receipt of such notification CONTRACTOR shall execute and return all copies of the Agreement and any other applicable documents to OWNER. Within ten (10) days thereafter OWNER will deliver at least one fully signed copy to Bidder.

ARTICLE 26. SAFETY AND HEALTH REGULATIONS

- 26.1 This Project is subject to all of the Safety and Health Regulations (CFR29, Part 1926 and all subsequent amendments) as promulgated by the U.S. Department of Labor on June 24, 1974 and CFR29, Part 1910, General Industry Safety and Health Regulations Identified as Applicable to Construction.
- 26.2 The Successful Bidder shall comply with the department of Labor Safety and Health Regulations for construction promulgated under the Occupational Safety and Health Act of 1970 (PL-91-596) and under Section 107 of the Contract Work Hours and Safety Standards Act (PL-91-54).
- 26.3 The Successful Bidder shall have a competent person or persons, as required under the Occupational Safety and Health Act on the Site to inspect the Work and to supervise the conformance of the Work with the regulations of the Act.

ARTICLE 27. ACCESS TO WORK

- 27.1 Representative of the OWNER shall have, at all times, access to the Work under this Contract wherever it is in preparation or progress.

ARTICLE 28. GUARANTEE

28.1 The CONTRACTOR shall guarantee all materials and equipment furnished and all WORK performed for a period of one year from the date of SUBSTANTIAL COMPLETION of each Project, except where a longer guarantee period is required by other controlling agencies (for example RIDOT may require a longer guarantee period for state roads). The CONTRACTOR warrants and guarantees that the completed system shall be free from all and any defects due to faulty materials supplied by the CONTRACTOR or workmanship and the CONTRACTOR shall promptly make such corrections as may be necessary by reason of such defects including the repairs of any damage to other parts of the system resulting from such defects. The OWNER will give notice of observed defects with reasonable promptness. In the event that the CONTRACTOR should fail to make such repairs, adjustments, or other WORK that may be made necessary by such defects, the OWNER may do so and make the necessary repairs and charge the CONTRACTOR the cost thereby incurred. The Construction Payment on Construction Performance Bonds shall remain in full force and effect through the guarantee period.

ARTICLE 29. UTILITY UNDERGROUND PLANT DAMAGE PREVENTION

29.1 All excavations within public or private ways are subject to the requirements of Rhode Island Statutes and applicable regulations. The CONTRACTOR is required to notify and make arrangements with Dig-Safe, telephone number 1-888-DIG-SAFE, (1-888-344-7233) and to comply with the statutes and regulations cited.

The bidders are referred to the following utility companies and other agencies for information regarding existing structures and other facilities which they own or control and which may be encountered within or adjacent to the work limits.

- Location of Utilities
State of Rhode Island Utilities Underground Plant Damage Prevention System
(DIG SAFE) 1-888-344-7233
- Town of Lincoln Police Department
Brian Sullivan, Chief (401) 333-8484
- Town of Lincoln Public Works Department
Michael Gagnon, Director (401) 333-1100 x8007
- State Highways
Department of Transportation Highway Division
State Office Building Providence, RI 02903 401-277-2420
- Saylesville Fire District
Fire Chief Fisher (401) 728-2960
- Water Mains
Lincoln Water Commission, 96 Old River Road, Lincoln, RI 02865
Lewis Prescott, Assistant to the Superintendent (401) 255-2670

- Gas Services
National Grid, 100 Weybosset Street, Providence, RI (401) 831-8800
- Electric Services
National Grid, 100 Weybosset Street, Providence, RI (401) 831-8800
- Telephone Service
Verizon ASC, 350 Granite Street, Braintree MA 02184-3905 (401) 525-3830
- Cable Television Service
Cox Communications, J. P. Murphy Highway West Warwick, RI 02893
(401) 821-1919

ARTICLE 30. CONDITIONS OF WORK

30.1 Each bidder must inform himself fully of the conditions relating to the construction and labor under which the work is now or will be performed; failure to do so will not relieve the successful bidder of his obligation to furnish all materials and all labor necessary to carry out the provisions of the Contract Documents, and to complete the contemplated work for the consideration set forth in his bid. Insofar as possible, the Contractor, in the carrying out of his work, must employ such methods or means as will not cause interruption or undue interference with traffic, the use of existing facilities and utilities, the use of municipally, state or privately owned lands, or with the work being performed by others. The Contractor must satisfy himself by his own investigation and research as to the nature and location of the work, the general and local conditions, including but not restricted to those bearing upon underground pipes and structures, subsurface soil conditions including rock and groundwater, transportation, disposal, handling and storage of materials, water, electric power, roads, means of access, the construction and making of connections of the work to existing facilities and utilities, the locations of existing utilities and structures affecting the work, or other similar conditions at the site, the character of equipment and facilities needed preliminary to and during prosecution of the work, requirements of owners and controlling authorities having jurisdiction over the various lands, existing structures, facilities and utilities, and all other conditions affecting the work to be done and labor and materials needed, and make his bid in sole reliance thereon, and shall not at any time after submission of a bid assert that there was any misunderstanding in regard to the nature or amount of the work to be done.

ARTICLE 31. WORK ON STATE, MUNICIPAL AND PRIVATE PROPERTY

- 31.1 Particular attention is hereby directed to the fact that portions of the work included under this contract may have to be done within the limits of properties that are State-owned, municipally-owned and privately-owned. The Contractor shall be responsible for coordinating the prosecution of the work in accordance with additional requirements as specified herein.
- 31.2 Particular attention is hereby directed to the fact that some of the work included under this contract may have to be done within the limits of properties that are State-owned and privately owned. The Owner has, or will, secure the necessary limited temporary or permanent easements for construction purposes. The Contractor will be permitted to use the areas of the Owner's easements, subject to all conditions and requirements as they may

affect the Contractor's operations and the work of this contract and the Contractor shall conduct his operations and activities in the performance of the work under this contract in accordance with all such conditions and requirements and such additional requirements as may be imposed by the Owner.

- 31.3 All means and rights of ingress and egress to the work areas and all areas required for work space shall be the entire responsibility of the Contractor and all costs in connection therewith shall be considered to be included in the prices stipulated for the appropriate items of work as listed in the bid; the Contractor shall not use nor occupy public or private lands outside the limits of the Owner's easements and rights-of-way unless permits in writing have first been obtained by the Contractor from the owners of the public and/or private land and copies of such permits filed with the Owner. The Contractor shall be responsible for cooperating with and for coordinating the prosecution of the work of his contract with State and private property owners. Any abuse to lands of State or private owners shall be immediately corrected by the Contractor at his expense to the complete satisfaction of the owners and such precautionary or preventive measures as required by the Owner shall be taken or made to prevent further additional nuisances, interference or inconvenience to the abutting owners.
- 31.4 It shall be the Contractor's full responsibility to familiarize himself with the limitations imposed on the work of construction within the various properties of State or private ownership and rights-of-way by the existing occupancy or use. To this end, he will be required to make every effort to fully and satisfactorily protect trees, shrubs, lawns, gardens, fences, walks, driveways, structures and all and any other appurtenances of the property owners. In addition, he shall provide adequate access to all walks, driveways, yards or structures; protect all work by the erecting or placing safety guards or barriers, lights and such other incidentals; and where required, the Contractor shall construct temporary plank crossings or timbers to permit full use of private facilities at all times, at no additional expense to the Owner. All other applicable provisions for control of work within the areas of public travel set forth elsewhere herein shall also apply to work within the limits of private ownership.
- 31.5 The Contractor shall cooperate with State and private property owners and shall also contact the Owner for additional information regarding the requested (or required) length of time needed as a notice to be given to the State and private property owners before the Contractor enters the State or privately owned property in order to start the construction work. In some cases, a certain time to start the work and a certain limited length of time may be required by the State and private property owners for any shutdowns or construction operations so the work of the Contractor will not interfere with the operations of the State or private property owners.
- 31.6 No separate payment will be made for the requirements specified under "WORK WITHIN THE LIMITS OF PRIVATE PROPERTY" and all costs in connection therewith shall be included in the prices stipulated for the appropriate items of work as listed in the bid.

ARTICLE 32. USE OF STREETS DURING CONSTRUCTION

- 32.1 The streets concerned with this contract are regularly traveled and the location of the work is such that the streets shall be open to abutters and to through traffic.

The Contractor shall coordinate the services of a special police detail to direct traffic during construction, as required, by the Specifications, as ordered by the Police Department, or as otherwise directed by the Owner; shall provide and maintain from the beginning of twilight through the whole of every night on or near all obstructions, excavations or points of danger on the work, sufficient guards and barricades to protect traffic from injury; shall take such other precautions as may be necessary to protect life and property, and shall be liable for all damages occasioned in any way by his act or neglect or that of his agents or servants.

Insofar as possible, all streets and rights-of-way shall remain open. However, should it be necessary to close or restrict any street, the Contractor shall notify the Owner prior to closing or restricting any such street, and shall coordinate any such closing or restriction with the local Police and Fire Department so as to allow for the free movement of emergency vehicles to the satisfaction of the respective detour signs, barricades and lights for the safety of the public.

Where it is necessary to interfere with private ways, roads or driveways, the contractor shall give reasonable notice to the Owners thereof prior to such interference, and shall, at his own expense, provide suitable and safe bridges or other sufficient crossings for the accommodation of the travel thereon, shall maintain the same in good and safe condition until the said private ways, road or driveways are usable to the satisfaction of the Owner. As the work progresses, and at the end of each work day, the Contractor shall remove and dispose of all debris and materials resulting from the construction operations, and shall render the work areas in a clean, unobstructed and unobtrusive condition.

SECTION 00200

BID FORM (PROPOSAL)

LINCOLN WATER COMMISSION (OWNER)

NEW DUCTILE IRON WATER MAIN INSTALLATION

TO: LINCOLN WATER COMMISSION (OWNER)

96 OLD RIVER ROAD, LINCOLN, RI 02865

PROJECT: NEW DUCTILE IRON WATER MAIN INSTALLATION

DATE: _____

SUBMITTED BY: _____

(full name)

(full address)

OFFER:

Having examined the Place of Work and all matters referred to in the Instructions to Bidders and Special Instructions to Bidders and the Contract Documents for the above-referenced project, we, the undersigned, hereby offer to enter into a Contract to perform the Work in the Base Bid for the Price of:

_____ (figures)

(Total price in words)

Dollars, in lawful money of the United States of America.

The undersigned declares that the only persons or parties interested in this Bid as principals are as stated; that the Bid is made without any collusion with other persons, firms, or corporations; that he/she has carefully examined the Contract Documents, that he/she has informed himself/herself fully in regard to all conditions pertaining to the Work and the place where it is to be done, and from them the undersigned makes this Bid. These prices shall cover all expenses incurred in performing the Work required under and in conformance with the Contract Documents, of which this Bid Form is a part.

All bids shall remain open for sixty days, excluding Saturdays, Sundays, and legal holidays, after the actual date of the opening of the Bids.

If a Notice of Award accompanied by at least four unsigned copies of the Agreement and all other applicable Contract Documents is delivered to the Undersigned within sixty days, excluding Saturdays, Sundays, and legal holidays, after the actual date of the opening of the Bids, the undersigned will within five days, excluding Saturdays, Sundays, and legal holidays, after the date of receipt of such notification, execute and return all copies of the Agreement and all other applicable Contract Documents (i.e. Bonds, Insurance Certificates, etc.) to OWNER.

The undersigned hereby agrees that the contract Time shall commence on the date the Agreement is signed, and to fully complete the Work within the time specified and in accordance with the terms as stated in the Agreement. The undersigned further agrees to pay OWNER, as liquidated damages, \$1000.00 per day for each calendar day beyond the Contract Time Limit or extension thereof that the Work remains incomplete, in accordance with the terms of the Agreement.

The undersigned acknowledges receipt of addenda numbered:

Addendum _____ date _____

Addendum _____ date _____

Addendum _____ date _____

In accordance with the above understanding, the undersigned proposes to perform all the Work as described in the Construction Documents, furnish all materials, and complete the Work in its entirety in the manner and under the conditions required, at following unit prices and for the stated TOTAL BASE BID.

Amounts shall be shown in both words and figures, where indicated. In case of discrepancy, the Unit Price, shown in words will govern.

In accordance with common practice, where a quantity is labelled "Provisional" (P), use of this item is either not anticipated or no estimate of quantity can be made, but the item is included to establish a price under this contract, in the event that such work is required. Provisional items are subject to deletion in entirety where not required or necessary.

ITEMS FOR BID

Item Number	Item Description	Estimated Quantity	Unit of Measurement (M&P Ref section)	Unit Bid Price (dollars and cents)	Total Base Bid Amount (dollars and cents)
-------------	------------------	--------------------	---------------------------------------	------------------------------------	---

20a Peripheral Saw Cutting 3000 LF \$ _____ \$ _____
 Bituminous Asphalt Pavement (Sec 02500)
 (up to 8 inches thick)

At _____ per Linear Foot of Cut

20b Peripheral Saw Cutting 60 LF \$ _____ \$ _____
 Bituminous Asphalt Pavement (Sec 02500)
 (8" inches thick or greater)

At _____ each Linear Foot of Cut

21a Road Concrete Sub-base 15 (P) SY \$ _____ \$ _____
 Removal, each inch of thickness (Sec 02500)
 Up to 6 inches thick sub-base

At _____ each inch per Linear Foot of trench

21b Road Concrete Sub-base 3 (P) SY \$ _____ \$ _____
 Removal, each inch of thickness (Sec 02500)
 over 6 inches thick sub-base

At _____ each inch per Linear Foot of trench

21c Road Concrete Sub-base 15 (P) SY \$ _____ \$ _____
 Installation, each inch of thickness (Sec 02500)

At _____ each inch per Linear Foot of trench

28

Night Work
Additional Cost

1

DAYS
(Sec 02000)

\$ _____ \$ _____

At _____ Per Day

TOTAL BASE BID

Dollars (Total Base Bid in writing)

TOTAL BASE BID: Under the TOTAL BASE BID stated above, the Bidder shall perform all of the work and furnish all of the labor, materials, equipment, appurtenances, and services, and do all other work required, necessary and incidental for the completion of **NEW DUCTILE IRON WATER MAIN INSTALLATION**, in accordance with the Drawings and Specifications.

Date: _____

THIS BID IS RESPECTFULLY SUBMITTED,

By: _____
(Name of Company*)

By: _____
(Name)

(Title)

(Business Address)

(City and State)

(Phone Number)

Notice of acceptance should be mailed, telegraphed, or delivered to the following:

*If Bidder is a Corporation, complete and affix corporate seal:

_____ **is a corporation organized under the state**
laws of _____, composed of officers as follows:

President _____

Vice President _____

Secretary _____

Treasurer _____

Date of Incorporation _____

* If Bidder is a Partnership, complete (full names and residential addresses):

We are copartners trading and doing business under the Firm name

_____ **and style of _____,**

composed of partners as follows:

Date of Organization _____

At a duly authorized meeting of the Board of Directors of the

_____ held on _____
(name of corporation) (date)

at which all the Directors were present or waived notice, it was voted that

_____ (name) (officer)

of this company be, and he hereby is, authorized to execute bidding documents, contracts and bonds in the name and on the behalf of said company, and affix its corporate seal thereto, and such execution of any such contract of obligation in this company's name on its behalf by such

(officer)

under seal of the company shall be valid and binding upon this company.

A true copy

ATTEST _____
(clerk)

Place of Business _____

I hereby certify that I am the clerk of _____

And that _____

Is duly elected _____ of said company, and that the above vote has not been
(officer)

amended or rescinded and remains in full force and effect as of the date of this contract.

Corporate Seal

Date _____ Clerk _____

BID BOND

KNOW ALL MEN BY THESE PRESENTS, that we the undersigned,

_____, as Principal, and

_____, as Surety, are hereby

held and firmly bound unto the Lincoln Water Commission, acting through its Chairman hereinafter called the Owner in the penal sum of

_____ Dollars (\$), for the payment of which will and truly be made, we hereby jointly and severally bind ourselves, our heirs, executors, administrators, successors and assigns.

Signed this _____ day of **2016**.

THE CONDITION OF THE ABOVE OBLIGATION is such that whereas the Principal has submitted to the Lincoln Water Commission, a certain bid attached hereto and hereby made a part hereof to enter into a contract in writing for:

NEW DUCTILE IRON WATER MAIN INSTALLATION

NOW THEREFORE,

- If said bill shall be rejected or in the alternate:
- If said bill shall be accepted and the principal shall execute and deliver a contract in the form of contract attached hereto (properly completed in accordance with said bid) and shall furnish a bond for his faithful performance of said contract and for the payment of all persons performing labor and furnishing materials in connection therewith and shall in all other respects perform the agreement created by the acceptance of said bid, then his obligation shall be void, otherwise the same shall remain in force and effect; it being expressly understood that the liability of the Surety for any and all claims hereunder shall, in no event, exceed the penal amount of this obligation as herein stated.

The Surety, for value received, hereby stipulates and agrees that the obligations of said Surety and its bond shall in no way be impaired or affected by any extension of the time within which the Owner may accept such bid; and said Surety does hereby waive notice of any extension.

IN WITNESS WHEREOF, the Principal and Surety have hereunto set their hands and seals and such of them as are corporations have caused their corporate seals to be hereto affixed and these presents to be signed by their proper officers, the day and year first set forth above.

By _____

SEAL

(Principal)

By _____

SEAL

(Surety)

LINCOLN WATER COMMISSION (OWNER)

NEW DUCTILE IRON WATER MAIN INSTALLATION
ANTI-COLLUSION DECLARATION

The undersigned, as bidder, having fully informed himself regarding the accuracy of the statements made herein, certifies that:

1. No person or persons other than those named herein are interested in this Bid (Proposal), and that this bid has been made without collusion with any other person, firm or corporation;
2. No person or persons acting in any official capacity for the Owner is/are directly or indirectly interested in the proposed work or any portion of the profit thereof; and
3. The contents of the Bid have not been communicated by the bidder or his employees or agents to any person not an employee or agent of the bidder or his surety on any bond furnished with the Bid, and will not be communicated to any such person or persons prior to the official opening of the Bid.

The undersigned bidder further certifies that this statement is executed for the purposes of inducing the Lincoln Water Commission to consider the bid and make an award in accordance therewith.

(Legal Name of Bidder)

(Business Address)

(Signature and Title of Authorized Signer)

(Date)

STATEMENT OF BIDDER'S QUALIFICATIONS

The Contractor (Bidder) is hereby required to demonstrate to the satisfaction of the LWC, that he or she has the required experience by submitting proof of all of the following in a notarized statement.

- A. That the Contractor (or sub-contractor) must have at least five (5) years of experience in the installation of (potable/public) water mains in the continental United States of America.
- B. That the Contractor currently has the required organization capital, and ability to complete the project.
- C. That the Contractor has completed at least four (4) installations of similar size, nature and dollar value within the last five (5) years as a prime Contractor.
- D. In addition, the following questions must be answered and the data given must be clear and comprehensive. If necessary, questions may be answered on separate sheets.

The Bidder may submit any additional information he desires.

BIDDING COMPANY: _____

Corporation Partnership Individual

Joint Venture Other _____

PERMANENT MAIN OFFICE ADDRESS, including City, State and Zip.

WHEN ORGANIZED: _____

IF A CORPORATION, WHEN INCORPORATED: _____

1. How many years have you been engaged in the type of work (described in the Specification) under your present firm trade name? _____

2. Have you ever failed to successfully complete, or to complete to approved schedule, any work awarded to you by contract? If so, where and why?

3. Have you ever defaulted on a contract? If so, where and why? _____

4. Has any Officer or Partner of your Organization ever been an Officer or Partner of another Organization that failed to complete a construction contract? _____

If so, state circumstances: _____

5. What percent of the work do you normally perform with your own forces? _____

List trades:

4. List the more important contracts recently completed by you, the organizations (Owners) for which the contracts were performed, their address and telephone numbers. State the gross cost for each, and the date completed.

5. List states and categories in which your Organization is legally qualified to do business:

6. List similar major projects your Organization has completed in the last FIVE years:
(Contractor must supply written evidence that he has at least five years of experience with similar projects of equal size and scope and has successfully completed at least four of these projects in the last five years)

Project Name _____

Owner _____

Architect/Engineer _____

Contract Amount _____ % with own forces _____

Date Awarded _____ Date Completed _____

Project Name _____

Owner _____

Architect/Engineer _____

Contract Amount _____ % with own forces _____

Date Awarded _____ Date Completed _____

Project Name _____

Owner _____

Architect/Engineer _____

Contract Amount _____ % with own forces _____

Date Awarded _____ Date Completed _____

Project Name _____

Owner _____

Architect/Engineer _____

Contract Amount _____ % with own forces _____

Date Awarded _____ Date Completed _____

7. List of the plant and equipment available to properly and expeditiously perform the work:

8. List the background and construction experience of the principal members of your organization, including the officers.

Individual's Name: _____

Years of Construction Experience: _____ Dollar value Responsibility _____

Present position and years of experience _____

Previous position and years of experience _____

Individual's Name: _____

Years of Construction Experience: _____ Dollar value Responsibility _____

Present position and years of experience _____

Previous position and years of experience _____

9. List major construction projects your organization has under contract on this date:

Project Name _____

Owner _____

Contract Amount _____ Scheduled Completion _____

Project Name _____

Owner _____

Contract Amount _____ Scheduled Completion _____

10. The bidder shall state the names of all subcontractors that he proposes to use. Attach references and/or experience for any subcontractor who will perform a substantial portion of the work.

If none, write "None" _____

PROPOSED SUBCONTRACTORS

Description of work _____ % of Total Work _____

Proposed Subcontractor

Address

Description of work _____ % of Total Work _____

Proposed Subcontractor

Address

Description of work _____ % of Total Work _____

Proposed Subcontractor

Address

This is to certify that the names of the above-mentioned subcontractors are submitted with full knowledge and consent of the respective parties. The Bidder warrants that none of the subcontractors have any conflict of interest with respect to this contract.

Bidder _____

(signature and title)

11. Bank References _____

12. Trade References: _____

13. Name of Bonding and Insurance Companies and name and address of Agents:

The undersigned hereby agrees to furnish, upon request by the Lincoln Water Commission, if being considered for award of contract for the project upon which a bid proposal has been submitted, within 48 hours after the Bid Opening, a current Statement of Financial Conditions, including Contractor's latest regular financial statement or balance sheet which must contain the following items:

Current Assets: (Cash, joint venture accounts, accounts receivable, notes receivable, accrued interest on notes, deposits, and materials and prepaid expenses), net fixed assets and other assets.

Current Liabilities: (Accounts payable, notes payable, accrued interest on notes, provision for income taxes, advances received from owners, accrued salaries, accrued payroll taxes), other liabilities, and capital (capital stock, authorized and outstanding shares par values, earned surplus).

(Firm Name)

By: _____
(Signature)

(Date)

(Title)

(Date)

(Notary Public)

(Seal)

Section 00300

AGREEMENT

NOTICE OF AWARD

NOTICE TO PROCEED

CONSTRUCTION PERFORMANCE BOND

CONSTRUCTION PAYMENT BOND

CERTIFICATE OF INSURANCE

NEW DUCTILE IRON WATER MAIN INSTALLATION

LINCOLN WATER COMMISSION (OWNER)
LINCOLN, RHODE ISLAND

NEW DUCTILE IRON WATER MAIN INSTALLATION

AGREEMENT

THIS AGREEMENT made as of the _____ day of _____, in the year **2016**,

by and between the Lincoln Water Commission acting through its Chairman and Executive Director, hereinafter called OWNER (and/or LWC, and/or Commission) and

with legal address and principal place of business at

hereinafter called CONTRACTOR. OWNER and CONTRACTOR in consideration of the mutual covenants hereinafter set forth, agree as follows:

ARTICLE 1. WORK

1.1 CONTRACTOR shall perform the Work as specified or indicated in the Contract Documents. The limits of the Work are described in SUMMARY OF WORK and shall include the installation of approximately 1700 linear feet of 6" ductile iron water mains in Lincoln, Rhode Island.

ARTICLE 2. ENGINEER

2.1 The project has been designed by the Lincoln Water Commission Engineering Staff, who will act as ENGINEER in connection with completion of the Work in accordance with the Contract Documents. The term "ENGINEER" and the term "LWC ENGINEER" in all documents related to the project mean: The Lincoln Water Commission and/or its Engineering staff or assigned representative.

ARTICLE 3. CONTRACT TIME

3.1 All work, except permanent pavement and final site restoration, shall be completed within 90 Calendar Days commencing on the date that the Agreement is executed.

3.2 CONTRACTOR agrees that the Work shall be prosecuted regularly, diligently, and uninterruptedly.

- 3.3 It is expressly understood and agreed, by and between CONTRACTOR and OWNER, that the Contract Time is reasonable for the completion of the Work, taking into consideration the average climatic range and usual industrial conditions prevailing in this locality.
- 3.4 Contract Time shall only be changed by Change Order. Any claim for an extension of the Contract Time shall be based on written notice and delivered to OWNER promptly. Such requests for extension of time made by the CONTRACTOR shall have supporting documentation and reasons that such extension of time is necessary; OWNER may reject such requests for extension of time made by the CONTRACTOR on the basis of unsatisfactory reasons, and/or on the basis that such extension of time will cause OWNER to suffer financial loss.

ARTICLE 4. CONTRACT PRICE

- 4.1 OWNER will pay CONTRACTOR, for performance of the Work in accordance with the Contract Documents, in current funds at the unit prices agreed upon in the CONTRACTOR'S Bid Form attached to this Agreement.
- 4.2 OWNER will pay CONTRACTOR, on the basis of the unit prices in the CONTRACTOR'S Bid Form, for the actual quantities of unit price work performed in accordance with the Contract Documents. Determination of the actual quantities and classification of unit price work performed by CONTRACTOR will be made by the ENGINEER in accordance with the provisions of the Contract Documents.

ARTICLE 5. APPLICATION FOR PAYMENT

- 5.1 CONTRACTOR shall submit the Application for Payment in accordance with the General Conditions. Application for Payment will be processed by the ENGINEER or his representative.

ARTICLE 6. PROGRESS AND FINAL PAYMENTS

- 6.1 OWNER will make progress payments on account of the Contract Price on the basis of CONTRACTOR'S Application for Payment as recommended by the ENGINEER. All progress payments will be on the basis of the progress of the Work measured by the schedule of values provided and approved by the ENGINEER.
- 6.2 In view of the Bid Form attached hereto, the OWNER has attempted in good faith to establish all of the various activities related, and/or expected to be related to the Work, as they may occur in the localities specified, and the OWNER has attempted to note, to the best of his knowledge, the different characteristics of these activities.

ARTICLE 7. ASSURANCE

- 7.1 CONTRACTOR has familiarized himself with the nature and extent of the Contract Documents, Work, locality, and with all local conditions and Federal, State and local laws, ordinances, Rules and Regulations that in any manner may affect cost, progress or performance of the Work.
- 7.2 CONTRACTOR has given ENGINEER written notice of any conflict, error or discrepancy that he has discovered in the Contract Documents and the written resolution thereof by ENGINEER is acceptable to CONTRACTOR.
- 7.3 CONTRACTOR agrees that the Contract Documents are sufficient in scope and detail to indicate and convey understanding of all terms and conditions for the performance of the Work.

ARTICLE 8. CONTRACT DOCUMENTS

- 8.1 The Contract Documents which comprise the Contract between OWNER and CONTRACTOR are attached hereto and made a part hereof and consist of the following:
 - A. Invitation to Bid;
 - B. Information For Bidders;
 - C. Bid Form (two sets);
 - D. This Agreement;
 - E. Construction Performance Bond, EJCDC Document 1910-28A, 1984 edition, Construction Payment Bond, EJCDC Document 1910-28B, 1984 edition, (to be provided by CONTRACTOR).
 - F. Certificate of Insurance (to be provided by CONTRACTOR);
 - G. General Conditions;
 - H. Special Conditions
 - I. General Requirements (Division 1);
 - J. Technical Requirements (Divisions 2 and 3);
 - K. Addenda numbers _____ to _____, inclusive;
 - L. Any modification, including Change Orders, duly delivered before and/or after execution of Agreement.
 - M. Construction Plans and Details

ARTICLE 9. MISCELLANEOUS

- 9.1 Terms used in this Agreement which are defined in the General Conditions, shall have those meanings assigned.
- 9.2 Neither OWNER nor CONTRACTOR shall, without the prior written consent of the other, assign or sublet in whole or in part his interest under any of the Contract Documents; and, specifically but without limitation, CONTRACTOR shall to assign any monies due or to become due without the prior written consent of OWNER. In case the CONTRACTOR assigns all or any part of any monies due or to become due under this Contract, the instrument of assignment shall contain a clause substantially to the effect that it is agreed that the right of the assignee in and to any monies due or to become due to the CONTRACTOR shall be subject to prior claims of all persons, firms and corporations for services rendered or materials supplied for the performance of the Work called for in this Contract.
- 9.3 OWNER and CONTRACTOR each binds himself, his partners, successors, assigns and legal representatives in respect to all covenants, agreements and obligations contained in the Contract Documents.
- 9.4 The Contract Documents constitute the entire agreement between OWNER and CONTRACTOR and may only be altered, amended, repealed, by a written Modification, approved by the OWNER.

ARTICLE 10. INDEMNITIES

- 10.1 Contractor agrees to indemnify and save harmless the LWC, its Agents or Employees, from and against all loss or expense (including costs of Attorney's fees) by reason of liability imposed by law upon the LWC for damages because of bodily injury, including death, at any time resulting therefrom sustained by any person or persons or on account of damage to property, including loss of use thereof, arising out of or in consequence of the performance of the Work, whether such injury to persons or damage to property is due whole or in part to the negligence of the CONTRACTOR, or his SUB-CONTRACTORS, their Agents or Employees.

IN WITNESS WHEREOF. The parties hereto have signed two original copies of this Agreement. One copy has been delivered to the OWNER and one copy to the CONTRACTOR. All portions of the Contract Documents have been signed and/or identified by OWNER and CONTRACTOR.

This Agreement shall become effective on _____, 2016.

Owner:

Contractor:

Lincoln Water Commission

By:

Romeo N. Mendes, P.E.

Superintendent

(CORPORATE SEAL)

Attest:

Address for giving notices:

Address for giving notices:

Lincoln Water Commission

96 Old River Road

Lincoln, RI 02865

Note: If CONTRACTOR is a corporation, an affidavit giving the principal the right to sign the Agreement must accompany the executed Agreement.

Notice of Award

Dated _____, 2016

Project New Ductile Iron Water Main Installation	Owner Lincoln Water Commission	Owner's Contract No.:
		Engineer's Project No.:

Bidder:

Bidder's Address: (send Certified Mail, Return Receipt Requested)

You are notified that your Bid dated _____ for the above Contract has been considered. You are the Successful Bidder and are awarded a Contract for the replacement of approximately 1700 feet of Cast iron water mains and other work as identified on the Contract Drawings and in the Contract Specifications.

The Contract Price of your Contract

2 sets of the Drawings and Specifications will be delivered separately or otherwise made available to you immediately.

You must comply with the following conditions precedent within [15] days of the date you receive this Notice of Award.

1. Deliver to the Owner [2] fully executed counterparts of the Contract Agreement.
2. Deliver with the executed Contract Documents the Contract security [Bonds] as specified in Section 00100 (sec 8), Performance, Payment and Other Bonds.
3. Deliver Insurance certificates per Article 10 of the General Conditions. Additional insured shall include the Lincoln Water Commission.
4. Other conditions precedent:

Prepare and submit a worker health and safety plan, which shall address trench safety. Provide the name and experience of the project foreman who shall directly oversee construction of this project. The project foreman shall have experience in cleaning and lining of potable water mains.

Failure to comply with these conditions within the time specified will entitle Owner to consider you in default, annul this Notice of Award and declare your Bid security forfeited.

Within thirty (30) days after you comply with the above conditions, Owner will return to you one fully executed counterpart of the Contract Documents.

Owner

By: _____
Authorized Signature

Title

Copy to Engineer

Notice to Proceed

Date:

NEW DUCTILE IRON WATER MAIN INSTALLATION

Owner: Lincoln Water Commission	Owner's Contract No.:
Contract	Engineer's Project No.:

Contractor:

Contractor's Address:

You are notified that the Contract Times under the above Contract will commence to run on _____ 2016. Within fifteen (15) calendar days of this Notice to Proceed, you are to start performing your obligations under the Contract Documents. In accordance with Article 3 of the Agreement, the date of Substantial Completion is _____ 2016, and the date of readiness for final payment is _____ 2016. You are made aware that loaming and seeding shall be completed by _____ 2016.

Owner:

Given By:

Authorized Signature

Title

Date

Copy to Engineer

CONSTRUCTION PERFORMANCE BOND

Any singular reference to Contractor, Surety, Owner or other party shall be considered plural where applicable.

CONTRACTOR (Name and Address):

SURETY (Name and Principal Place of Business):

OWNER (Name and Address):

LINCOLN WATER COMMISSION

96 Old River Road

Lincoln, RI 02865

CONSTRUCTION CONTRACT

Date:

Amount:

Description (Name and Location):

LINCOLN WATER COMMISSION
NEW DUCTILE IRON WATER MAIN INSTALLATION
IN LINCOLN, RHODE ISLAND

BOND

Date (Not earlier than Construction Contract Date):

Amount:

Modifications to this Bond Form:

CONTRACTOR AS PRINCIPAL

SURETY

Company: (Corp. Seal)

Company: (Corp. Seal)

Signature: _____

Signature: _____

Name and Title:

Name and Title:

CONTRACTOR AS PRINCIPAL

SURETY

Company: (Corp. Seal)

Company: (Corp. Seal)

Signature: _____

Signature: _____

Name and Title:

name and Title:

EJCDC No. 1910-28A (1984 Edition)

Prepared through the joint efforts of the Surety Association of America, Engineers' Joint Contract Documents Committee, The Associated General Contractors of America, and the American Institute of Architects.

CONSTRUCTION PAYMENT BOND

Any singular reference to Contractor, Surety, Owner or other party shall be considered plural where applicable.

CONTRACTOR (Name and Address):

SURETY (Name and Principal Place of Business):

OWNER (Name and Address):

LINCOLN WATER COMMISSION

96 old River Road

Lincoln, RI 02865

CONSTRUCTION CONTRACT

Date:

Amount:

Description (Name and Location):

LINCOLN WATER COMMISSION

NEW DUCTILE IRON WATER MAIN INSTALLATION

IN LINCOLN, RHODE ISLAND

BOND

Date (Not earlier than Construction Contract Date):

Amount:

Modifications to this Bond Form:

CONTRACTOR AS PRINCIPAL

SURETY

Company: (Corp. Seal)

Company: (Corp. Seal)

Signature: _____

Signature: _____

Name and Title:

Name and Title:

CONTRACTOR AS PRINCIPAL

SURETY

Company: (Corp. Seal)

Company: (Corp. Seal)

Signature: _____

Signature: _____

Name and Title:

name and Title:

EJCDC No. 1910-28B (1984 Edition)

Prepared through the joint efforts of the Surety Association of America, Engineers' Joint Contract Documents Committee, The Associated General Contractors of America, and the American Institute of Architects.

PRODUCER Insurance Agency	THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW.
	COMPANIES AFFORDING COVERAGE
INSURED Contractor Additional Insured: Lincoln Water Commission	COMPANY LETTER A
	COMPANY LETTER B List insurance companies for each category
	COMPANY LETTER C
	COMPANY LETTER D
	COMPANY LETTER E

CERTIFICATE OF INSURANCE

(ISSUE DATE (MM/DD/YY)) _____

COVERAGES

THIS IS TO CERTIFY THAT POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED, NOT WITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS, AND CONDITIONS OF SUCH POLICIES.

CO LTR	TYPE OF INSURANCE	POLICY NUMBER	POLICY EFFECTIVE DATE (MM/DD/YY)	POLICY EXPIRATION DATE (MM/DD/YY)	ALL LIMITS IN THOUSANDS	
	GENERAL LIABILITY				GENERAL AGGREGATE	\$1,000
	<input type="checkbox"/> COMMERCIAL GENERAL LIABILITY				PRODUCTS-COMP/OPS AGGREGATE	\$1,000
	<input type="checkbox"/> CLAIMS MADE <input type="checkbox"/> OCCURRENCE				PERSONAL & ADVERTISING INJURY	\$ 500
	<input type="checkbox"/> OWNER'S & CONTRACTORS PROTECTIVE				EACH OCCURRENCE	\$ 500
	<input type="checkbox"/> FIRE DAMAGE (ANY ONE FIRE)					\$ 100
	<input type="checkbox"/> BLANKET CONTRACTUAL LIABILITY				MEDICAL EXPENSE (ANY ONE PERSON)	\$ 5
	AUTOMOBILE LIABILITY				CSL	\$ 500
	<input type="checkbox"/> ANY AUTO				BODILY INJURY (PER PERSON)	\$
	<input type="checkbox"/> ALL OWNED AUTOS				BODILY INJURY (PER ACCIDENT)	\$
	<input type="checkbox"/> SCHEDULED AUTOS				PROPERTY DAMAGE	\$ 1,000
	<input type="checkbox"/> HIRED AUTOS					
	<input type="checkbox"/> NON-OWNED AUTOS					
	<input type="checkbox"/> GARAGE LIABILITY					
	<input type="checkbox"/>					
	EXCESS LIABILITY					
	<input type="checkbox"/> UMBRELLA FORM				EACH OCCURRENCE	AGGREGATE
	<input type="checkbox"/> OTHER THAN UMBRELLA FORM				\$1,000	\$1,000
	WORKER'S COMPENSATION AND EMPLOYERS' LIABILITY				STATUTORY	
					\$ 1000 (EACH ACCIDENT)	
					\$ 500 (DISEASE-POLICY LIMIT)	
					\$ 1000 (DISEASE-EACH EMPLOYEE)	
	OTHER					

DESCRIPTION OF OPERATIONS/LOCATIONS/VEHICLES/RESTRICTIONS/SPECIAL ITEMS

WORK DESCRIPTION AND LOCATION

CERTIFICATE HOLDER LINCOLN WATER COMMISSION 96 OLD RIVER ROAD LINCOLN, RI 02865	CANCELLATION SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, THE ISSUING COMPANY WILL ENDEAVOR TO MAIL 30 DAYS WRITTEN NOTICE TO THE CERTIFICATE HOLDER NAMED TO THE LEFT, BUT FAILURE TO MAIL SUCH NOTICE SHALL IMPOSE NO OBLIGATION OR LIABILITY OF ANY KIND UPON THE COMPANY, ITS AGENTS OR REPRESENTATIVES. AUTHORIZED REPRESENTATIVE
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SECTION 00400

GENERAL CONDITIONS

NEW DUCTILE IRON WATER MAIN INSTALLATION

SECTION 00400 GENERAL CONDITIONS

ARTICLE	TITLE
1	DEFINITIONS, ABBREVIATIONS & REFERENCES
2	PRELIMINARY MATTERS
3	CONTRACT DOCUMENTS
4	SCOPE OF WORK
5	DRAWINGS AND SPECIFICATIONS
6	ADDITIONAL INSTRUCTIONS AND DETAIL DRAWINGS
7	INTERPRETATION OF DRAWINGS AND SPECIFICATIONS
8	SHOP OR SETTING DRAWINGS
9	PHYSICAL CONDITIONS AND UNDERGROUND UTILITIES
10	BONDS AND INSURANCE
11	CONTRACTOR'S RESPONSIBILITY
12	CONTRACTOR'S TITLE TO MATERIAL
13	MATERIALS
14	"OR APPROVED EQUAL" CLAUSE
15	PATENTS
16	OTHER CONTRACTS
17	COMPLETENESS OF WORK
18	CONTRACTOR TO CHECK DIMENSIONS AND SCHEDULES
19	REPRESENTATIONS OF CONTRACTOR
20	PROTECTION OF PERSONS OR PROPERTY
21	WATER
22	SUPERINTENDENCE AND WORKMEN
23	WEATHER CONDITIONS
24	OTHER WORK
25	WARRANTY AND GUARANTEE; TESTS AND INSPECTIONS; DEFECTIVE WORK
26	CHANGES IN THE WORK
27	TIME FOR COMPLETION AND LIQUIDATED DAMAGES
28	MUTUAL RESPONSIBILITY OF CONTRACTORS
29	PAYMENTS BY CONTRACTOR
30	PAYMENTS TO THE CONTRACTOR AND COMPLETION
31	SUBLETTING
32	ASSIGNMENTS
33	FINAL CERTIFICATE AND PAYMENT
34	ACCEPTANCE OF FINAL CERTIFICATE
35	RIGHT TO WITHHOLD PAYMENTS
36	NOTICE OF WARNING
37	SUSPENSION OF WORK AND TERMINATION
38	TERMINATION OF CONTRACT
39	RELEASE OF PAYMENT AND PERFORMANCE BONDS
40	RIGHT TO USE WORK
41	WORKING HOURS

42	WAIVER
43	ADDRESS
44	ESTIMATED QUANTITIES
45	RIGHT-OF-WAY AND SUSPENSION OF WORK
46	MACHINERY AND EQUIPMENT
47	GENERAL GUARANTEE
48	PROCEDURE IN CONSTRUCTION
49	OTHER PROHIBITED INTERESTS
50	RESPONSIBILITY OF THE LWC INSPECTOR OR ENGINEER
51	OWNER'S COMMISSION
52	OWNER MAY STOP WORK
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55	OWNER'S CONTROL NOT LIMITED
56	CONTRACTOR'S OBLIGATIONS
57	STATE GOVERNMENT PROVISIONS
58	SAFETY AND HEALTH REGULATIONS
59	TAXES
60	WAGE RATES
61	ARBITRATION
62	MISCELLANEOUS

ARTICLE 1. DEFINITIONS, ABBREVIATIONS AND REFERENCES

Wherever used in these General Conditions and all other Contract Documents the following terms have the meanings indicated which are applicable to both singular and plural thereof:

Owner - The Lincoln Water Commission (LWC), with whom Contractor has entered into the Agreement and for whom the Work is to be provided.

Commission - The Lincoln Water Commission, its Staff and Representatives.

Engineer - The Lincoln Water Commission Engineering Staff or duly authorized representative.

Bidder - any individual, partnership, firm or corporation submitting an approved proposal for the work contemplated.

Contractor - the person or persons or co-partnership or corporation contracting to perform the work to be done under the Contract Documents or the legal representatives of such party or parties.

Subcontractor - the person, firm or corporation supplying labor and materials or only labor for work at the site of the project for and under separate contract or agreement with the Contractor.

Inspector - The words: "Commission Inspector", "LWC Inspector", "Inspector", "Engineer", are used interchangeably to mean: Owner's or Engineer's representative or representatives for the Project.

Change Order - A written order approved and issued by the Engineer, which is signed by the Contractor and the Owner, and authorizes an addition, deletion or revision in the Work or requirements, or an adjustment in the Contract Price or the Contract Time, issued on or after the Effective Date of the Agreement.

Addenda - Written or graphic instruments, issued by the Engineer prior to the Opening of the Bids, which clarify, correct or change the bidding documents or the Contract Documents.

Written Modification - A written document providing interpretation and/or clarification to the requirements of the Contract Documents, issued by the Engineer on or after the effective date of the Agreement.

Agreement - The written agreement between Owner and Contractor covering the Work to be performed; all other Contract Documents are attached to the Agreement and made a part thereof.

Contract Documents - The Agreement, Contractor's Bid, Bonds, Insurance Certificates, Addenda, Change Orders, Written Modifications, Invitation To Bid, Instruction To Bidders, General Conditions, General Requirements, Technical Requirements, Sketches, Plans and/or Drawings.

Specifications - the description, directions, provisions and requirements contained in the Contract Documents, together with all written agreements made or to be made pertaining to the method and manner of performing the work or to the quantities and qualities of materials to be furnished under this contract.

Contract - the contract covering the performance of the work and the furnishing of materials required therefore as evidenced by the Contract Documents.

Application For Payment - The form issued by the Engineer on or after the effective date of the Agreement which is to be used by Contractor in requesting progress or final payments and which is to include such supporting documentation as is required by the Contract Documents.

Bid - The offer or proposal of the bidder submitted on the prescribed form setting forth the prices for the Work to be performed.

Bonds - Bid, performance, and payment bonds and other instruments of security.

Surety - the corporate body which is Surety on the Contractor's bond for the payment of all debts for materials and labor used or employed in the execution of the contract and for the acceptable performance of the work.

Contract Price - The moneys payable by Owner to Contractor under the Contract Documents as stated in the Agreement. Initially before performance of work, the Contract Price will be deemed an amount equal to the sum of the established unit prices for each separately identified item of Unit Price Work times the estimated quantity of each item as indicated in the Bid Form. The estimated quantities of items of Unit Price Work are not guaranteed to be correct and are for the purpose of comparing the Bids.

Unit Price Work - Work to be paid for on the basis of unit prices. Each unit price will be deemed to include an amount considered by the Contractor to be adequate to cover Contractor's overhead and profit for each identified item.

Contract Time - The number of days, as stated in the Agreement, for the completion of the work.

Drawings and/or Plans - The drawings or plans which show the character and scope of the Work to be performed, and which have been prepared and approved by the Engineer and are referred to in the Contract Documents.

Effective Date of Agreement - The date on which the Agreement is signed by the Owner.

Project - the entire work to be executed under the contract.

Work - The entire completed construction or the various separately identifiable parts thereof required to be furnished under the Contract Documents. Work is the result of performing services, furnishing labor and furnishing and incorporating materials and equipment into the construction, all as required by the Contract Documents.

Partial Utilization - Placing a portion of the Work in service for the purpose for which it is intended (or a related purpose) before reaching Substantial Completion for all the Work.

Substantial completion or "substantially complete" - the completion of construction of all installations, completely tested and accepted and being sufficiently completed so that the project or specified part can be used for the purposes for which it is intended.

Defective - An adjective which when modifying the word Work refers to Work that is unsatisfactory, faulty or deficient, or does not conform to the Contract Documents, or does not

meet the requirements of inspections, reference standards, tests, or approval referred to in the Contract Documents.

Underground Facilities - All pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels, or other such facilities or attachments, and any encasements containing such facilities which have been installed underground to furnish any of the following services or materials; water, electricity, gases, steam, liquid petroleum products, telephone or other communications, cable television, sewage and drainage removal, traffic or other control systems.

Laws and Regulations - Laws, rules, regulations, ordinances, codes and/or orders.

Site - The specific area adjacent to and including the area upon which the construction work is performed.

ABBREVIATIONS:

Where any of the following abbreviations are used in the specifications, they shall have the meaning set forth opposite each.

AASHTO	American Association of State Highway and Transportation Officials
ACI	American Concrete Institute
AGA	American Gas Association
AGMA	American Gear Manufacturers Association
AIEE (IEEE)	American Institute of Electrical Engineers (Institute of Electrical and Electronics Engineers, Inc.)
AISC	American Institute of Steel Construction
AISI	American Iron and Steel Institute
ANSI (USASI)	American National Standards Institute (formerly United States of American Standards Institute)
API	American Petroleum Institute
ASCE	American Society of Civil Engineers
ASHRAE	American Society of Heating, Refrigeration and Air Conditioning Engineers.
ASME	American Society of Mechanical Engineers
ASTM	American Society for Testing and Materials
AWG	American or Brown and Sharpe Wire Gauge
AWWA	American Water Works Association
AWS	American Welding Society
LWC	Lincoln Water Commission
CFR	Code of Federal Regulations
CS	Commercial Standard
DIPRA	Ductile Iron Pipe Research Association
EDR	Equivalent direct radiation
FWQA (FWPCA)	Federal Water Quality Administration (formerly Federal Water

	Pollution Control Administration)
Fed Spec	Federal specifications issued by the Federal Supply Service of the General Services Administration, Washington, D. C.
IBR	Institute of Boiler and Radiator Manufacturers
MCB	Master Car Builders
NBS	National Bureau of Standards
NBFU	National Board of Fire Underwriters
NEC	National Electrical Code, latest edition
NEMA	National Electrical Manufacturers Association
NEWWA	New England Water Works Association
NFPA	National Fire Protection Association
NPT	National Pipe Thread
NSF	National Sanitation Foundation
OS&Y	Outside screw and yoke
SMACNA	Sheet Metal and Air Conditioning
Stl.Wg.	U. S. Steel Wire, Washburn and Moen, American Steel and Wire Companies, or Roebling Gauge
USS gauge	United States Standard Gauge
WOG	Water, oil, gas
WSP	Water steam pressure
125-pound American Standard	United States of America Standard for cast-iron Pipe Flanges and Flange Fittings, Class 125, Designation B16.1-1967.

Where reference is made by this Specification to one of the above mentioned or other associations, it is understood that the latest revisions thereof shall apply. In case of conflict, this Specification shall take precedence over the above noted associations.

Wherever in the specifications or upon the contract drawings the words directed, required, permitted, ordered, instructed, designated, considered necessary or words of like import are used, it shall be understood that the direction, requirement, permission, order, instruction, designation or decision of

the Owner is intended; wherever the words as shown, as indicated, as detailed or words of similar import are used, it shall be understood that reference to the drawings accompanying these specifications is made unless otherwise stated; and similarly the words approved, acceptable, satisfactory or words of like import, shall mean approved by or acceptable to or satisfactory to the Owner. As used herein "provided" shall be understood to mean "Provided complete in place," that is "furnished and installed complete."

Designation of Number and Gender: All words used in the singular number shall extend to and include the plural. All words used in the plural number shall extend to and include the singular. All words used in any gender shall extend to and include all genders.

ARTICLE 2. PRELIMINARY MATTERS

2.1 Delivery of Bonds:

When Contractor signs and delivers the Agreement to Owner, Contractor shall also deliver simultaneously to Owner all Bonds and Insurance Certificates.

2.2 Preconstruction Conference:

Unless otherwise noted by Engineer, within ten days after the Effective Date of the Agreement, but before Contractor starts the Work at the site, a conference attended by the Contractor, the Engineer, and others as recommended by Engineer and/or Contractor will be held to discuss procedures for handling the Work and its progress, and to establish understanding among the parties as to the Work.

2.3 Before Starting The Work:

Before undertaking any and each part of the Work, Contractor shall carefully study and compare the Contract Documents, and the contractor shall promptly report in writing to Engineer any conflict, error or discrepancy which Contractor may discover, and Contractor shall obtain written interpretation or clarification from Engineer before proceeding with the Work affected thereby.

2.4 Starting The Work:

Contractor shall start to perform the Work at the site on the date as recommended and approved by the Engineer.

The Contractor hereby agrees to commence work under this Contract on or within ten (10) days after a date to be specified in a written "Notice to Proceed" of the Owner and to fully complete the project within the period specified in this Contract. The Contractor further agrees to pay, as liquidated damages, the sum specified for each consecutive calendar day thereafter.

2.5 Work Schedule:

Immediately after execution and delivery of the contract, and before the first partial payment is made, the Contractor shall deliver to the Owner an estimated construction progress schedule in form satisfactory to the Owner showing the proposed dates of commencement and completion of

each of the various subdivisions of work required under the contract documents and the anticipated amount of each monthly payment that will become due the Contractor in accordance with the progress schedule. The acceptance of the progress schedule by the Engineer will neither impose on Engineer responsibility for the progress or scheduling of the Work nor relieve Contractor from full responsibility therefore.

2.6 Periodic Estimates:

The Contractor shall also furnish: (a) a detailed estimate giving a complete breakdown of the contract price, and (b) periodic itemized estimates of work done for the purpose of making partial payment thereon. The costs employed in making up any of these schedules will be used only for determining the basis of partial payments and will not be considered as fixing a basis for additions to or deductions from the contract price.

2.7 Access to the Work:

- A) The Owner, agents and employees of the Owner may at all times enter upon the work and areas occupied by the Contractor and the Contractor shall provide safe and proper facilities for such entrance and for the inspection of the work.
- B) The Contractor shall provide at all times proper facilities for access and inspection by representatives of the United States of America and the State of Rhode Island to all work under this project wherever it is in preparation or progress.

ARTICLE 3. CONTRACT DOCUMENTS

3.1 Contract Documents:

The Drawings, the Specifications and the Addendum (or Addenda), the Invitation to Bid, the Information for Bidders, State and Federal Provisions, and the Bid (Proposal) as accepted by the Owner as evidenced by the Owner's Notice of Award to the Contractor, which notice is made a part of this Contract, the General Conditions, and the Special Conditions, and all technical Specifications, shall form a part of this Contract, and the provisions thereof shall be as binding upon the parties hereto as if they were herein fully set forth. The table of contents, titles, headings, running headlines and marginal references to various provisions of the Contract Documents are in no way to affect, limit or cast light on the interpretation of the provisions to which they refer. Whenever the term "Contract Documents" is used, it shall mean and include all items listed in this Contract.

3.2 Intent:

The Contract Documents comprise the entire agreement between the Owner and the Contractor concerning the Work. The Contract Documents are complementary: what is called for by one is as binding as if called for by all. It is the intent of the Contract Documents to describe a functionally complete project to be constructed in accordance with the Contract Documents.

Any work, materials, or equipment that may reasonably be inferred from the Contract Documents as being required to produce the intended result shall be supplied whether or not specifically called for.

When words which have a well-known technical or trade meaning are used to describe the Work, materials or equipment, such words shall be interpreted in accordance with that meaning.

Reference to standard specifications, manuals or codes of any technical society, organizations or associations, or to the Laws or Regulations of any governmental Commission, whether such reference be specific or by implication, shall mean the latest standard specification, manual, code or Laws or Regulations in effect at the time of opening of bids. However, no provision of any referenced standard specification, manual or code (whether or not specifically incorporated by reference in the Contract Documents) shall be effective to change the duties of the Contractor, or his agents or employees from those set forth in the Contract Documents, nor shall it be effective to assign to any persons or agencies Commission to supervise or direct the progress and performance of the Work.

Every provision of law and clause required by law to be inserted in these Contract Documents shall be deemed to be inserted herein, and they shall be read and enforced as though it were included herein, and if through mistake or otherwise, any such provision is not inserted, or if not correctly inserted, then upon request of Owner or Contractor, the Contract Documents shall be physically amended to make such insertion.

3.3 Conflicts:

If at any time before start of the Work or during the performance of the Work, the Contractor finds a conflict, error or discrepancy in the Contract Documents, Contractor shall so report to Engineer in writing at once and before proceeding with the Work affected thereby, to obtain a written interpretation or clarification from Engineer.

3.4 Amending and Supplementing Contract Documents:

The Contract Documents may be supplemented solely by the Engineer with a Written Modification to provide interpretation and/or clarification of the requirements.

The Contract Documents may be amended solely by the Engineer with a Change Order to provide additions, deletions and/or revisions in the Work. The requirements of the Contract Documents may be supplemented or revised solely by the Engineer with a Change Order to provide for minor variations and deviations in the Work.

If Engineer concludes at any time during the progress of the Work that there is a material error in the Contract Documents or that because of newly discovered conditions a change in the Contract Documents is required, the Engineer will notify the Contractor at once in writing and issue a Change Order. In each such case, an increase or decrease in the Contract Price or an extension or shortening of the Contract Time, or any combination thereof, will be allowed to the extent that they are directly attributable to any such inaccuracy or difference.

3.5 Reuse of Contract Documents:

Neither the Contractor nor any Subcontractor nor Supplier nor other person nor organization performing or furnishing any of the Work under a direct or indirect contract with the Owner shall have or acquire any title to or ownership rights in any of the Drawings, Specifications or other documents (or copies of any thereof) prepared by or bearing the seal of the Engineer; and they shall not reuse any of them on extensions of the Project or any other project without written consent of Owner and Engineer and specific written verification or adaptation by the Engineer.

ARTICLE 4. SCOPE OF WORK

- 4.1 The Contractor shall furnish all labor, materials, equipment, power, water, light, heat, fuel, tools, appliances, supplies, traffic control coordination, incidentals, and all other means of construction necessary or proper for executing and completing the project; he shall do all work including extra and additional work and pay all costs connected therewith; restore to their original conditions all surfaces disturbed; pay cost of all insurance; bear all losses due to the nature of the work and costs incidental to suspension or discontinuance of the work except as otherwise provided; assume all responsibility of whatever nature of kind, indemnify the Owner from all claims; secure and pay for all permits unless otherwise provided; conform to all city, county, state, municipal or federal legislation and requirements; he shall do all work necessary to conform the project to the Contract Documents and shall leave intact the work of any adjoining contractors unless otherwise ordered by the Owner; perform and complete the work in a manner best calculated to permit rapid construction, consistent with safety of life and property and satisfactory to the Owner and in strict accordance with the Contract Documents; he shall protect the work during construction, clean up the work during and after construction and maintain it until final acceptance, as hereinafter provided.
- 4.2 The Contractor shall do all work and pay all costs of protecting, supporting, maintaining, repairing if damaged, relocating and restoring all surface, subsurface or overhead structures and all other property including pipes, conduits, ducts, tubes, chambers and appurtenances, public or private in the vicinity of the work, except as otherwise specified.

ARTICLE 5. DRAWINGS AND SPECIFICATIONS

- 5.1 The work, during its progress and at its completion, shall conform to: the lines and grades shown on the drawings, to the specifications, and to the directions given by the Owner from time to time, subject to such modifications or additions as he shall determine to be necessary during the execution of the work; and in no case will any work be paid for in excess of such requirements.
- 5.2 The intent of the Drawings and Specifications is that the Contractor shall furnish all labor, materials, tools, equipment, and transportation necessary for the proper execution of the Work in accordance with the Contract Documents and all incidental work necessary to complete the Project in an acceptable manner ready for use, occupancy or operation by the Owner.
- 5.3 In case of conflict between the Drawings and Specifications, the Specifications shall govern. Figure dimensions on Drawings shall govern over scale dimensions, and detailed Drawings shall govern over general Drawings.
- 5.4 Any discrepancies found between the Drawings and Specifications and site conditions or any inconsistencies or ambiguities in the Drawings or Specifications shall be immediately reported to the Owner in writing who shall promptly correct such inconsistencies or ambiguities in writing. Work done by the Contractor after his discovery of such discrepancies, inconsistencies or ambiguities shall be done at the Contractor's risk and expense.

ARTICLE 6. ADDITIONAL INSTRUCTIONS AND DETAIL DRAWINGS

- 6.1 The Contractor may be furnished additional instructions and detail drawings by the Owner as necessary to carry out the Work required by the Contract Documents.
- 6.2 The additional drawings and instruction thus supplied will become a part of the Contract Documents. The Contractor shall carry out the Work in accordance with the additional detail drawings and instructions.

ARTICLE 7. INTERPRETATION OF DRAWINGS AND SPECIFICATIONS

The Contractor shall keep at the site of the work at least one copy of the Drawings and Specifications, and shall at all times give the Owner and his representatives access thereto. Anything shown on the Drawings and not mentioned in the Specifications, or mentioned in the Specifications and not shown on the Drawings, shall have the same effect as if shown or mentioned in both.

ARTICLE 8. SHOP OR SETTING DRAWINGS

- 8.1 The Contractor shall submit promptly to the Owner two (2) copies of each shop or setting drawing prepared in accordance with this Article and Section 01300 of the General Requirements, "Submittals". After examination of such drawings by the Owner and the return thereof, the Contractor shall make such corrections to the drawings as have been indicated and shall furnish the Owner with five corrected copies. If requested by the Owner the Contractor must furnish additional copies. Regardless of corrections made in or approval given to such drawings by the Owner, the Contractor will nevertheless be responsible for the accuracy of such drawings and for their conformity to the drawings and specifications, unless he notifies the Owner in writing of any deviations at the time he furnishes such drawings.
- 8.2 Shop drawings of all fabricated work shall be submitted to the Owner for approval and no work shall be fabricated by the Contractor save at his own risk until approval has been given.
- 8.3 The Contractor shall submit all shop and setting drawings on dates sufficiently in advance of requirements to enable the Owner ample time for checking same, including time for correcting, resubmission and recheck, if necessary, and no claim for delay will be granted the Contractor by reason of his failure in this respect.
- 8.4 All shop drawings submitted must bear the stamp of approval of the Contractor and reference conformance to the applicable section of the specifications, as evidence that the drawings have been checked by the Contractor. Any drawings submitted without this stamp of approval will not be considered and will be returned to the Contractor for resubmission. If the shop drawings show variations from the requirements of the Contract Documents

because of standard shop practice or other reason, the Contractor shall make specific mention of such variation in his letter of transmittal in order that, if acceptable, suitable action may be taken for proper adjustment; otherwise the Contractor will not be relieved of the responsibility for executing the work in accordance with the Contract Documents even though such shop drawings have been approved.

- 8.5 Where shop drawings are submitted by the Contractor that indicate a departure from the contract which the Owner deems to be a minor adjustment in his interest and not involving a change in the contract price or extension of time, the Owner may approve the drawings, but the approval will contain, in substance, the following:
- 8.6 The approval of shop drawings will be general and shall not relieve the Contractor from the responsibility for adherence to the contract nor shall it relieve him of the responsibility for any error which may exist.
- 8.7 The Contractor agrees to hold the Engineers and the Owner harmless and defend them against damages of claims for damages arising out of injury to others or property of third persons which result from errors on shop, working or setting drawings whether or not the same have been approved by the engineers and/or the Owner.
- 8.8 **The Contractor will supply as built drawings/measurements of all installed infrastructure prior to final payment for the project being made.**

ARTICLE 9. PHYSICAL CONDITIONS AND UNDERGROUND FACILITIES

- 9.1 The Contractor shall have full responsibility with respect to subsurface conditions at the site.

Available information of the location of existing substructures and utilities has been collected from various sources but the results of the investigations shown on the drawings are not guaranteed to be accurate or complete.

The Contractor shall make all supplemental investigations including exploratory excavations, by hand digging, as he deems necessary to uncover and determine the exact locations of utilities and structures and shall have no claims for damages due to encountering subsurface structures or utilities in locations other than shown on the drawings, or which are made known to the Contractor prior to construction operations.

- 9.2 The Contractor shall have full responsibility for locating all Underground Facilities, for the coordination of the Work with the owners of such Underground Facilities during construction, for the safety and protection thereof and for repairing any damage thereto resulting from the Work, the cost of all of which will be considered as having been included in the Contractor's bid prices in the Bid Form.

Before proceeding with construction operations, the Contractor shall notify the State of Rhode Island Utilities Underground Plant Damage Prevention System (DIG SAFE) at 1-888-344-7233, and shall make such supplemental investigations, including exploratory excavations, by hand digging, as he deems necessary to uncover and determine the exact locations of utilities and structures, and shall have no claims for damages due to encountering subsurface structures

or utilities in locations other than shown on the drawings, or which are made known to the Contractor prior to construction operations. The Contractor shall be responsible and liable for all damages to the existing utilities and structures.

LEGAL REGULATIONS AND RESPONSIBILITIES TO PUBLIC UTILITIES AND FACILITIES: In those areas where the Contractor's operations are adjacent or proximate to underground or overhead utilities such as gas, electric, water, telephone, fire alarm, sanitary and storm sewers, the provisions of Section 107.17 of the Rhode Island Standard Specifications for Road and Bridge Construction, Revision of 1971 with latest corrections and addenda shall be followed. In addition, the Contractor shall be responsible to notify twenty-four (24) hours in advance each utility and/or City whose facilities might be affected by any work to be performed by the Contractor. At the time of such notification, the Contractor shall request that the utility and/or City send a representative to be present during any such work, who shall remain present at the work site at all times when work relating to or adjacent or proximate to such utility's and/or City's property shall be performed.

DAMAGE TO EXISTING UTILITIES: The Contractor shall check and verify the location of all existing utilities both underground and overhead in accordance with "Dig Safe Program Law" enacted by Rhode Island Legislature Bill NO. 799-391, which became effective July 1, 1979. Any damage to the existing utilities shall be the Contractor's responsibility.

- 9.3 The Contractor shall have full responsibility with respect to physical conditions in or relating to existing surface and subsurface structures, which may in any way be affected by the Work.

If, in the opinion of the Engineer, permanent relocation of a utility not otherwise provided for, is required, he shall direct the Contractor, in writing, to perform the work. Work, so directed, will be paid by Owner to Contractor as extra work, at a mutually agreed price between Contractor and Engineer.

- 9.4 Information on Drawings, if any, and any statements in the Contract Documents referring to the site physical conditions or to the existence of utilities or other underground structures are not guaranteed to be correct or to be complete representation of all existing data available.

Shown or Indicated:

The location of existing underground pipes, utilities, conduits and structures, if shown, has been collected from the best available sources and the Owner together with its agents does not imply nor guarantee the data and information in connection with underground pipes, utilities, conduits, structures and such other parts as to their completeness nor their locations as indicated. The Contractor shall assume that there are existing water, gas and other utility connections to each and every building in route, whether they appear on the drawings or not. Any expense and/or delay occasioned by utilities and structures or damage thereto, including those not shown, shall be the responsibility of the Contractor, at no additional expense to the Owner.

Not Shown or Indicated:

If an Underground Facility is uncovered or revealed at or contiguous to the site which was not shown or indicated in the Contract Documents, and which Contractor could not reasonably have been expected to be aware of before start of the Work, and which substantially affects performance and progress of the Work, Contractor shall promptly inform the Owner of such Underground Facility before performing any Work affected thereby, and give written notice to Engineer for the Engineer's review.

The Engineer will amend the Contract Documents if required and to the extent necessary. During such time, Contractor shall be responsible for the safety and protection of such Underground Facility. If, in the opinion of the Engineer, the existence of such facility substantially affects the performance and the progress of the Work, Contractor shall be allowed an increase in the Contract Price, or Contract Time, or both, as recommended and approved by the Engineer, to the extent that they are directly attributable to the existence of such Underground Facility that was not shown or indicated in the Contract Documents and which the Contractor could not reasonably have been expected to be aware of.

9.5 Reference Points:

The Contract Documents establish the reference points for the construction of the Work. Contractor shall be responsible for laying out the Work in accordance with such reference points and shall make no changes or relocations without the prior written approval from the Engineer. Contractor shall promptly report to the Engineer any necessary changes or relocations, to obtain the engineer's written approval.

The Engineer may check the lines, elevations, reference marks, batter boards, etc., set by the Contractor, and Contractor shall correct any errors disclosed by such check. Such check shall not be considered as approval of the Contractor's work and shall not relieve the Contractor of the responsibility for accurate construction of the entire Work. Contractor shall furnish personnel to assist Engineer in checking lines and grades.

9.6 Interference With Other Utilities:

Whenever it may be necessary to cross or interfere with existing culverts, drains, sewers, water pipes, guardrails, fences, gas pipes or other structures needing special care, due notice shall be given to the Owner, and the work shall be done according to his directions. Whenever required, all objects shall be strengthened to meet any additional stress that the work herein specified may impose upon it, and any damage caused shall be thoroughly repaired. If so directed by the Owner, the location of any existing work shall be changed to meet the requirements or appurtenances or the new work may be relocated, if necessary, to leave all in good working order. The entire work shall be the responsibility of the Contractor and the work shall be performed at no additional expense to the Owner.

The Contractor shall be responsible for all broken utilities encountered during the progress of the work and shall repair and be responsible for correcting all damages to existing utilities and structures at no additional expense to the Owner. The Contractor shall contact the proper utility or Commission to correct or make any changes due to utility or other obstructions

during the work of construction of the new work but the entire responsibility and expense shall be with the Contractor. All damaged items of work or items required to be removed and replaced due to construction shall be replaced or repaired by the Contractor to the complete satisfaction of the property owner's and/or the Owner at no additional expense.

ARTICLE 10. BONDS AND INSURANCE

10.1 Any surety providing bonds or insurance for this Project shall be licensed to do business in Rhode Island and must be minimum "AA" rated.

In the event that the form of any policy or certificate or the amount of any insurance, or the companies writing the same are not satisfactory to Owner, the Contractor shall secure other policies or certificates in format and amount and with such companies that are satisfactory to Owner.

All certificates of insurance shall contain true transcripts from the policy, authenticated by the proper officer of the insurer evidencing in particular, those insured, the extent and limits of the insurance, the location and operations to which the insurance applies, the expiration date, and the notice of cancellation clause noted below in Section 10.2.

All bonds and insurance certificates shall be delivered to Owner by Contractor at the time of the Agreement.

All costs associated with bonds and insurance certificates shall be borne by the Contractor.

10.2 Bonds:

A. The Contractor shall furnish the Commission with Construction Payment and Construction Performance Bonds. The value of each bond shall be 100% of the Contract Price. Bonds shall be furnished prior to the start of work. The duration of the bonds shall be at least 1 year from substantial completion of the project. The Bonds shall be conditioned upon the performance by the Contractor of all undertakings, covenant, terms, conditions, and agreements of the Contract Documents and as a minimum, the bonds shall be written on behalf of the LWC, in a format acceptable to the LWC, in order to insure that:

1. Satisfactory performance of all the work involved, all materials and equipment furnished, is guaranteed for a period of at least one year from substantial project completion, except that a longer guarantee period may be required from some work items by applicable controlling agencies.
2. The Contractor is liable for any loss or expense (including attorney's fees) imposed by law upon the LWC at any time in relation to the job, arising out of or in consequence of the performance of all the work, whether the loss or expense is due in whole or in part to the negligence of the Contractor, his subcontractors, their agents or employees.

B. Such Bond shall be executed by the Contractor and a corporate bonding company, licensed to transact such business in the State of Rhode Island and named on the current list of "Surety Companies Acceptable on Federal Bonds" as published in

the Treasury Department Circular Number 570. The expense of these Bonds shall be borne by the Contractor. If at any time a surety on any such bond is declared bankrupt or loses its right to do business in the State of Rhode Island, or is removed from the list of Surety Companies accepted on Federal bonds, the Contractor shall within ten (10) days after notice from the Commission to do so, substitute an acceptable bond (or bonds) in such form and sum signed by such other surety or sureties as may be satisfactory to the Commission. The premiums on such bonds shall be paid by the Contractor until the new surety or sureties shall have furnished an acceptable bond to the Commission.

- C. The Contractor shall guarantee all materials and equipment furnished and work performed. The Contractor warrants and guarantees that the completed work is free from all defects due to faulty materials or workmanship and the Contractor shall promptly make such corrections as may be necessary by reason of such defects including the repairs of any damage to other parts of the work resulting from such defects. The Commission will give notice of observed defects with reasonable promptness. In the event that the Contractor should fail to make such repairs, adjustments, or other work that may be made necessary by such defects, the Commission may do so and make the necessary repairs and charge the Contractor the cost thereby incurred.

10.3 Contractor's Liability Insurance:

The Contractor shall be responsible for maintaining insurance coverage in force for the life of this contract of the kinds in adequate amounts to secure all of his obligations under the contract and with insurance companies licensed to write such insurance in the State of Rhode Island. The kinds and amounts of such insurance carried shall not be less than the kinds and amounts designated herein, and the Contractor agrees that the stipulation herein of kinds and minimum amounts of insurance coverage or the acceptance by the Lincoln Water Commission (LWC) of certificates indicating the kinds and limits of coverage shall in no way limit the liability of the Contractor to any such kinds and amounts of insurance coverage. All policies issued shall include as additional insured's the LWC, their officers, directors, agents and employees as Additional Insured within their Commercial General Liability, Business Auto Liability, and Umbrella Liability coverage sections. The additional insured status shall be on a primary basis (with no right of contribution by any other coverage available to the additional insured's stated above). Each insurance policy shall contain a clause providing that it shall not be cancelled or altered by the insurance company without thirty (30) days written notice to the Owner of the intention to cancel.

Contractor shall purchase and maintain such comprehensive general liability and other insurance as is appropriate for the Work being performed and furnished and as will provide protection from claims set forth below which may arise out of or result from Contractor's performance and furnishing of the Work and Contractor's other obligations under the Contract Documents, whether it is to be performed or furnished by the Contractor, any Subcontractor, by anyone directly or indirectly employed by any of them to perform or furnish any of the Work, or by anyone for whose acts any of them may be liable:

- Claims under worker's or workmen's compensation, disability benefits and other similar employee benefit acts;
- Claims for damages because of bodily injury, occupational sickness or disease, or death of Contractor's employees;
- Claims for damages because of bodily injury, sickness or disease, or death of any person other than the Contractor's employees;
- Claims for damages insured by personal injury liability coverage which are sustained (a) by any person as a result of an offense directly or indirectly related to the employment of such person by the Contractor, or (b) by any other person for any other reason;
- Claims for damages, other than to the Work itself, because of injury to or destruction of tangible property wherever located, including loss of use resulting therefrom;
- Claims arising out of operation of Laws and Regulations for damages because of bodily injury or death of any person or for damage to property;
- Claims for damages because of bodily injury or death of any person or property damage arising out of the ownership, maintenance or use of any motor vehicle.

The insurance shall include the specific coverage's and be written for not less than the limits of liability and coverage's provided below, or required by law, whichever is greater. The comprehensive general liability insurance shall include completed operations insurance. All of the policies of insurance so required to be purchased and maintained (or the certificates or other evidence thereof) shall contain a provision or endorsement that the coverage afforded will not be cancelled, materially changed or renewal refused until at least thirty days prior written notice has been given to Owner by certified mail. All such insurance shall remain in effect until final payment and at all times thereafter when Contractor may be correcting, removing or replacing defective Work.

WORKMEN'S COMPENSATION INSURANCE: The Contractor shall provide adequate Workmen's Compensation Insurance for all employed on the project who may come within the protection in such laws. Said insurance shall be written with such company as may be acceptable to the state and the policy shall be submitted to the State for examination. Satisfactory certificates of said insurance shall be filed with the State prior to the commencement of operations by the Contractor. The Contractor will be charged with the responsibility for proper and adequate Workmen's Compensation coverage for all his subcontract operations, and in the event the Contractor's policy does not cover each and every subcontractor, certificates of insurance issued on policies by

companies that may be acceptable to the State covering each and every subcontractor shall be filed with the State prior to the commencement of such subcontract operations.

10.4 Insurance Limits:

The limits of liability for the insurance required under this Contract shall provide coverage for not less than the following amounts or greater where required by law:

Workers' Compensation

- | | |
|---------------------------|-------------|
| (1) Workers' Compensation | Statutory |
| (2) Employer's Liability | \$1,000,000 |

Comprehensive General Liability including Operations/Premises, Explosion, Collapse and Underground Property Damage, Broad Form Contractual, Independent Contractors, Broad Form Property Damage, Contractor's Protective, Products/Completed Operations, Personal Injury Liability:

- | | |
|--|------------------------------|
| (1) Bodily Injury | \$1,000,000 Each Occurrence |
| | \$2,000,000 Annual Aggregate |
| (2) Property Damage | \$1,000,000 Each Occurrence |
| Including Explosion | \$2,000,000 Annual Aggregate |
| Collapse and Underground Coverage | |
| (3) Personal Injury with
employment exclusion deleted | \$2,000,000 Annual Aggregate |

Comprehensive Automobile Liability including owned, hired and non-owned vehicles:

- | | |
|---------------------|-----------------------------|
| (1) Bodily Injury | \$1,000,000 Each Person |
| | \$1,000,000 Each Accident |
| (2) Property Damage | \$1,000,000 Each Occurrence |

10.5 Waiver of Subrogation

The Contractor and its subcontractors and sub-subcontractors (and their insurance carriers) shall waive all rights of subrogation against the LWC and their agents, officers, directors and employees for recovery of damages to the extent these damages are covered by commercial

general liability, commercial umbrella liability, business auto liability, workers compensation and employers liability insurance maintained per requirements stated above.

10.6 Partial Utilization/ Property Insurance:

If Owner finds it necessary to occupy or use a portion or portions of the Work prior to Substantial Completion of all the Work, and such portion or portions can function for the intended use, the Contractor shall promptly at the Engineer's request make such part or parts of the Work substantially complete. Such use or occupancy may be accomplished provided that no such use or occupancy shall commence before the insurers providing the property insurance have acknowledged notice thereof and in writing affected the changes in coverage necessitated thereby. The insurer providing the property insurance shall consent by endorsement on the policy or policies, but the property insurance shall not be cancelled or lapse on account of any such partial use or occupancy.

ARTICLE 11. CONTRACTOR'S RESPONSIBILITIES

11.1 It is understood that, except as otherwise specifically stated in the Contract Documents, the Contractor shall provide and pay for all materials, labor, tools, equipment, plant, water, light, power, traffic control, transportation, superintendence, temporary construction of every nature and all other services and facilities of every nature whatsoever necessary to protect, execute and complete the project within the specified time.

He shall furnish, erect, maintain, and remove any construction site or temporary work as may be required. He shall be responsible for the safety, efficiency, and adequacy of his temporary facility, appliances, and methods, and for any damage which may result from their failure or their improper construction, maintenance, or operation. The Contractor shall observe, comply with and be subject to all terms, conditions, requirements, and limitations of the Contract Documents and shall do, carry on, and complete the entire work to the satisfaction of the Commission.

The Contractor shall be conclusively presumed to be acquainted with all existing conditions and to guarantee that all work and materials shall, upon final completion of the work, be turned over to the Owner in a complete and perfect condition and he shall be responsible for the proper care, maintenance and protection of all work and materials until his entire contract is completed and all work and materials found in good condition and accepted. The Contractor will be held responsible for the entire work until completed and accepted by the Engineer and the Owner.

11.2 The Contractor represents and warrants:

That he is financially solvent and that he is experienced and competent to perform the type of Work required under the Contract Documents and that he is able to furnish the plant, labor and materials, supplies, equipment and machinery, that are necessary to perform the Work as specified;

That he is familiar with all Federal, State and Municipal laws, ordinances, orders and regulations which may in any way affect the Work, or the employment of persons

thereon, including, but not limited to, any special acts relating to the work or to the Project of which it is part;

That such temporary and permanent work required by the Contract Documents to be done by him will be satisfactorily constructed and can be used for the purpose for which it is intended;

That he has carefully examined the Contract Documents, and the site of the Work and that from his own investigations, he has satisfied himself as to the nature and location of the Work, the character of equipment and other facilities needed for the performance of the Work, the general and local conditions, and all other items that may affect the Work;

That he is aware of the hazards involved in the Work and the danger to life and property both evident and inherent and that he will conduct the work in a careful and safe manner without injury to persons or property.

11.3 Supervision and Superintendence:

- A. The Contractor shall supervise and direct the Work competently and effectively, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract Documents. The Contractor shall be responsible for the means, methods, techniques, sequences and procedures of construction. The Contractor shall be responsible to see that the finished Work complies accurately with the Contract Documents.
- B. The Contractor shall keep on the Work at all times during its progress a competent Resident Superintendent, who shall not be replaced without written notice to the Engineer. The Superintendent will be the Contractor's representative at the site and shall have Commission to act on behalf of the Contractor. All communications given to the Superintendent shall be as binding as given to the Contractor.

11.4 Labor, Materials and Equipment:

- A. The Contractor shall provide competent, suitably qualified personnel to lay out the Work and perform construction as required by the Contract Documents.

The Contractor shall at all times maintain good discipline and order at the site.

Except in connection with the safety or protection of persons or the Work or property at the site or adjacent thereto, all Work at the site shall be performed during regular working hours, and the Contractor will not permit performance of the Work on Saturdays, Sundays or any legal holiday.

- B. The Contractor shall employ only competent persons to do the Work and whenever the Owner shall notify the Contractor, in writing, that any person on the Work appears to be incompetent, unfaithful, disorderly, or otherwise unsatisfactory, such person shall be removed from the Project and shall not again be employed on it except with the consent of the Owner.

- C. The Contractor shall furnish and assume full responsibility for all materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities and all other facilities and incidentals necessary for furnishing, performing, testing, start-up and completing of the Work.
- D. The Contractor shall only employ materials and equipment that are of good quality and new, and machinery that is of good quality and in good working condition. If required by the Engineer, the Contractor shall furnish satisfactory evidence (including reports of required tests) as to the kind and equality of materials and equipment. All materials and equipment shall be applied, installed, connected, erected, used, cleaned and conditioned in accordance with the instructions of the applicable Supplier except as otherwise provided in the Contract Documents; but no provision of any such instructions will be effective to assign to the Owner or the Engineer, their agents and consultants, any duty to supervise or direct the furnishing or performance of the Work or any duty to undertake responsibility contrary to the requirements of the Contract Documents.

11.5 Concerning Subcontractors, Suppliers and Others:

- A. The Contractor shall not employ any Subcontractors, Supplier or other person or organization, (including those who are to furnish the principal items of materials or equipment), whether initially or as a substitute, against whom the Owner may have reasonable objection. Acceptance of any Subcontractor, other person or organization, by the Owner, shall not constitute a waiver of any right of the Owner to reject defective Work. The Contractor shall not be required to employ any Subcontractor, other person or organization against whom the Contractor has reasonable objection.
- B. The Contractor shall be fully responsible to the Owner for all acts and omissions of the Subcontractors, Suppliers and other persons and organizations performing or furnishing any of the Work under a direct or indirect contract with the Contractor just as the Contractor is responsible for Contractor's own acts and omissions. Nothing in the Contract Documents shall create any contractual relationship between the Owner and any Subcontractors, Supplier or other person or organization, nor shall it create any obligations on the part of Owner to pay or to see to the payment of any moneys due any such Subcontractors, Supplier or other person or organization.

11.6 Permits:

The Contractor's attention is directed to any phase of the work wherein the Commission for permits is vested in private companies, corporations or in Federal, State, County or municipal agencies. He shall familiarize himself with the procedure in securing such permits and approvals as are necessary and accept full responsibility for obtaining the same and unless otherwise specified pay the cost and expense thereof. The Contractor will be required to pay for permits issued by the Owner, the State Of Rhode Island, the Town of Bristol County, Rhode Island, and any other permits as required. The Owner will cooperate with the Contractor to the extent reasonably required to facilitate obtaining permits and

approvals.

- A. The Contractor shall obtain and pay for all construction permits and licenses. Contractor shall pay all governmental charges and inspection fees necessary for the prosecution of the Work.

Without relaxing or releasing any and all obligations of the Contractor as established in the Contract Documents, Owner may at any time before start of the Work or during the Work, for the purpose of accelerating the permitting process and such that permits may be available at the time of construction, initiate applications for permits, or obtain permits necessary for construction of the work or parts thereof. In such events, the following shall apply:

1. The actual cost of the permit or permits, or permit applications, shall be reimbursed to Owner by Contractor;
2. Any and all conditions and/or obligations, whether or not written to the name of the Owner, imposed upon the Work by the permitting agency, shall be intended to be imposed upon the Contractor, and shall be the Contractor's obligation to meet all such conditions or obligations, at his expense. This shall in no way relieve the Contractor of any and all other obligations which are explicitly imposed upon the Contractor by the Contract Documents.

11.7 Laws and Regulations:

- A. In the execution of the contract, the Contractor will be required to observe and obey all Federal, State, County and local laws, ordinances, codes and regulations relating to the performance of the Contract including but not limiting labor employed thereon, materials supplied, obstructing streets and highways, maintaining signals, storing, handling and use of explosives and all other general ordinances and State statutes affecting him or his employees or his work hereunder in his relations with the Municipality or any other persons, and also all laws, executing the work under the contract.

As a condition of the contract, the Contractor shall and does hereby agree to comply with all requirements of the labor laws of the State of Rhode Island.

- B. Each and every provision of law and clause required by law to be inserted in this contract shall be deemed to be inserted herein and the contract shall be read and enforced as though it were included herein, and if through mistake or otherwise any such provision is not inserted, or is not correctly inserted, than upon the application of either party the contract shall forthwith be physically amended to make such insertion.
- C. The Contractor shall give all notices and comply with all Laws and Regulations applicable to furnishing and performance of the Work. Neither the Owner nor the Engineer shall be responsible for monitoring the Contractor's compliance with any Laws or Regulations.
- D. If the Contractor observes that the Specifications or Drawings are at variance with any Laws or Regulations, the Contractor shall give the Engineer prompt written

notice thereof. If the Contractor performs any Work knowing or having reason to know that it is contrary to such Laws or Regulations, and without such notice to Engineer, the Contractor shall bear all costs arising there from; however, it shall not be the Contractor's primary responsibility to make certain that the Specifications and Drawings are in accordance with such laws and Regulations.

- E. If this contract contains any unlawful provisions not an essential part of the general structure of the contract and which shall not appear to have been a controlling or material inducement in the making thereof, the same shall be deemed of no effect and shall be deemed stricken from the Contract without affecting the binding force of the remainder.

11.8 Use of Premises:

- A. The Contractor shall confine construction equipment, storage of materials and equipment, and the operations of workers, to the site, and as permitted by the Contract Documents. The Contractor shall not unreasonably encumber the premises with construction equipment or materials or machinery. The Contractor shall assume full responsibility for any damage to any land or area, or to the owner or occupant thereof or to any land or areas contiguous thereto, resulting from the performance of the Work. The Contractor shall indemnify and hold Owner harmless from and against all claims, damages, losses and expenses (including, but not limited to, fees of engineers, architects, attorneys and other professionals and court and arbitration costs) arising directly, indirectly or consequential out of any action, legal or equitable, brought by any such other party against the Owner to the extent based on a claim arising out of contractor's performance of the Work.
- B. During the progress of the Work, the Contractor shall keep the premises free from accumulations of waste materials, rubbish and other debris resulting from the Work. The Contractor shall keep the site reasonably neat at all times. At the completion of the Work the Contractor shall remove all waste materials, rubbish and debris from and about the premises as well as tools, appliances, construction equipment and machinery, and surplus materials, as required by the Contract Documents, and shall leave the site clean. The Contractor shall restore to original condition all property not designated for alteration by the Contract Documents.
- C. The Contractor shall not load nor permit any part of any structures to be loaded in any manner that will endanger the structure, nor shall the Contractor subject any part of the Work or adjacent property to stresses or pressures that will endanger it.
- D. The Contractor expressly undertakes at his own expense:
 - 1. To take every precaution against injuries to persons or damage to property.
 - 2. To store his apparatus, materials, supplies and equipment in such orderly fashion at the site of the work as will not unduly interfere with the progress of his work or the work of any other Contractors.

3. To place upon the work or any part thereof only such loads as are consistent with the safety of that portion of the work.
4. To clean up daily, and as the work progresses, all refuse, rubbish, scrap materials, and debris caused by his operations, and to that end, render at all times the site of the work in a neat, unobstructed, unobtrusive, orderly, and workmanlike appearance. At no time will excess material or debris be permitted to remain in the road after work has been completed for the day.
5. Before final payment, to remove all surplus material, false work, temporary structures, including foundations thereof, plant of any description and debris of every nature resulting from his operations, and to put the site in a neat, orderly condition. All cleanup materials shall be removed from the construction site, and deposited in a refuse disposal area by and at the expense of the Contractor.
6. To effect all cutting, fitting or patching of his work required to make the same conform to the drawings and specifications, and except with the consent of the Owner, not to cut or otherwise alter the work of any other Contractor.

11.9 Safety and Protection:

- A. The Contractor shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. The Contractor shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury or loss to:
 1. All employees on the Work and other persons and organizations who may be affected, thereby;
 2. All the Work and materials and equipment to be incorporated therein, whether in storage on or off the site; and
 3. Other property at the site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, road-ways, structures, utilities and Underground Facilities. In the event of temporary suspension of the Work, or during inclement weather, or whenever Engineer may direct, the Contractor shall, and shall cause Subcontractors, to protect the Work and materials against damage or injury or loss, due to any cause. If, in the opinion of the Engineer, any portion of Work or materials shall have been damaged or injured or lost by reason of failure on the part of the Contractor or any Subcontractors to provide protection, such Work and materials shall be removed and replaced by the Contractor at his own expense.

The Contractor shall comply with all applicable Laws and Regulations of any public body having jurisdiction for the safety of persons or property or

to protect them from damage, injury or loss; and shall erect and maintain all necessary safeguards for such safety and protection. The Contractor shall notify owners of adjacent property and Underground Facilities and utilities when prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation and replacement of their property. All damage, injury or loss caused, directly or indirectly, in whole or in part, by the Contractor, any Subcontractor, Supplier or any other person or organization directly or indirectly employed by any of them to perform or furnish any of the Work or anyone for whose acts any of them may be liable, shall be remedied by the Contractor at his own expense.

Contractor's duties and responsibilities for the safety and protection of the Work shall continue until such time as all Work is completed, and Engineer has issued a notice that the Work is acceptable.

11.10 Continuing the Work:

- A. The Contractor shall carry on the Work and adhere to the progress schedule, in accordance with the Contract Documents, during all and any dispute or disagreements with the Owner or Engineer. No Work shall be delayed or postponed pending resolution of any disputes or disagreements, except as Contractor and Owner may otherwise agree in writing.

11.11 Indemnification:

- A. To the fullest extent permitted by law, the Subcontractor shall hold harmless and indemnify Lincoln Water Commission (LWC), and any other party the LWC is contractually required to indemnify, from an against any and all claims, suits, liability, judgments, settlements, expenses, defense costs and/or attorney's fees, due to injury (including injury to the Subcontractor's employees), loss of any sort, or damage to any property, occasioned in whole or in part by any act or omission of the Subcontractor, its employees, agents, invitees, subcontractors of any tier, vendors, or material suppliers, regardless of whether or not it is contended that the party being indemnified contributed thereto by its own acts or omissions or was responsible therefore by reason of a non-delegable duty. Unless such indemnity is permitted by law, the obligation to indemnify shall not extend to that percentage of any judgment or settlement equal to the percentage of negligence found to be attributable to the party being indemnified; however, the Subcontractor shall indemnify for all remaining portions of any judgment or settlement.

To the fullest extent permitted by law, the Subcontractor shall defend each and every claim made against Lincoln Water Commission and any other party the Lincoln Water Commission is contractually required to indemnify, for injury (including injury to the Subcontractor's employees), loss of any sort or damage to any property occasioned in whole or in part by any act or omission of the Subcontractor, its employees, agents, invitees, subcontractors of any tier, vendors, or material suppliers, regardless of whether or not it is contended that the party being indemnified

contributed thereto by its own acts or omissions or was responsible therefore by reason of a non-delegable duty. The Subcontractor agrees to provide a defense to the Lincoln Water Commission and any other party the Lincoln Water Commission is contractually required to indemnify, with counsel of the defended party's choice, from the moment the claim is first asserted, regardless of whether the Subcontractor is ultimately required to indemnify the party under the preceding paragraph.

To the fullest extent permitted by law, the Subcontractor shall reimburse the LWC and any other party the Lincoln Water Commission is contractually required to indemnify, for any cost or expenses, including but not limited to attorney's fees, expended in seeking the Subcontractor's compliance with the above stated duties to defend, indemnify and hold harmless.

ARTICLE 12. CONTRACTOR'S TITLE TO MATERIALS

No material, supplies or equipment for the work shall be purchased by the Contractor or by any Subcontractor subject to any chattel mortgage or under a conditional sale or other agreement by which an interest therein or in any part thereof is retained by the seller or supplier. The Contractor warrants good title to all material, supplies and equipment installed or incorporated in the work and further warrants upon completion of all work to deliver the premises together with all improvements and appurtenances constructed or placed thereon by him to the Owner free from any claims, liens or charges or encumbrances and further agrees that neither he nor any person, firm or corporation furnishing any material or labor for any work covered by this contract shall have right to a lien upon the premises or any improvement or appurtenance thereon.

ARTICLE 13. MATERIALS

- 13.1 All materials furnished and used in the completed work shall be new, unless otherwise specified, and of the best quality, workmanship and design, and recognized as standard in good construction practices. Whenever a specification number or reference is given, the subsequent amendments (if any) shall be included. The standards set forth in the selection of materials and supplies are intended to conform with those standards adopted by the Owner. Preference in manufacture shall be given to adopted standards and the Contractor shall further familiarize himself with the requirements of the Owner when the occasion or choice of materials or supplies so demands.
- 13.2 The materials used in construction shall be so disposed as not to endanger the work and so that full access may at all times be had to partly completed work and structures and they shall be so distributed as to cause no injury to those having access to the work or any of the units.
- 13.3 RIGL 37-2.1-3 is in effect for this project.

ARTICLE 14. "OR APPROVED EQUAL" CLAUSE

- 14.1 Whenever a material or article required is specified or shown on the drawings by using the name of the proprietary product or the name of a particular manufacturer or vendor, any material or article which will perform adequately the duties imposed by the general design, may be considered equal and satisfactory, providing the material or article so proposed is of equal substance and function in the Owner's opinion. It shall not be purchased or installed without his written approval. In all cases, new material shall be used in the project.
- 14.2 If one or more brands, makes of material, devices, or equipment are shown or specified, each should be regarded as the equal of the other. Any other brand, make of material, device or equipment which, in the opinion of the Owner or his authorized agent, is the recognized equal of that specified, considering quality, workmanship, and economy of operation and is suitable for the purpose intended, may be accepted.

ARTICLE 15. PATENTS

- 15.1 The Contractor shall hold and save the Owner and its officers, agents, servants and employees harmless from liability of any nature or kind, including cost and expenses for or on account of any patented or unpatented invention, process, article or appliance manufactured or used in the performance of the contract, including its use by the Owner.
- 15.2 License and/or royalty fees for the use of a process which is authorized by the Owner of the project must be reasonable and paid to the holder of the patent or his authorized license, direct by the Contractor.
- 15.3 If the Contractor uses any design, device or materials covered by letters, patent or copyright, he shall provide for such use by suitable agreement with the owner of such patented or copyrighted design, device or material.
- 15.4 It is mutually agreed and understood that, without exception, the contract prices shall include all royalties, license fees or costs arising from the use of such process, design, device or materials, in any way involved in the work. The Contractor and/or his Sureties shall indemnify and save harmless the Engineers and/or the Owner of the project from any and all claims for infringement by reason of the use of such patented or copyrighted design, device or materials or any trademark or copyright in connection with work agreed to be performed under this contract and shall indemnify the Engineers and/or the Owner for any cost, expense or damage which they may be obliged to pay by reason of such infringement at any time during the prosecution of the work or after completion of the work.

ARTICLE 16. OTHER CONTRACTS

- 16.1 The owner reserves the right to do work by other contractors or by the Owner's forces and to permit public utility companies and others to do work during the progress and

within the limits of or adjacent to the project, and the Contractor shall conduct his work and cooperate with such other parties so as to cause as little interference as possible with such other work. The Contractor agrees to make no claim against the Owner for additional payment due to delays or other conditions created by other operations of such other parties. If there is a difference of opinion as to the respective rights of the Contractor and others doing work, within the limits of or adjacent to the project, the Owner will decide as to the respective rights of the various parties involved in order to secure completion of the Owner's work in a satisfactory manner, and his decision shall be final and binding on the Contractor.

- 16.2 If any part of the work of the Contractor or any of his Subcontractors depends for proper execution, or results upon the work of any other Contractor, the Contractor will inspect and promptly give to the Engineer notice of any such defects in the work of such Contractor, as to render it suitable for such proper execution and results or of any delay by such other Contractor in the performance of his work. The failure of the Contractor to inspect and give notice shall constitute an acceptance by him (but not by the Owner) of the work of the other Contractor as fit and proper for the reception of his own work, except as to defects developing in the work of such other Contractor after the execution of the Contractor's work and an acknowledgment of the timely performance by such other Contractor of his work.

ARTICLE 17. COMPLETENESS OF WORK

In addition to the specified or described portions, all other work and all other materials, equipment and labor of whatever description which are necessary or required to complete the work, or for carrying out the full intent of the drawings and specifications, as interpreted by the Owner, such work, labor, materials and equipment shall be provided by the Contractor, and payment therefore shall be considered as having been included in the prices stipulated for the appropriate items of work as listed in the bid.

ARTICLE 18. CONTRACTOR TO CHECK DIMENSIONS AND SCHEDULES

The Contractor will be required to check all dimensions and quantities shown on the drawings or schedules given to him by the Owner, and shall notify the Owner of all errors therein which he may discover by examining and checking the same. The Contractor shall not take advantage of any error or omission in these specifications drawings or schedules. The owner will furnish all instructions should such error or omission be discovered, and the Contractor shall carry out such instructions as if originally specified.

ARTICLE 19. REPRESENTATIONS OF CONTRACTOR

- 19.1 The contractor represents and warrants: That he is financially solvent and that he is experienced and competent to perform the type of work or furnish the materials, supplies or equipment to be performed or furnished by him; and
- A. That he is familiar with all City, Federal, State, municipal and department laws,

ordinances, orders and regulations which may in any way affect the work of those employed therein, including but not limited to any special acts relating to the work or to the project of which it is a part; and

- B. That such temporary and permanent work required by the contract documents to be done by him can be satisfactorily constructed and used for the purpose for which it is intended, and that such construction will not injure any person or damage any property; and
- C. That he has carefully examined the drawings, specifications and addendum (or addenda) if any, and the site of the work, and that from his own investigations, he has satisfied himself as to the nature and location of the work, the character, quality and quantity of surface and subsurface materials likely to be encountered, the character of equipment and other facilities needed for the performance of the work, the general and local conditions, and all other materials which may in any way affect the work or its performance; and
- D. That he is aware of the hazards involved in the work and the danger to life and property both evident and inherent and that he will conduct the work in a careful and safe manner without injury to persons or property; and
- E. That he can provide the necessary equipment, labor and materials to complete the contract work within the specified contract duration.

ARTICLE 20. PROTECTION OF PERSONS AND PROPERTY

20.1 The Contractor shall conduct his work so as to interfere as little as possible with private business and public travel, and shall protect from damage all lawns, terraces, trees, curbs, gutters, flagging, crosswalks, water pipes, hydrants, electric light and telephone poles, water stop cocks, manholes, gas pipes, conduits and other underground appurtenances on the line of the work and adjacent thereto, and at his own cost, unless particularly specified otherwise, repair or replace any of the aforementioned items which may become damaged or displaced at any time during the progress of the work. He shall, at his own expense, whenever necessary or required, maintain fences, install shoring, provide watchmen, maintain red lights, post danger signs warning against the hazards created by the construction work, as for example and without limiting the generality of the foregoing, open trenches, well holes and protruding nails, and he shall take such other precautions as may be necessary to protect life and property, and he shall be responsible for all damages occasioned in any way by his act or neglect, or that of his agents, employees or workmen.

The Contractor shall take adequate precautions to protect existing sidewalks, curbs, pavements, utilities, adjoining property and such incidentals and to avoid damage thereto. The Contractor shall completely repair any damage caused by his operations at no additional expense to the Owner.

20.2 Emergencies

- A. The Contractor shall at all times safely guard the Owner's property from injury or loss in connection with this contract. He shall at all times safely guard and protect his own work, and that of adjacent property, from damage. The Contractor shall replace or make good any such damage, loss or injury unless such is caused directly by errors contained in the contract or by the Owner, or his duly authorized representatives.
- B. In case of an emergency which threatens loss or injury of property and/or safety of life, the Contractor will be allowed to act, without previous instructions from the Owner, in a diligent manner. He shall notify the Owner immediately thereafter. Any claim for compensation by the Contractor due to such extra work shall be promptly submitted to the Owner for approval. All such claims shall be fully documented with information regarding the nature of the emergency, the action taken in response to the emergency, costs associated with the response actions taken, etc. Photographs, witness statements, recordings and other such documentation material shall be provided if possible.
- C. Where the Contractor has not taken action but has notified the Owner of an emergency threatening injury to persons or damage to the work or to any adjoining property, he shall act as instructed or authorized by the Owner.
- D. The amount of reimbursement claimed by the Contractor on account of any emergency action shall be determined in the manner provided elsewhere in the contract documents.

ARTICLE 21. WATER

The water system is owned by the Lincoln Water Commission, and the Contractor shall be required to abide by all rules and regulations of the Lincoln Water Commission. He shall arrange with the Lincoln Water Commission for the operation of any existing valves and the metering and use of water for construction purposes. Any hose for water for construction purposes that is to be connected to a hydrant shall have a testable RP backflow device such as a Watts 009.

ARTICLE 22. SUPERINTENDENCE AND WORKERS

- 22.1 The employment of competent superintendents, foremen and experienced mechanics and laborers and others skilled in the particular duties entrusted to them will be required. Whenever the Engineer shall inform the Contractor or his representative in charge that any man on the job is incompetent or disorderly or is working contrary to the specifications or the instructions of the Engineer, or that the Engineer knows that the man has been incompetent or disorderly on this or any previous work, that man shall thereupon be immediately dismissed from the job and shall not be given employment on any work connected with the contract.

- 22.2 If requested, the Contractor shall deliver to the Engineer each week a record of the numbers, pay scale and classifications of men employed upon the project each day of the previous week.

ARTICLE 23. WEATHER CONDITIONS

In the event of temporary suspension of work, or during inclement weather, or whenever the Owner shall direct, the Contractor shall, and shall cause his Subcontractors to protect carefully his and their work and materials against damage or injury from the weather. If, in the opinion of the Owner, any work or material was damaged or injured by reason of failure on the part of the Contractor or any of his Subcontractors to protect his work, or otherwise damaged by the negligence of the Contractor, Subcontractors or their agents or servants, or is otherwise defective, such materials shall be removed and replaced at the expense of the Contractor.

ARTICLE 24. OTHER WORK

- 24.1 The Owner may perform other work related to the project at the site with Owner's own forces, have other work performed by utility owners or let direct contracts therefore. If the fact that such other work is to be performed was not noted in the Contract Documents, notice thereof will be given to Contractor prior to starting any such other work.
- 24.2 Contractor shall let each utility owner and other contractor who is a party to such a direct contract (or Owner's own forces, if Owner is performing the additional work with Owner's employees) safe access to the site and reasonable opportunity for the execution of such work, and shall properly connect and coordinate the work with theirs. The Contractor shall not endanger any work of others.
- 24.3 If any part of the Contractor's Work depends for proper execution or results upon the work of any such other contractor or utility owner (or Owner), the Contractor shall inspect and promptly report to the Engineer in writing any defects or deficiencies in such work that render it unavailable or unsuitable for such proper execution and results. Contractor's failure so to report will constitute an acceptance of the other work as fit and proper for integration with Contractor's Work except for latent or non-apparent defects and deficiencies in the other work.

ARTICLE 25. WARRANTY AND GUARANTEE; TESTS AND INSPECTIONS; DEFECTIVE WORK

- 25.1 Warranty and Guarantee:

The Contractor warrants and guarantees to the Owner that all Work will be in accordance with the Contract Documents and will not be defective. Notice of all defects will be given to the Contractor by Owner or Engineer within reasonable time, in accordance with the Contract Documents.

All materials and equipment used in the construction of the project shall be new and of

current manufacture. Testing will be in accordance with accepted standards and as directed; the laboratory or inspection agency shall be selected by the Owner. Except as specified elsewhere in these specifications, the Contractor will pay for all testing and laboratory inspection.

25.2 Access to the Work:

Owner and Owner's representatives, testing agencies and governmental agencies with jurisdictional interests shall have access to the Work at any time. The authorized representatives and agents of the Owner shall be permitted to inspect all work, materials, payrolls, records of personnel, invoices of materials, and other relevant data and records.

All materials and workmanship shall be subject to inspection, examination and test by the Owner at any and all times during manufacture and/or construction and at any and all places where such manufacture and/or construction are carried on to establish conformance with these specifications and suitability for uses intended. Without additional charge, the Contractor shall furnish promptly all reasonable facilities, labor and materials necessary to make tests so required safe and convenient; he shall also furnish any mill, factory or such other tests based on the Standards and Tentative Standards of the American Society for Testing Materials as required by the Owner. Special full size and performance tests shall be as described in the specifications. A 7-day notification in writing stipulating the time and place where the manufacturing is to be done shall be given the Engineer prior to the commencement of manufacture of any materials in order that a representative of the Owner may be present, if so desired, to observe and inspect the operations.

25.3 Tests and Inspections:

The Contractor shall give the Engineer timely notice of readiness of the Work for all required inspections, tests or approvals.

If Laws or Regulations of any public body having jurisdiction require any Work (or part thereof) to specifically be inspected, tested or approved, the Contractor shall assume full responsibility therefore, pay all costs in connection therewith and furnish the Engineer the required certificates of inspection, testing or approval.

All inspections, tests or approvals other than those required by Laws or Regulations of any public body having jurisdiction shall be performed by organizations acceptable to the Engineer.

If any work (including the work of others) that is to be inspected, tested or approved is covered without the Engineer's written concurrence, it must, if requested by the Engineer, be uncovered for Engineer's observation. Such uncovering of work and/or replacement of materials shall be at the Contractor's expense.

Neither observations by the Engineer nor inspections, tests or approvals by others shall relieve the Contractor from the Contractor's obligations to perform the Work in accordance with the Contract Documents.

25.4 Uncovering Work:

If any Work is covered contrary to the written request of Engineer, it must, if requested by Engineer, be uncovered for Engineer's observation and replaced at Contractor's expense.

If Engineer considers it necessary or advisable that covered Work, such Work which was not originally intended to be inspected or tested, or such Work which was originally intended to be inspected or tested but was covered without inspection or testing after the written consent of the Engineer, be observed by Engineer or inspected or tested by others, Contractor, at Engineer's request, shall uncover, or expose for observation, inspection or testing as Engineer may require, that portion of the Work in question, and furnish all necessary labor, material and equipment. If it is found that such work is defective, the Contractor shall bear all direct, indirect and consequential costs of such uncovering, exposure, observation, inspection and testing and of satisfactory reconstruction, (including but not limited to fees and charges of engineers, architects, attorneys and other professionals), and the Owner shall be entitled to an appropriate decrease in the Contract Price. If such Work is not found to be defective, the Contractor shall be allowed an increase in the Contract Price or an extension of the Contract Time, or both, as approved by Engineer, and directly attributable to such uncovering, exposure, and reconstruction.

25.5 Owner May Stop the Work:

If the Work is defective, or Contractor fails to supply sufficient skilled workers or suitable materials or equipment, or fails to furnish or perform the Work in such a way that the completed Work will conform to the Contract Documents, Owner may order Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated.

25.6 Correction or Removal of Defective Work:

If required by the Engineer, the Contractor shall promptly, as directed, either correct all defective Work, whether or not fabricated, installed or completed, or, if the Work has been rejected by the Engineer, remove it from the site and replace it with nondefective Work. The Contractor shall bear all direct, indirect and consequential costs of such correction or removal (including but not limited to fees and charges of engineers, architects, attorneys and other professionals) made necessary thereby.

25.7 Correction Period:

If within one year after the date of Substantial Completion or such longer period of time as may be prescribed by Laws or Regulations or by the terms of any applicable special guarantee required by the Contract Documents or by any specific provision of the Contract Documents or by the terms of any specific application or permit, any work is found to be defective, the Contractor shall promptly, without cost to the Owner and in accordance with Owner's written instructions, either correct such defective Work, or, if it has been rejected by Owner, remove it from the site and replace it with nondefective Work. If the Contractor does not promptly comply with the terms of such instructions, the Owner may have the defective Work corrected or the rejected Work removed and replaced, and all direct, indirect and consequential costs of such corrections, removal and

replacement (including but not limited to fees and charges of engineers, architects, attorneys and other professionals) shall be paid by the Contractor. The obligations imposed upon the Contractor by this paragraph are in addition to, and are not to be construed in any way as a limitation of, any and all other obligations imposed upon the Contractor by Laws or Regulations, by special warranty or guarantee, or by any other provision of the Contract documents.

25.8 Acceptance of Defective Work:

If, instead of requiring correction or removal and replacement of defective Work, Owner prefers to accept it, Owner may do so. Contractor shall bear all direct, indirect and consequential costs attributable to Owner's evaluation of and determination to accept such defective Work (including but not limited to fees and charges of engineers, architects, attorneys and other professionals). If any such action occurs prior to final payment, Owner shall be entitled to decrease the Contract Price.

25.9 Owner May Correct Defective Work:

If Contractor fails within reasonable time after written notice of Engineer to proceed to correct and to correct defective Work or to remove and replace rejected Work as required by Engineer, or if Contractor fails to perform the Work in accordance with the Contract Documents, or if Contractor fails to comply with any other provision of the Contract Documents, Owner may, after seven days' written notice to Contractor, correct and remedy any such deficiency.

To the extent necessary to complete corrective and remedial action, Owner may exclude Contractor from all or part of the site, take possession of all or part of the Work, and suspend Contractor's services related thereto, take possession of Contractor's tools, appliances, construction equipment and machinery at the site and incorporate in the Work all materials and equipment stored at the site or elsewhere.

Contractor shall allow Owner, Owner's representatives, agents and employees such access to the site as may be necessary to enable Owner to exercise the rights and remedies under this paragraph. All direct, indirect and consequential costs of Owner in exercising such rights and remedies will be charged against Contractor, and a Change Order will be issued incorporating all necessary revisions in the Contract Documents. Such direct, indirect and consequential costs will include but not limited to fees and charges of engineers, architects, attorneys and other professionals, all court and arbitration costs and all costs of repair and replacement of work of others destroyed or damaged by correction, or removal and replacement of Contractor's defective Work. Contractor shall not be allowed an extension of Contract Time because of any delay in performance of the Work attributable to the exercise by Owner of Owner's rights and remedies thereunder.

All work, all materials, whether incorporated in the work or not, all processes of manufacture, and all methods of construction shall be at all times and places subject to the inspection of the Owner who shall be the final judge of the quality and suitability of the work, materials, processes of manufacture and methods of construction for the purposes for which they are used. Should they fail to meet his approval they shall be

forthwith reconstructed, made good, replaced and/or corrected, as the case may be, by the Contractor, at his own expense. Rejected material shall immediately be removed from the site. If, in the opinion of the Owner, it is undesirable to replace any defective or damaged materials or to reconstruct or correct any portion of the work injured or not performed in accordance with the contract documents, the compensation to be paid to the Contractor hereunder shall be reduced by such amount as in the judgment of the Owner shall be equitable.

ARTICLE 26. CHANGES IN THE WORK

26.1 The Owner may at any time, as the need arises, order changes within the scope of the Work without invalidating the Agreement. If such changes increase or decrease the amount due under the Contract Documents, or in the time required for performance of the Work, an equitable adjustment shall be authorized by Change Order.

The Owner also may at any time, by issuing a written Field Order, make changes in the details of the Work. The Contractor shall proceed with the performance of any changes in the Work so ordered by the Owner unless the Contractor believes that such Written Field Order entitles him to a change in Contract Price or Time or both in which event he shall give the Owner Written Notice thereof within seven (7) days after the receipt of the ordered change. Thereafter the Contractor shall document the basis for the change in Contract Price or Time within thirty (30) days. The Contractor shall not execute such changes pending the receipt of an executed Change Order or further instruction from the Owner.

26.2 Except as hereinafter provided, no such change shall be binding upon the Contractor nor require the payment of additional compensation to the Contractor, unless it has been ordered in writing by the Engineer who has been especially authorized thereto in writing by the Owner pursuant to a resolution having been duly adopted by said Owner.

26.3 Except as hereinafter provided, no oral agreement, conversation or understanding between the Contractor and the Engineer or any inspector or any representative of the Owner, before or after the execution of the contract, shall affect or modify any of the terms or obligations of the Contract Documents or excuse the performance of any work in any manner contrary to the terms of the Contract Documents.

26.4 The Contractor shall, however obey any oral instructions of the Engineer which require no more than a change in the location, line or grade of pipes, manholes or other appurtenances, or an increase or decrease in the quantities of those items which are covered by unit prices in the proposal.

26.5 For any work performed by the Contractor pursuant to such oral instructions, payment will be made under the unit prices applicable to the work actually done and in accordance with the actual amount of such work done. If such oral instructions decrease the quantities or amount of work, no payment will be made to the Contractor to compensate him for any loss of anticipated profit on the work omitted.

- 26.6 If the Contractor does not concede that the unit prices in this proposal should be applicable to any work required to be performed under oral instructions of the Engineer he must notify the Engineer and clearly demonstrate that such unit prices will not apply and, in such case, the oral instructions of the Engineer shall not be effective unless confirmed in writing as herein above provided. If such instructions are confirmed in writing, the compensation to the Contractor shall be computed as for Extra Work at the discretion of the Engineer.
- 26.7 If the Contractor proceeds with the performance of any work in accordance with the oral instructions of the Engineer, it shall be conclusively presumed that the unit prices stated in the Contractor's proposal apply to such work and no additional or different compensation will be paid.
- 26.8 If any change in the plans or specifications are authorized in writing by the Owner, and at the discretion of the Engineer, the Contractor shall be paid therefore as provided in the section entitled :
- 26.9 Payment for Additional Work:
- A. The amount of compensation to be paid to the Contractor for any additional work required to be performed pursuant to any authorized written modification of the plans or specifications shall be determined on either of the following bases:
1. If any unit prices stated in the proposal are applicable to such work the Contractor shall be paid such unit prices.
 2. The Engineer shall request the Contractor for a lump sum price for which he will do the work, and if the price is accepted by the Owner, then the Contractor will be paid such lump sum price. For work to be performed under a Lump Sum agreement the Contractor may apply a 10% allowance for overhead and profit against the net cost of work actually to be performed by him, except that in the event the change in work to be performed by him results in a net omission then no percentage for overhead and profit shall be allowed. The Contractor is permitted a 5% allowance to be applied against the net cost to a Subcontractor for work actually performed by the Subcontractor, but any change involving more than one Subcontractor, their net costs and/or net omissions shall be combined as one before consideration is given to the application of the 5% for the Contractor's overhead profit, and in the event the Contractor shows a net omission for the change as it affects the work actually to be performed by him, he is permitted only the 5% applied to the amount (if any) by which the net cost to the Subcontractor exceeds the net omission by the Contractor. For work to be performed by a Subcontractor the cost to the Owner may include the net cost to the Subcontractor plus an allowance of an amount not to exceed 10% of the net cost for the Subcontractor's overhead and profit except that in the event that the change in work results in a net omission for the Subcontractor there shall be no application of the 15% overhead and profit. Net cost to the

Contractor and/or any Subcontractor shall be that defined in sub-section (3) of this article, but in every case taxes imposed by law upon labor employed at the site shall be excluded; and all credits which in the case of the Contractor shall include net omissions by the Subcontractor shall be deducted before the percentage can be applied. For the purpose of applying the provisions of this article, the Owner will not recognize other than a direct subcontractor of the Contractor nor permit the aggregate allowance to exceed 15% as applied above, to the net cost of work performed by any Subcontractor.

3. If the lump sum price proposed by the Contractor is not accepted by the Owner, the Contractor shall be paid in the following manner:

a. **LABOR:** For all labor and foreman in direct charge of the specific operations, the Contractor shall receive the rate of wage actually paid as shown by his certified payroll which shall be the prevailing rate of wage (or scale) for each and every hour that said labor and foremen are actually engaged in such work.

No part of the salary or expenses of anyone connected with the Contractor's forces above the grade of foreman, and having general supervision of the work, will be included in the labor item as specified above.

The Engineer reserves the right to determine the number and type of labor employed.

The Contractor shall receive the actual costs paid to, or in behalf of, health and welfare benefits, pension fund benefits or other benefits when such amounts are required by collective bargaining agreement or other employment contract generally applicable to the classes of labor employed on the work.

An amount equal to 15 percent of the sum of the above items will also be paid the Contractor.

b. **BOND, INSURANCE AND TAX:** For property damage, liability, and workmen's compensation insurance premiums, unemployment insurance contributions and social security taxes on the extra work, the Contractor shall receive the actual cost, to which cost 6 percent will be added. The Contractor shall furnish satisfactory evidence of the rate or rates paid for such bond, insurance and tax.

c. **MATERIALS:** For material accepted by the Engineer and used, the Contractor shall receive the actual cost of such materials delivered on the work site to which cost 15 percent will be added.

The Contractor will not be reimbursed for any penalty or carrying charge incurred due to late or delayed payment for materials used.

- d. **EQUIPMENT:** For any machinery or special equipment (other than small tools) including transportation cost, the use of which has been authorized by the Engineer, the Contractor shall receive either the prevailing rental rates or the actual documented cost plus an amount equal to 15% of the actual documented cost. Under no circumstance shall the payment exceed the replacement cost of the equipment.

- B. All rental rates shall include the estimated operating cost as indicated for that equipment in the RENTAL RATE BLUE BOOK or the RENTAL RATE BLUE BOOK FOR OLDER EQUIPMENT. Operator's wages are not included in the estimated operating cost and are paid separately, except for certain equipment which may have the operator included.

The hourly rate shall apply when the equipment is specifically assigned to the work for a period of four hours or less.

The daily rate per hour shall apply when the equipment is specifically assigned to the work by the Engineer for a period of more than four hours and less than four consecutive working days.

The weekly rate per hour shall apply when the equipment is specifically assigned to the work by the Engineer for four consecutive working days or more but less than fifteen consecutive working days.

The monthly rate per hour shall apply when the equipment is specifically assigned to the work by the Engineer for fifteen consecutive working days or more.

The applicable hourly, daily, weekly, or monthly rate will be determined at the expiration of fifteen consecutive working days or upon release of the equipment, whichever occurs first. Interruption of the rental period, when equipment is used on other than assigned extra work, will not constitute a warrant for a rental rate applicable to shorter periods occasioned by such interruptions.

For rented equipment the cost shall be based on the actual documented cost

plus an amount equal to 15% of the actual documented cost. The actual documented cost shall consist of the paid invoice for rented equipment plus other documented operating costs (i.e. fuel, maintenance, repairs, etc.).

The actual documented costs plus 15% of the actual documented costs shall not

exceed the cost as calculated from the RENTAL RATE BLUE BOOK or the RENTAL RATE BLUE BOOK FOR OLDER CONSTRUCTION EQUIPMENT. The Contractor shall submit documentation for both the hourly rental rates and the actual documented cost to determine that the actual documented costs plus 15% does not exceed the calculated rental rate costs.

For equipment which is already on the project, the rental period shall start when ordered to work by the Engineer, and shall continue until ordered to discontinue by him.

For equipment which has to be brought to the project specifically for use on extra work, the LWC will pay all loading and unloading costs, also all transportation costs to and from the project, including assembling and dismantling, provided, however, that the cost of return transportation shall not exceed that of moving the equipment to the project. Loading, unloading and transportation costs will not be paid if the equipment is used for work other than extra work while on the project. The rental period shall start at the time the equipment is ready for operations, and for that period of time the equipment is actually utilized in the extra work. The rental period shall end when the equipment is released by the Engineer.

- C. All equipment, including trucks, shall, in the judgment of the Engineer, be in good working condition and fitting and suitable to the purpose intended, and the Engineer reserves the right to determine the number used. The manufacturer's model identification shall be the basis for identifying the type of equipment for payment purposes. Certification for the model year of the equipment will be required.
- D. SUBCONTRACTOR COST: For work performed by a subcontractor, the Contractor shall accept as full payment therefore, an amount equal to the actual cost to the Contractor of such work performed by the subcontractor as determined by the Engineer, plus 10 percent of such cost. No additional allowance will be made for general superintendence, the use of small tools, or other costs for which no specific allowance is herein provided.
- E. STATEMENTS: Statements shall be accompanied and supported by receipt Invoices for all materials. However, if materials used on the Extra work are not specifically purchased for such work but are taken from the Contractor's stock, then in lieu of the Invoices, the Contractor shall furnish an affidavit certifying that such materials were taken from his stock, that the quantity claimed was actually used, and that the price claimed represents the actual cost to the Contractor.
- F. It shall not constitute a change in the plans or specifications or order entitling the Contractor to extra compensation if the Engineer shall order changes or increase in plant or personnel to maintain the scheduled rate of progress in the work to be done under the contract.
- G. If, in any part of the work done, the Contractor, without written order from the Engineer, uses material in excess of the amounts required by the plans and specifications, no payment for such excess will be allowed nor shall it be claimed.

- H. Approval by the Engineer of materials or equipment substituted by the Contractor for those specified shall not be considered Extra Work.
- I. No claim for extra work or cost will be allowed unless the same was done in pursuance of a written order of the Owner, as aforesaid, and this claim presented with the first estimate after the changed or extra work is done. When work is performed under the terms specified herein, the Contractor shall furnish satisfactory bills, payrolls and vouchers covering all items of cost and, when requested by the Owner, give the Owner access to accounts relating thereto.

ARTICLE 27. TIME FOR COMPLETION AND LIQUIDATED DAMAGES

27.1 It is hereby understood and mutually agreed by and between the Contractor and the Owner, that the date of beginning and the time for substantial completion as specified in the contract of the work to be done hereunder are ESSENTIAL CONDITIONS of this contract; and it is further mutually understood and agreed that the work embraced in this contract shall be commenced on a date to be specified in the "Notice to Proceed."

Substantial completion shall be achieved when all work items EXCEPT permanent pavement and site restoration shall be complete. To achieve Substantial Completion of the Work, all water mains shall be accepted and put into service, the Contractor shall restore permanent water service to all customers, remove all temporary by-pass piping, and all other temporary work from the project site. The Contractor shall place temporary paving as required; and do all other work as necessary and directed to leave all work and property in a clean, safe and acceptable condition. A schedule shall be submitted and approved for installation of permanent pavement and site restoration.

27.2 The Contractor agrees that said work shall be prosecuted regularly, diligently and uninterruptedly at such rate of progress as will insure full completion thereof within the time specified. It is expressly understood and agreed, by and between the Contractor and the Owner, that the time for the completion of the work described herein is a reasonable time for completion of the same, taking into consideration the average climatic range and usual industrial conditions prevailing in this locality.

27.3 If the said Contractor shall neglect, fail or refuse to complete the work within the time herein specified, or within any proper extension thereof granted by the Owner, then the Contractor does hereby agree, as a part consideration for the awarding of this contract, to pay as liquidated damages to the Owner the amount specified in the contract, as herein before set forth, for each and every calendar day that the Contractor shall be in default after the time stipulated in the contract for completing the work.

Any time delays caused by failed acceptance testing of the new water mains will NOT be validation for any extension to the completion date.

27.4 The said amount is fixed and agreed upon by and between the Contractor and the Owner because of the impracticability and extreme difficulty of fixing and ascertaining the actual damages the Owner would in such event sustain, and said amount is agreed to be

the amount of damages which the Owner would sustain and said amount shall be retained by the Owner from current periodical payments.

27.5 It is further agreed that time is of the essence for each and every portion of this contract and of the specifications wherein a definite and certain length of time is fixed for the performance of any act whatsoever; and where under the contract an additional time is allowed for the completion of any work, the new time limit fixed by such extension shall be of the essence of this contract. Provided, that the Contractor shall not be charged with the liquidated damages or any excess cost when the delay in completion of the work is due:

- A. To any preference, priority or allocation order duly issued by the Government, subsequent to date of contract.
- B. To unforeseeable cause beyond the control and without the fault or negligence of the Contractor, including but not restricted to acts of God or of the public enemy, acts of the Owner, acts of another Contractor in the performance of a contract with Owner, fires, floods, epidemics, quarantine restrictions, strikes, freight embargoes, and unusually severe weather. There will be no time extension awarded for the winter shutdown period.
- C. To any delays of subcontractors or suppliers occasioned by any of the causes specified in subsections (1) and (2) of this article.

PROVIDED FURTHER, that the Contractor shall, within ten (10) days from the beginning of such delay, unless the Owner shall grant a further period of time prior to the date of final settlement of the contract, notify the Owner, in writing, of the causes of the delay, who shall ascertain the facts and extent of the delay and notify the Contractor within a reasonable time of its decision in the matter.

ARTICLE 28. MUTUAL RESPONSIBILITY OF CONTRACTORS

If, through acts of neglect on the part of the Contractor, any other Contractor or any Subcontractor shall suffer loss or damage on the work, the Contractor agrees to settle with such other Contractor or Subcontractor by agreement or arbitration if such other Contractor or Subcontractor will so settle. If such other Contractor or Subcontractor shall assert any claim against the Owner on account of any damage alleged to have been sustained, the Owner shall notify the Contractor, who shall indemnify and save harmless the Owner against any such claim.

ARTICLE 29. PAYMENTS BY CONTRACTOR

The Contractor shall pay:

- A. For all transportation and utility services not later than the 20th day of the calendar month following that in which services are rendered.

- B. For all materials, tools and other expendable equipment to the extent of 95 percent of the cost thereof, not later than the 20th day of the calendar month following that in which such materials, tools and equipment are delivered at the site of the project, and the balance of the cost thereof not later than the 30th day following the completion of that part of the work in or on which such materials, tools and equipment are incorporated or used.
- C. To each of his Subcontractors not later than the 5th day following each payment to the Contractor, the respective amounts allowed the Contractor an account of the work performed by his Subcontractors to the extent of such Subcontractor's interest therein.

ARTICLE 30. PAYMENTS TO CONTRACTOR AND COMPLETION

- 30.1 Not later than the 15th day of each calendar month the Owner shall make a progress payment to the Contractor on the basis of a duly certified and approved estimate of the work performed during the preceding calendar month under this contract, but, to insure the proper performance of this contract, the Owner shall retain five percent (5%) of the amount of each estimate until final completion and acceptance of all work covered by this contract.
- 30.2 After completion of seventy-five (75) percent of the value of the total contract, exclusive of materials and/or equipment stored on the site and not incorporated in the work, the Owner may, if the quality of the work and progress by the Contractor is satisfactory in the Owner's opinion, reduce the retained percentage to two point five percent (2.5%) of the contract, plus any additional percentage required by the Public Laws of the State of Rhode Island and these specifications.
- 30.3 All material and work covered by partial payments made shall thereupon become the sole property of the Owner, but this provision shall not be construed as relieving the Contractor from the sole responsibility for the care and protection of materials and work upon which payments have been made or the restoration of any damaged work, or as a waiver of the right of the Owner to require the fulfillment of all the terms of the contract.
- 30.4 The Owner shall have the right to enter the premises for the purpose of doing work not covered by the Contract Documents. This provision shall not be construed as relieving the Contractor of the sole responsibility for the care and protection of the Work or the restoration of any damaged Work except such as may be caused by agents or employees of the Owner.
- 30.5 Upon completion and acceptance of the Work, the Owner shall issue a certificate attached to the final payment request that the Work has been accepted by him under the conditions of the Contract Documents. The entire balance found to be due the Contractor, including the retained percentages but except such sums as may be lawfully retained by the Owner shall be paid to the Contractor.
- 30.6 The Contractor will indemnify and save the Owner or the Owner's Representative harmless from all claims growing out of the lawful demands of Subcontractors, laborers, workmen, mechanics, material men, and furnishers of machinery and parts thereof, equipment, tools and

all supplies incurred in the furtherance of the performance of the Work. The Contractor shall at the Owner's request furnish satisfactory evidence that all obligations of the nature designated above have been paid, discharged or waived.

If the Contractor fails to do so the Owner may, after having notified the Contractor, either pay unpaid bills or withhold from the Contractor's unpaid compensation a sum of money deemed reasonably sufficient to pay any and all such lawful claims until satisfactory evidence is furnished that all liabilities have been fully discharged whereupon payment to the Contractor shall be resumed in accordance with the terms of the Contract Documents but in no event shall the provisions of this sentence be construed to impose any Surety, or any third party. In paying any unpaid bills of the Contractor, any payment so made by the Owner shall be considered as a payment made under the Contract Documents by the Owner to the Contractor and the Owner shall not be liable to the Contractor for any such payments made in good faith.

30.7 Contractor's Warranty of Title:

- A. The Contractor warrants and guarantees that title to all Work, materials and equipment covered by the Application for Payment, has passed to Owner prior or on the date of the Application for Payment free and clear of all aliens, claims, charges, security interests and encumbrances (which hereafter in these General Conditions are referred to as "Liens").
- B. No materials or supplies for the Work shall be purchased by Contractor or Subcontractors subject to any chattel mortgage or under a conditional sale contract or other agreement by which an interest is retained by the seller. Contractor warrants that he has good title to all materials and supplies used by him in the Work, free from all Liens.
- C. The Engineer may refuse to recommend the whole or any part of any payment if, in Engineer's opinion, it would be incorrect to make such representation. The Engineer may also refuse to recommend any such payment, or, because of subsequently discovered evidence or the results of subsequent inspections or tests, nullify any such payment previously recommended, to such extent as may be necessary in Engineer's opinion to protect Owner from loss because:
 1. The Work is defective, or completed Work has been damaged requiring correction or replacement;
 2. The Owner has been required to correct defective Work or complete Work;
 3. Claims have been made against Owner on account of Contractor's performance or furnishing of the Work or Liens have been filed in connection with the Work or there are other items entitling the Owner to a set-off against the amount requested to be paid by Owner to Contractor in the Application For Payment; and of Engineer's actual knowledge of the occurrence of any event, in connection with the requirements of the

Contract Documents, which decreases or nullifies the amount requested to be paid by Owner to Contractor in the Application For Payment.

D. Substantial Completion:

When Contractor considers the entire Work ready for its intended use and considers that the Work is Substantially Complete in accordance with the Contract Documents, the Contractor shall notify the Engineer in writing that the Entire Work is Substantially Complete. Within a reasonable time thereafter, Engineer and Contractor shall make an inspection of the Work. If the Engineer does not consider the Work Substantially Complete, Engineer will notify the Contractor in writing giving the reasons therefore. The Contractor shall act promptly and make the Work Substantially Complete.

E. Partial Utilization:

The Owner may at any time request Contractor to substantially complete or complete any part of the Work for the Owner's purpose to take over operation of any such part of the Work. Within a reasonable time thereafter, Contractor and Engineer shall make an inspection of that part of the Work to determine its status of completion and will prepare a list of the items remaining to be completed or corrected. The Engineer will finalize the list of items to be completed or corrected and will deliver such list to Contractor together with a written recommendation as to the division of responsibilities between Owner and Contractor with respect to security, operation, safety, maintenance, utilities, insurance, warranties and guarantees for that part of the Work. The Contractor shall act promptly and follow Engineer's recommendations and make substantially complete or complete such part of the Work.

F. Final Inspection:

Upon written notice from Contractor that the entire Work or an agreed portion thereof is complete, the Engineer will make a final inspection with Contractor and will notify Contractor in writing of all particulars in which this inspection reveals that the Work is incomplete or defective. Contractor shall immediately take such measures as necessary to remedy such deficiencies.

G. Final Application for Payment:

After Contractor has completed all such corrections to the satisfaction of the Engineer and delivered all certificates of inspections, marked-up record documents, and any other documents including final as built plans showing location and measurements of all installed infrastructure as required by the Contract Documents, the Contractor may make application for final payment following the procedure for progress payment. The final Application for Payment shall be accompanied by all documentation called for in the Contract Documents,

together with complete and legally effective releases or waivers (satisfactory to Owner) of all Liens arising out of or filed in connection with the Work.

H. Contractor's Continuing Obligation:

Contractor's obligation to perform and complete the work in accordance with the Contract Documents shall be absolute. Neither recommendation of any progress or final payments by Engineer, nor the issuance of a certificate of Substantial Completion or Completion, nor any payment by Owner to Contractor under the Contract Documents, nor any use or occupancy of the Work or any part thereof by Owner, nor any act of acceptance by Owner nor any failure to do so, nor any review and approval of drawings or test results, or sample submission, nor the issuance of a notice of acceptability by Engineer, nor any correction of defective Work by Owner, will constitute an acceptance of Work not in accordance with the Contract Documents or a release of Contractor's obligations to perform the Work in accordance with the Contract Documents.

ARTICLE 31. SUBLETTING

- 31.1 The Contractor is not to assign, transfer or sublet the contract in whole or in part to any other person or in any way to abridge the terms of the Contract Documents without written permission from the Engineer and express resolution of the Owner, but must keep it in his name and control until completed and accepted by the Engineer and the Owner. The Contractor shall likewise not assign any of the money payable under the contract. Approval by the Engineer and Owner of the subletting of any part of the work shall not, under any circumstances, relieve the Contractor or his Surety of any liabilities or obligations under the terms of his Contract Documents.
- 31.2 No subcontract will be approved by the Owner until evidence has been presented to the Owner that a Surety Bond will be supplied by the Subcontractor to cover the work performed and materials used in that particular subcontract.
- 31.3 Said bond shall be drawn in favor of the General Contractor and the Owner as joint obliges and shall recite the fact that the original contract has been entered into as well as the subcontract which the bond immediately covers.
- 31.4 Should any Subcontractor violate any of the terms of these specifications, the Owner may, at its option, require the Contractor to end and terminate such subcontract.

The Contractor shall be as fully responsible to the Owner for the acts and omissions of his Subcontractors, and of persons either directly or indirectly employed by them, as he is for the acts and omissions of persons directly employed by him.

- 31.5 The Contractor shall cause appropriate provisions to be inserted in all subcontracts relative to the work to bind Subcontractors to the Contractor by the terms of the Contract and General Conditions and other contract documents insofar as applicable to the work of Subcontractors and to give the Contractor the same power as regards terminating any

subcontract that the Owner may exercise over the Contractor under any provisions of the contract documents.

- 31.6 Nothing contained in this contract shall create any contractual relation between any Subcontractor and the Owner.

ARTICLE 32. ASSIGNMENTS

The Contractor shall not assign the whole or any part of this Contract or any monies due or to become due hereunder without written consent of the Owner. In case the Contractor assigns all or any part of any monies due or to become due under this Contract, the instrument of assignment shall contain a clause substantially to the effect that it is agreed that the right of the assignee in and to any monies due or to become due to the Contractor shall be subject to prior claims of all persons, firms or corporations for services rendered or materials supplied for the performance of the work called for in this Contract.

ARTICLE 33. FINAL CERTIFICATE AND PAYMENT

Upon completion of the work in accordance with the contract and acceptance thereof by the Engineer, and the Owner, and as soon thereafter as practicable, the Engineer shall prepare a Final Certificate which shall certify the value of the work performed and materials furnished and the exact aggregate amount of the compensation to which the Contractor will become entitled under the terms of the contract. The Final Certificate shall be submitted to the Owner and a copy shall be furnished to the Contractor. Upon approval of the Final Certificate by the Owner, the Owner shall pay the Contractor an amount equal to the total compensation to which the Contractor is entitled for the performance of the total contract less the amount of all previous payments. Any payment, however, final or otherwise shall not release the Contractor or his Sureties from any obligations under the Contract Documents or the Performance or Payment Bonds.

ARTICLE 34. ACCEPTANCE OF FINAL CERTIFICATE

The Contractor shall be conclusively deemed to have accepted the Final Certificate as a correct statement of the total liability of the Owner unless, within seven days after delivery of his copy of the Final Certificate to him, the Contractor shall return such copy to the Owner together with a statement of his objections to such Certificate and of any claim for damages or compensation in excess of the amount shown on the certificate. The acceptance by the Contractor of the Final Certificate approved by the Owner shall constitute a release and shall discharge the Owner from

any further claims by the Contractor arising out of or related to the contract except the Contractor's claim for the balance of the compensation shown to be due on the Final Certificate.

ARTICLE 35. RIGHT TO WITHHOLD PAYMENTS

- 35.1 The Owner may withhold from the Contractor so much of any approved payments due him as may in the judgment of the Owner be necessary:

To assure the payment of any lien, stop notice or claim filed with the Owner for work, labor or materials done, performed or delivered and used in the prosecution of the work herein provided for (whether in strictly legal form or otherwise).

To protect the Owner from loss due to defective work not remedied or through any improper or defective machinery, implements or appliances used by the Contractor or for failure of the Contractor to fully comply with any requirement of the contract, or

To protect the Owner from loss due to injury to persons or damage to the work or property of other Contractors, Subcontractors or others caused by the act or neglect of the Contractor or any of his Subcontractors.

- 35.2 The Owner shall have the right to apply any amounts so withheld in such manner as the Owner may deem proper to satisfy such claims or to secure such protection. Such application of such money shall be deemed payments to the account of the Contractor.

ARTICLE 36. NOTICE OF WARNING

If the Contractor shall fail to make prompt payment to persons supplying labor or materials for the work, or refuse or fail to supply enough properly skilled workmen or proper materials, or refuse or fail to prosecute the work or any part thereof in accordance with the Contract Documents or with such diligence as will insure its completion within the period herein specified (or any duly authorized extension thereof) or fail to complete the work within said period or fail or refuse to regard laws, ordinances, codes, instructions of the Owner, then the Owner shall forward by registered mail to the Contractor at the address given in the contract, a Notice of Warning and in the event the Contractor fails to comply with said Notice of Warning within five (5) days from receipt thereof, the Owner shall have the right to terminate the contract.

ARTICLE 37. SUSPENSION OF WORK AND TERMINATION

Owner May Suspend Work:

- 37.1 Owner may, at any time and without cause, suspend the Work or any portion thereof for a period of not more than one hundred-and-twenty days by notice in writing to Contractor; such notice will fix the date on which Work will be resumed. Contractor shall resume the Work on the date so fixed. Suspension of Work, as established in this Article 37 does not include, or refers to in any way, any and all periods of time when Work does not progress due to weather conditions or winter season or any and all periods of time which are waiting periods, as established in the Contract Documents, between phases of construction. The Contractor shall be allowed an increase in Contract Price or an extension of Contract Time, or both, directly attributable to any suspension, and as recommended by Engineer, if the Contractor makes an approved claim therefore, and such a suspension of Work is caused through no fault of Contractor.

37.2 Owner May Terminate the Work:

Upon the occurrence of any one or more of the following events:

- A. If Contractor commences a voluntary case under any chapter of the Bankruptcy Code (Title 11, United States Code), as now or hereafter in effect, or if Contractor takes any equivalent or similar action by filing a petition or otherwise under any other federal or state law in effect at such time relating to the bankruptcy or insolvency;
- B. If a petition is filed against Contractor under any chapter of the Bankruptcy Code as now or hereafter in effect at the time of filing, or if a petition is filed seeking any such equivalent or similar relief against contractor under any other federal or state law in effect at the time relating to bankruptcy or insolvency;
- C. If Contractor makes a general assignment for the benefit of creditors;
- D. If a trustee, receiver, custodian or agent of Contractor is appointed under applicable law or under contract, whose appointments or Commission to take charge of property of Contractor is for the purpose of enforcing a Lien against such property or for the purpose of general administration of such property for the benefit of Contractor's creditors;
- E. If Contractor admits in writing an inability to pay its debts generally as they become due;
- F. If Contractor persistently fails to perform the work in accordance with the Contract Documents (including but not limited to, failure to supply sufficient skilled workers or suitable materials or equipment or failure to adhere to the progress schedule established or as revised from time to time);
- G. If Contractor disregards Laws or Regulations of any public body having jurisdiction;
- H. If Contractor disregards the Commission of the Engineer or the Owner; or
- I. If Contractor otherwise violates in any substantial way any provisions of the Contract Documents;
- J. If the Contractor abandons the Work, or if the Contractor sublets this Contract or any part thereof without the previous written consent of Owner, or if the Contractor assigns the Contract or any portions thereunder otherwise than as specified in the Contract Documents, or if at any time Engineer certifies in writing that the rate of progress of the Work or any part thereof is unsatisfactory or that the Work or any part thereof is unnecessarily or unreasonably delayed.

Owner may, after giving Contractor (and the surety) seven days' written notice and to the extent permitted by Laws and Regulations, terminate the services of the Contractor, exclude the Contractor from the site and take possession of the Work and all of Contractor's tools, appliances, construction equipment and machinery at the site and use the same to the full extent they could be used by Contractor

(without liability to Contractor for trespass or conversion), incorporate in the Work all materials and equipment stored at the site or for which Owner has paid Contractor but which are stored elsewhere, and finish the Work as Owner may deem expedient. In such case Contractor shall not be entitled to receive any further payment until the Work is finished. If the unpaid balance due the Contractor exceeds direct, indirect and consequential costs of completing the Work (including but not limited to fees and charges of Engineers, architects, attorneys and other professionals and court and arbitration costs) such excess will be paid to Contractor. If such costs exceed such unpaid balance, Contractor shall pay the difference to Owner. Such costs incurred by Owner will be approved as to reasonableness by Engineer and incorporated in a Change Order, but when exercising any rights or remedies under this paragraph Owner shall not be required to obtain the lowest price for the Work performed.

- 37.3 Where Contractor's service have been so terminated by Owner, the termination will not affect any rights or remedies of Owner against Contractor then existing or which may thereafter accrue. Any retention or payment of moneys due Contractor by Owner will not release Contractor from liability.
- 37.4 Upon seven days' written notice to Contractor, Owner may, without cause and without prejudice to any other right or remedy, elect to abandon the Work and terminate the Agreement. In such case, Contractor shall be paid for all work executed and accepted by the Engineer plus reasonable termination expenses.
- 37.5 If, through no act or fault of the Contractor, the Work is suspended for a period of more than one-hundred-and-twenty days by Owner or under an order of court or other public Commission, then the Contractor may, upon seven days' notice to Owner, terminate the Agreement and recover from Owner payment for all Work executed and accepted by Engineer. The provisions of this paragraph shall not relieve the Contractor of the obligations to carry on the Work in accordance with the progress schedule and without delay during disputes and disagreements with the Owner.

ARTICLE 38. TERMINATION OF CONTRACT

The Owner may terminate the Contract if:

- A. The Contractor shall be adjudged bankrupt or make an assignment for the benefit of creditors, or
- B. A receiver or liquidator shall be appointed for the Contractor or for any of his property and shall not be dismissed within twenty (20) days after such appointment, or the proceedings in connections therewith shall not be stayed on appeal within the said twenty (20) days, or
- C. The Contractor shall abandon the work, or
- D. The Contractor shall fail to make prompt payment to persons supplying labor or materials for the work after Notice of Warning from the Engineer, or

- E. The Contractor shall refuse or fail, after Notice of Warning from the Engineer to supply enough properly skilled workmen or proper materials or proper workmanship, or shall unnecessarily or unreasonably delay the work, or
- F. The Contractor shall refuse or fail after Notice of Warning from the Engineer to prosecute the work or any part thereof in accordance with the Contract Document, or
- G. The Contractor shall refuse or fail after Notice of Warning from the Engineer to prosecute the work or any part thereof with such diligence as will insure its completion within the period herein specified (or any duly authorized extension thereof) or shall fail to complete the work within said period, or
- H. The Contractor shall fail or refuse after Notice of Warning from the Engineer to regard laws, ordinances or the instructions of the Owner or Engineer or otherwise be guilty of a substantial violation of any provision of the contract, then and in such event, the Owner without prejudice to any other rights or remedy, may with seven (7) days' Notice to the Contractor terminate the employment of the Contractor and his right to proceed either as to the entire work, or at the option of the Owner as to any portion thereof as to which delay shall have occurred, and may take possession of the work and such materials and supplies as may be on the site of the work and may complete the work by contract or otherwise, as the Owner may deem expedient. In such case, the Contractor shall not be entitled to receive any further payment until the work is finished. If the unpaid balance of the compensation to be paid the Contractor hereunder shall exceed the expense of so completing the work (including compensation for additional managerial, administrative, engineering and inspection services and any damages for delay) such excess shall be paid to the Contractor. If such expense shall exceed such unpaid balance, the Contractor and his Sureties shall be liable to the Owner for such excess.
- I. The Owner is unable to complete the contract due to the inability to secure proper financing for the contract, or if other conditions warrant, the Owner may give written notice to the Contractor that the Contract is terminated. In such event, the contractor shall be paid for the work completed to date, and all reasonable and documented costs associated with the completion of the contract to that date, excluding lost profits.

ARTICLE 39. RELEASE OF PAYMENT AND PERFORMANCE BONDS

- 39.1 Within one year after the date of the issuance of the Final Certificate, the Owner shall make or shall cause to be made a reevaluation of the work. If the work shall be found satisfactory in accordance with the Contract Documents, the Owner shall approve the release of the Payment and Performance Bonds elsewhere provided for in these specifications.
- 39.2 In the event the inspection discloses the existence of defects in the materials or workmanship or other non-compliances with the Contract Documents, the Contractor shall be required to immediately make good and rectify all defects as a prerequisite to the release of the Performance and Payment Bonds. If the Contractor shall fail or neglect to

satisfy the requirements of the Owner with respect to making the necessary corrections, then the Owner may proceed to have the work executed by others and charge the

39.3 Contractor the cost thereby incurred.

The Contractor and his Sureties shall be liable to the Owner for making any corrections to the work as may be necessary by reason of defects including repairs of any damage to other parts of the system resulting from such defects.

39.4 The Performance Bond and Payment Bond shall remain in full force and effect through the guarantee period.

ARTICLE 40. RIGHT TO USE WORK

The Owner may enter upon and use the whole or any portion of the work which may be in condition to be used at any time previous to its final acceptance by the Owner. Such use shall not constitute or be evidence of acceptance by the Owner or the Engineer of the whole or any part of the material furnished or work performed under the contract.

ARTICLE 41. WORKING HOURS

Work under the contract other than maintenance work, shall not be prosecuted on Saturdays, Sundays or on Rhode Island State holidays, except in time of emergency, and then only under written permit from the Engineer, who shall be the judge as to the existence of the emergency. Normal working hours shall be 7:00 AM to 5:00 PM, Monday through Friday.

If the Contractor wishes to prosecute any portion of the work between the hours of 5 PM and 7 AM he shall first obtain permission from the Engineer and the Owner, notifying them each time in advance, giving them ample time in which to procure an engineer or inspector for the work. The Contractor shall then obtain the approval of the local Police Department. In case of night work, the light, safety and other facilities which are deemed necessary by the Owner for performing such night work shall be provided by the Contractor.

If the Owner requests that the Contractor work outside the normal work hours, the Contractor will be paid an additional amount per the Bid Item. If the Owner requests and approves NIGHT WORK, a mutually agreeable schedule shall be arranged and the Contractor shall provide a crew to perform the required work. The Bid Item for Night Work shall include the additional labor costs for the crew to work one eight hour shift between the hours of 7pm and 6am.

ARTICLE 42. WAIVER

42.1 Neither the inspection by the Owner or Engineer, or any of their employees, nor any order, measurement or certificate by the Engineer, nor any order by the Owner for the payment of any money, nor any payment for, or acceptance of the whole or any part of the work by the Engineer for the Owner nor any extension of time nor any possession taken by the Owner or its

employees, shall operate as a waiver of any provision of this contract, or of any power herein reserved to the Owner, or any right to damages herein provided; nor shall any waiver of any breach of the contract constitute a waiver of any other or subsequent breach. Any remedy provided in this contract shall be construed as cumulative, that is, in addition to each and every other remedy herein provided.

- 42.2 No modification of this contract or waiver of any of its terms or provisions, except as herein provided, shall be made by or on behalf of the Owner, excepting by a resolution duly adopted by said Owner, and spread upon its minutes.

ARTICLE 43. ADDRESS

The address given in the proposal upon which this contract is founded is hereby designated as the place where notices, letters and other communications to the Contractor shall be mailed or delivered. The delivery at the above-named place, or the depositing in a postpaid wrapper directed to the above place, in any post office box, regularly maintained by the Post Office Department, of any notice, letter or other communication to the Contractor shall be deemed a sufficient delivery thereon to the Contractor. Such address may be changed at any time by an instrument in writing, executed and acknowledged by the Contractor, and delivered to the Owner. Nothing contained herein shall be deemed to preclude or render inoperative the delivery of any notice, letter or other communication to the Contractor personally.

ARTICLE 44. ESTIMATED QUANTITIES

- A. The estimated quantities are given only for use in comparing bids and the Owner does not expressly or by implication represent that the final quantities will correspond therewith, but does call particular attention to the uncertainty in these quantities which cannot be determined in advance. The quantities required to complete the work contemplated under each contract may be substantially greater or substantially less than those given in the proposal. The actual quantities and cost of each contract can only be determined after the work is completed.
- B. By submitting a proposal, a bidder shall indicate knowledge of and agreement that the quantities stated in the proposals may be substantially altered, added to, decreased or certain quantities eliminated, and such changes shall not give the Contractor any right to change the unit prices bid or claim loss of anticipated profits.

ARTICLE 45. RIGHT-OF-WAY AND SUSPENSION OF WORK

Land and rights-of-way for the purposes of this contract will be furnished by the Owner to the extent shown on the drawings; the Owner will use due diligence in acquiring said land and rights-of-way as speedily as possible. But it is possible that all lands and rights-of-way may not be obtained as herein contemplated before construction begins, in which event the Contractor shall begin his work upon such land and rights-of-way as the Owner may have previously acquired and no claim for damages whatsoever will be allowed by reason of the delay in obtaining the remaining lands and rights-of-way. Should the Owner be prevented or enjoined from proceeding with the work, or from authorizing its prosecution, either before or after the commencement, by reason of

any litigation, or by reason of its inability to procure any lands or rights-of-way for the said work, the Contractor shall not be entitled to make or assert claim for damage by reason of said delay, or to withdraw from the contract except by consent of the Owner; but time for completion of the work will be extended to such time as the Owner determines will compensate for the time lost by such delay, such determination to be set forth in writing.

ARTICLE 46. MACHINERY AND EQUIPMENT

- A. All machinery, equipment, trucks and vehicles used in the prosecution of the work or in connection therewith shall at all times be in proper operating condition.
- B. Gasoline, electrical or diesel engines only shall be used for power in operating equipment.
- C. The Contractor shall be responsible for curtailing noise, smoke, fumes or any other nuisance resulting from his operations. He shall, upon written notification from the Engineer, make any repairs, replacements, adjustments, additions and furnish mufflers when necessary to fulfill requirements.
- D. All costs involved in complying with the stipulations outlined shall be included in the various prices bid in the proposal.

ARTICLE 47. GENERAL GUARANTY

- A. The work under this contract, except as expressly excluded, and all of its subcontracts, severally and collectively, whether herein stipulated in each case or not, shall be guaranteed against faulty workmanship and/or material as specified below from date of acceptance of the work. The provisions of the guarantee and/or guarantees shall be incumbent on all parties of the work, including the General Contractor, each Subcontractor, all material supply houses and all manufacturers whose products and/or equipment is incorporated into the facilities.
- B. Neither the final certificate of payment nor any provision in the contract documents, nor partial or entire occupancy of the premises by the Owner shall constitute an acceptance of work not done in accordance with the contract documents or relieve the Contractor of liability in respect to any express warranties or responsibility for faulty workmanship or materials. The Contractor shall remedy any defects in the work and pay for any damage to their work resulting therefrom, which shall appear within a period of one (1) year from the date of final acceptance of the work unless a longer period is specified.
- C. If, within one (1) year from the date of issuance of the Final Certificate, any portion of the work shall, in the opinion of the Owner, require repairing, replacing or rebuilding, the Contractor shall start such repairs within five (5) days after the receipt of notice from the Owner and if the Contractor shall fail or neglect to start such repairs within the said five (5) days, the Owner may employ such other person or persons as it may deem proper to make such and charge the Contractor the cost thereby incurred, provided nothing herein contained shall limit the liability of the Contractor or his Surety to the Owner for nonperformance of the Contractor's obligations at any time.

- D. The Performance and Payment Bonds shall remain in full force and effect through the guarantee period.

ARTICLE 48. PROCEDURE IN CONSTRUCTION

- A. The Contractor shall start work and carry it on at such point or points and in such order of precedence and at times and seasons as may be determined by the Owner, and shall complete the various parts of the work in accordance with the schedule approved by the Owner.
- B. A complete organization, equipment and ample materials shall be on hand before actual work commences. In carrying on and executing the construction work, the Contractor shall so arrange his organization, plant, equipment and materials so that construction operations will be carried on continuously. The Contractor will not be permitted to reduce the force of men nor remove any equipment from the work if such reduction or removal impairs the progress of the work.
- C. In the event the Owner awards more than one contract to the same Contractor, the Contractor will be required to prosecute the work on each contract simultaneously and will be required to maintain a separate and independent organization staff, labor forces and machinery on each contract in order to complete the work within the time set forth for the respective contracts.

ARTICLE 49. OTHER PROHIBITED INTERESTS

No official of the Owner who is authorized in such capacity and on behalf of the Owner to negotiate, make, accept or approve, or to take part in negotiating, making, accepting, or approving any architectural, engineering, inspection, construction or material supply contract or any subcontract in connection with the construction of the project, shall become directly or indirectly interested personally in this contract in any part hereof. No officer, employee, architect, attorney, engineer or inspector of or for the Owner who is authorized in such capacity and on behalf of the Owner to exercise any legislative, executive, supervisory or other similar function in connection with the construction of this project, shall become directly or indirectly interested personally in this contract or in any part thereof, any material supply contract, subcontract, insurance contract, or any other contract pertaining to the project.

ARTICLE 50. RESPONSIBILITIES OF THE LWC INSPECTOR OR ENGINEER

In the performance of the Work, the Contractor shall abide by the Contract Documents and shall perform all Work to the satisfaction of Owner. The Contractor shall employ no plant, equipment, materials, methods or personnel to which Owner objects and shall remove no plant, materials, equipment or other facilities from the work site without the Inspector's permission. Upon request, the Owner will confirm in writing any verbal order, direction, requirement, or determination.

The Owner's Inspectors shall be authorized to inspect all work done and materials furnished. Such inspection shall extend to all parts of the Work. All Work shall be performed in the presence of the LWC inspector. The presence or absence of the Inspector shall not relieve the Contractor from any requirements of the Contract Documents. The Inspector shall not be authorized to revoke, alter, enlarge, relax, or release any requirement of the Contract Documents, and not to approve or accept any portion of the Work, and not to issue instructions contrary to the Contract Documents. The Inspector shall in no case act as foreman or perform other duties for the Contractor. Any advice which the Inspector may give the Contractor shall in no way be construed as binding Owner in any way, nor releasing the Contractor from the fulfillment of the terms of the Contract Documents.

50.1 Limitations on Inspector's Responsibilities:

Neither Inspector's Commission to act under this Article or elsewhere in the Contract Documents nor any decision made by Inspector in good faith either to exercise or not to exercise such Commission shall give rise to any duty or responsibility of Inspector to Contractor, any Subcontractor, any Supplier, or any other person or organization performing any of the Work, or to any surety for any of them.

50.2 Whenever in the Contract Documents the terms "as ordered", "as directed", "as required", "as allowed", "as approved", or terms of like effect or import are used, or the adjectives "reasonable", "suitable", "acceptable", "proper", or "satisfactory" or adjectives of like effect or import are used to describe a requirement, direction, review, or judgment of Inspector as to the Work, it is intended that such requirement, direction, review, or judgment will be solely to evaluate the Work for compliance with the Contract Documents (unless there is a specific statement indicating otherwise).

50.3 The Inspector will not be responsible for Contractor's means, methods, techniques, sequences or procedures of construction, or the safety precautions and programs incident thereto, and Inspector will not be responsible for Contractor's failure to perform or furnish the Work in accordance with the Contract Documents.

50.4 The Inspector will not be responsible for the acts or omissions of the Contractor or of any Subcontractor, any Supplier, or any other person or organization performing or furnishing any of the Work.

50.5 Authorized Variations in the Work:

The Inspector may authorize minor variations in the Work from the requirements of the Contract Documents which are consistent with the overall intent of the Contract Documents. These variations will be binding on Contractor who shall perform the Work involved promptly.

50.6 Rejecting Defective Work:

The Inspector will have the Commission to disapprove or reject Work which Inspector believes to be defective, and will also have Commission to require special inspection or testing of the Work whether or not the Work is fabricated, installed or completed.

50.7 Determination of Unit Prices:

The Inspector will determine the actual quantities and classifications of Unit Price Work performed by Contractor. The Inspector will review with Contractor the preliminary determination on such matters before rendering a written decision thereon (by recommendation of an Application For Payment or otherwise). Inspector's (or Engineer's) decision on such matters will be final and binding upon Contractor unless Contractor, within ten days after the date of any such decision, delivers written notice to Owner of intention to appeal from such a decision.

50.8 Decision on Disputes:

The Inspector will be the initial interpreter of the requirements of the Contract Documents and judge of the acceptability of the Work thereunder. Claims, disputes and other matters relating to the acceptability of the Work or the interpretation of the requirements of the Contract Documents pertaining to the performance and furnishing of the Work will be referred initially to the Inspector. If the Inspector believes that any such claim or dispute must be rendered by Contractor in writing, Contractor shall act promptly and submit to Inspector written supporting data of any such claim or dispute.

50.9 When functioning as interpreter and/or judge of the requirements of the Contract Documents, Inspector will not show partiality to Owner or Contractor and will not be liable in connection with any interpretation or decision rendered in good faith in such capacity.

ARTICLE 51. OWNER'S COMMISSION

The Owner shall give all orders and directions contemplated under this contract and specifications relative to the execution of the work. The Owner shall determine the amount, quality, acceptability and fitness of the several kinds of work and materials which are to be paid for under this contract and shall decide all questions which may arise in relation to said work and the construction thereof. The Owner's estimates and decisions shall be final and conclusive, except as herein otherwise expressly provided. In case any question shall arise between the parties hereto relative to said contract or specifications, the determination or decision of the Owner shall be a condition precedent to the right of the Contractor to receive any money or payment for work under this contract affected in any manner or to any extent by such question. The Owner shall decide the meaning and intent of any portion of the specifications and of any plans or drawings where the same may be found obscure or be in dispute. Any differences or conflicts in regard to their work which may arise between the Contractor under this contract and other Contractors performing work for the Owner shall be adjusted and determined by the Owner.

ARTICLE 52. OWNER MAY STOP WORK

If the Work is defective, or Contractor fails to supply sufficient skilled workmen or suitable materials or equipment, the Owner may order the Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, this right of the Owner to

stop the Work shall not give rise to any duty on the part of the Owner to exercise this right for the benefit of the Contractor or any other party.

ARTICLE 53. LIENS

Neither the final payment nor any part of the retained percentage shall become due until the Contractor, if required, shall deliver to the Owner a complete release of all liens arising out of this contract, or receipts in full in lieu thereof, and if required in either case, an affidavit that so far as he had knowledge or information the releases and receipts include all the labor and material for which a lien could be billed; but the Contractor may, if any Subcontractor refuses to furnish a release or receipt in full, furnish a bond satisfactory to the Owner to indemnify him against any liens. If any liens remain unsatisfied after all payments are made, the Contractor shall refund to the Owner all monies that the latter may be compelled to pay in discharging such lien, including all costs and a reasonable attorney's fees.

ARTICLE 54. WORK SUBJECT TO CONTROL OF OWNER

- A. In the performance of the work, the Contractor shall abide by all orders, directions and requirements of the Owner and shall perform all work to the satisfaction of the Owner; and at such times and places by such methods and in such manner and sequence as he may require. The Contractor shall employ no plant, equipment, materials, methods or men to which the Owner objects; and shall remove no plant, materials, equipment, or other facilities from the site of the work without the Owner's permission. Upon request, the Owner will confirm in writing any oral order, direction, requirement, or determination.
- B. Inspectors shall be authorized to inspect all work done and material furnished. Such inspection may extend to all or any part of the work, and to the preparation or manufacture of the materials to be used. The presence or absence of any inspector shall not relieve the Contractor from any requirements of the Contract. In case of any dispute arising between the Contractor and the inspector as to materials furnished or the manner of performing the work, the inspector shall have the Commission to reject material or suspend the work until the question at issue can be referred to and decided by the Owner. The inspector shall not be authorized to revoke, alter, enlarge, relax or release any requirement of these Specifications, or to approve or accept any portion of the work or to issue instructions contrary to the Drawings and Specifications. The inspector shall in no case act as foreman or perform other duties for the Contractor, or interfere with the management of work by the latter. Any advice which the inspector may give the Contractor shall in no way be construed as binding the Owner, or the Owner's Representative or the Engineer, in any way nor release the Contractor from the fulfillment of the terms of the Contract.

ARTICLE 55. OWNER'S CONTROL NOT LIMITED

In the articles of this contract, there are specific references in which the opinion, judgment, discretion or determination of the Owner shall control the work, and specific references to work that must be performed to the satisfaction of the Owner or is subject to the Owner's approval or inspection. This shall not imply or be construed that only the specific referenced items shall be so

governed by the Owner, but that without exception, all the work in this contract shall be governed by the Owner.

ARTICLE 56. CONTRACTOR'S OBLIGATIONS

- A. The Contractor shall and will, in good workmanlike manner, do and perform all work and furnish all supplies and materials, machinery, equipment, facilities and means, except as herein otherwise expressly specified, necessary or proper to perform and complete all the work required by this contract, within the time herein specified, in accordance with the provisions of this contract and said specifications and in accordance with the plans and drawings covered by this contract and any and all supplemental plans and drawings, and in accordance with the directions of the Owner as given from time to time during the progress of the work. The Contractor shall furnish, erect, maintain and remove such construction plant and such temporary work as may be required. He alone shall be responsible for the safety, efficiency and adequacy of his plant, appliances and methods, and for any damage which may result from their failure or their improper construction, maintenance or operation. The Contractor shall observe, comply with and be subject to all terms, conditions, requirements and limitations of the contract and specifications, and shall do, carry on, and complete the entire work to the satisfaction of the Owner.
- B. The Contractor shall be solely responsible for all the work and shall provide all precautionary measures necessary for preventing injury to persons or damage to property. All injury or damage of whatever nature resulting from the work or resulting to persons, property or the work during its progress, from whatever cause, shall be the responsibility of and shall be borne and sustained by the Contractor. The Contractor shall hold the Engineers and the Owner or their agents harmless and defend and indemnify the Engineers and the Owner or their agents against damages or claims for damages due to injuries to persons or to property arising out of the execution of the work and for damages to inventions, patents and patent rights used in doing the work, or damages arising out of the use of any improper materials, equipment or labor used in the work, and for any act, omission or neglect of the Contractor, his agents, employees and his subcontractors therein. He shall bear all losses resulting to him including but not limited to losses sustained on account of the character, quality or quantity of any part or all of the work, or because the nature of the land in or on which the work is done being different from what was estimated or indicated, or an account of the weather, elements or other causes.

ARTICLE 57. STATE GOVERNMENT PROVISIONS

- 57.1 State Government Provisions included herein have been selected from those to which specific references have been made elsewhere in the Contract Documents. Each and every other provision of law or clause required by law to be inserted in this Contract shall be deemed to be also inserted herein.

The Owner and Contractor agree that the following State of Rhode Island Provisions apply to the work to be performed under this Contract and that these provisions supersede any conflicting provisions of this Contract.

57.2 NONRESIDENT CONTRACTOR RETAINAGE

NOTICE - "TO ALL PERSONS ENGAGING NONRESIDENT CONTRACTORS"

As required by Section 44-1-6 of Chapter 229 of the General Laws, 3% of the Contract price shall be withheld by the Owner from all non-Rhode Island Contractors to secure payment of any sales and use taxes or income tax withheld, or both, that may be due to the State of Rhode Island in carrying out the contract. Section 44-1-6 of Chapter 229 is attached.

The withholding shall be included in the 10% security withholding defined in the Agreement. Upon completion of the Work, the Owner shall make the tax payments as required by the above noted law, and refund the remainder. Pertinent excerpts from the law are appended. Questions should be addressed to:

State of Rhode Island and Providence Plantations

Department of Administrations

Division of Taxation

289 Promenade Street

Providence, Rhode Island 02908

TEL: 401-277-3053

Attached is an excerpt from Chapter 229, Public Laws of 1974, providing "Additional Collection Powers -Nonresident Contractors" engaged in the building industries in Rhode Island.

- (a) Any person doing business with a nonresident contractor shall withhold payment of an amount of three percent (3%) of the contract price until thirty (30) days after the contractor has completed the contract and has requested the tax administrator, in writing, to audit the records for the particular project, a receipted copy of the request to be furnished to the person holding the funds. The tax administrator shall, within thirty (30) days after receipt of the request, furnish to the nonresident contractor and to the person holding the funds either a certificate of no tax due or a certificate of sales and use tax or income tax withheld, or both, due from the nonresident contractor.
- (b) Upon receipt of a certificate of no tax due, the person hold the payment may be the nonresident contractor. Upon receipt of a certificate of taxes due, the person may pay to the contractor out of the amount withheld the excess over the amount of taxes stated in the certificate together with the interest and penalties assessed. If the tax administrator furnishes neither certificate to both parties within thirty (30) days after receipt of a written request for the making of the audit, the person holding the payment may immediately pay the payment withheld to the nonresident contractor under the terms of the contract free from any claims of the tax administrator against either the person holding the payment or the nonresident contractor for payment of sales or use taxes or income taxes withheld, or both.

- (c) In the event the tax administrator serves upon the contractor and the person holding the payment a certificate showing the taxes due within a thirty (30) day period, the person holding the payment shall deposit with the tax administrator the amount stated in the certificate which is not in excess of three percent (3%) of the contract price, taking a receipt for the amount, and is free from any claim of the nonresident contractor for that amount or of the tax administrator for sales and use taxes or income taxes withheld, or both, arising out of the materials, equipment and services used in performance of the contract of the nonresident contractor on that project.

DEFINITION OF NONRESIDENT CONTRACTOR:

A nonresident Contractor is one who does not maintain a regular place of business in this state. "A regular place of business" means and includes any bona fide office (other than a statutory office), factory, warehouse, or other space in this state at which the taxpayer is doing business in its own name in a regular and systematic manner, and which is continuously maintained, occupied, and used by the taxpayer in carrying on its business through its regular employees regularly in attendance. A temporary office at the site of construction shall not constitute a regular place of business.

In order to effectively implement this legislative change which became effective on passage, nonresident Contractors shall forward such notice of completion by certified or registered mail (in duplicate) to the Division of Taxation, PO Box 892, Annex Station, Providence, Rhode Island 02901.

This memorandum supersedes the memorandum issued in 1973 under the 1973 law. Section 44-19-23(b) (3), (4) and (5) are repealed by the above chapter.

David M. Sullivan, Tax Administrator

57.3 SECTION 5 OF CHAPTER 26, TITLE 28 OF THE GENERAL LAWS OF RHODE ISLAND 1956, ENTITLED "LICENSE REQUIRED FOR OPERATION OF HOISTING MACHINERY - PUBLIC CONTRACTS" (28-26-5).

License required for operation of hoisting machinery –

- (a)(1) No person shall operate or be in direct charge of hoisting or excavation equipment which uses, steam, internal combustion engines, electric, or compressed air of five (5) horsepower or more and/or can lift more than five hundred pounds (500 lbs.) without obtaining a license to do so as provided in this chapter. (2) No user or agent of a user of any machinery described in subdivision (1) of this subsection shall permit the machinery to be operated unless it is operated by a duly licensed person as provided in this chapter.

(b) Every contract in the construction of public works by the state or by any city or town, or by persons contracting with the city, town or state for the construction shall contain a clause embodying the provision of this section.

(c) In the event of any inconsistencies and/or contradiction between the requirements of this section and those of 23-33-30, and/or in any respective rules and or regulations promulgated pursuant to that section, the provisions of this section and any rules and or regulations promulgated pursuant to this section shall be deemed to be controlling.

57.4 ADDITIONAL RHODE ISLAND STATE REQUIREMENTS

CERTIFICATION OF PROPOSED SUBCONTRACTORS: Any bidder who shall name a subcontractor in his Proposal shall certify that the use of the name of such subcontractor was with said subcontractor knowledge and consent. Any subcontractor so named in any bid may be required to submit data to establish his experience and financial ability. The naming of a subcontractor in any such Proposal will not insure approval of the proposed subletting of work to him, and in the event of disapproval of such subletting; the Contractor shall perform such item or items of work with his own organization, in full compliance with all applicable terms of his contract.

PUBLIC LAW -- CHAPTER 5-6-2: WORK FOR WHICH LICENSE REQUIRED: No person, firm, or corporation shall enter into, engage in, or work at the business of installing wire, conduits, apparatus, fixtures and other appliances for carrying or using electricity for light, heat or other purpose, unless such person, firm or corporation shall have received a license and a certificate therefore, issued by the State Board of Examiners of Electricians.

57.5 **USE OF EXPLOSIVES**. When explosives are necessary for the prosecution of the work, the Contractor shall not endanger life, property or new work. The Contractor shall be responsible for damage resulting from the use of explosives.

The Contractor shall comply with all laws and ordinances, as well as with Title 29 and Title 30 of the Code of Federal Regulations, and the Safety and Health Regulations for Construction of OSHA, whichever is the most restrictive, in the use, handling, loading, transportation, and storage of explosives and blasting agents.

A. Additional Specific Requirements. The Contractor shall comply with the following:

1. The Contractor shall be solely responsible for employing such plant, equipment and construction methods necessary to accomplish the work of this Contract with complete safety and without damage to persons, existing buildings, structures, facilities and utilities.
2. The Contractor shall furnish the services of technical representatives of the manufacturer of the explosive materials. Such individuals shall be experienced in the use of high explosives in blasting operations under the circumstances to be encountered in the work of this Contract. The

Contractor shall furnish the services of the explosive manufacturer's representatives for such lengths of time prior to starting blasting operations as is necessary to determine the proper equipment, devices, materials, methods and procedures to be used for the proper performance of the work. The Contractor shall also furnish the services of the explosive manufacturer's representatives during the preparation for, and progress of blasting operations for such lengths of time and as frequently as necessary to assure that blasting operations shall be performed in a safe and proper manner.

3. Prior to commencement of work, the Contractor shall meet and confer with the Engineer at which time the Contractor shall outline in detail his proposed administration of an overall safety program, which program shall at all times be satisfactory to the Engineer. The Contractor shall furnish to the Engineer copies of the current safety program and procedures for the safety and prevention of injury to persons and the prevention of damage to property and the work. The Contractor shall comply with this program at all times during the prosecution of the work.
4. All operations involving explosives and/or blasting agents shall be in accordance with the "Suggested Code for the Manufacture, Transportation, Storage and Use of Explosives and Blasting Agents" published by the Institute of Makers of Explosives, as amended. Wherever the Code and the Rhode Island Standard Specifications conflict, the Code shall apply. The Contractor shall be responsible for developing techniques necessary to obtain the required ledge slopes consistent with maximum safety requirements.

B. Care in Blasting. It is especially required that blasting operations shall be conducted with all possible care and in such a manner as to prevent injury to persons and property. A sufficient warning shall be given to all persons in the vicinity of the work before blasting.

No blasting will be allowed within 25 feet of an existing building or in-service underground utility line.

C. Power of Explosives. The explosives employed in the work shall be of such power and placed in such quantities and positions that will not:

1. Unduly enlarge the excavation.
2. Unnecessarily shatter the rock upon or against which the work will be installed.
3. Injure work already in place.

- D. **Transportation, Handling, and Storage.** Explosives must be carefully transported, stored, handled and used as required by applicable State and local ordinances and laws. The necessary permits for such transportation, storage, handling and use shall be obtained by the Contractor. The Contractor shall show such permits to the Engineer before any blasting will be allowed. The Contractor shall keep on the job only such quantity of explosives as may be needed for the work underway and only during such time as they are being used. Explosives shall be stored in a secure manner and separately from all tools. Caps or detonators shall be stored separately and at a point over 100 feet distant from the explosives. When the need for explosives is ended, all such material remaining on the job shall be promptly removed from the premises.
- E. **Approval of the Engineer.** The approval of the Engineer shall first be obtained before blasting is permitted. If, in the opinion of the Engineer, blasting is unsafe or dangerous to persons, or to existing structures and utilities, the Contractor shall employ pneumatic tools, drilling and splitting mechanically, or by hand, or by other such means that do not require the use of explosives for the removal of rock, boulders, or ledge, all at no additional expense to the State.
- F. **Notification of Local Authorities.** Before any dynamite or detonator caps are stored or used under this Contract, the Contractor shall contact the Police and Fire Departments of the city or town in which the project is located for instructions relative to the regulations for possession and use of explosives in that community. The Contractor shall obtain all required permits or licenses for possession and use of explosives on the site or sites of construction under this Contract. In addition, the Contractor shall be responsible:
1. For designating an individual who shall be responsible for the explosive materials at all times.
 2. For the immediate reporting to the Police Department of the Cities or Towns in which the project is located of all unaccounted for explosive materials.
- G. **Records.** The Contractor shall keep a complete record of blasting operations, noting the date, exact location with reference to a datum, weight of charge, and whether the firing was instantaneous or delayed. The Contractor shall furnish the Engineer with a complete record of operations during the preceding weekly period.
1. Records shall indicate by date the quantity and type of explosive materials delivered to the construction sites(s); the quantity of explosive material used; and the quantity of such material subsequently removed from the construction site(s).
 2. All records related to the possession and use of explosive materials shall be open for inspection by the Engineer and the Police Departments of the cities and towns in which the project is located.

3. The Contract prices for the various items of work shall include full compensation for providing a complete record of blasting operations.
- H. Repairs. The Contractor is cautioned that it will be responsible for any damage to existing roadway surfaces, drainage lines, structures or other objects as a result of blasting operations. The Contractor will be required to repair such damage as may be directed by the Engineer in accordance with prevailing Rhode Island Special Provisions or Standards for the particular type of work involved. The Contractor shall assume the full cost of making such repairs.
 - I. The contract prices for the various items of work shall be considered to include full compensation for all tests and for the costs involved in testing and recording results and for the record of operations submitted to the Engineer.
 - J. The Contractor is cautioned that in all blasting operation he will be responsible for any damage to existing roadway surfaces, drainage lines and all underground facilities, structures or other objects as a result of his blasting operation. The Contractor will be required to repair any such damage as directed by the Engineer to meet the latest Rhode Island Standard for the particular type of work. The Contractor will not be compensated in any way for the materials, labor or equipment to make such repairs; the entire cost of repair will be the Contractor's responsibility.

ARTICLE 58. SAFETY AND HEALTH REGULATIONS

These construction documents, and the joint and several phases of construction hereby contemplated are to be governed, at all times by applicable provisions of the Federal Law(s), including, but not limited to, the latest amendments of the following:

- A. Williams-Steiger Occupational Safety & Health Act of 1970, Public Law 91-596;
- B. Part 1910 - Occupational Safety and Health Standards; Chapter XVII of Title 29, Code of Federal Regulations;
- C. Part 1518 - Safety and Health Regulations for Construction, Chapter XIII of Title 29, Code of Federal Regulations.

This project is subject to all of the Safety and Health Regulations (see 29 CFR 1518, as amended) as promulgated by the U. S. Department of Labor on April 17, 1971. Contractors are urged to make themselves familiar with the requirements of these regulations.

ARTICLE 59. TAXES

The Contractor's attention is called to the fact that certain taxes, including Federal, excise and/or Rhode Island Use Taxes are not applicable to LWC work. LWC will execute exemption

certificates, prepared by the Contractor, for the materials and equipment used in the work.

- 59.1 Rhode Island Sales and Use tax: Materials and equipment purchased for installation under this contract are exempt from the Rhode Island Sales Tax. The exemption from the Sales tax shall be taken into account by the Contractor during bidding.
- 59.2 Rhode Island Sales tax: The LWC is exempt from payment of Rhode Island Sales tax under 1956 General laws of the State of Rhode Island, 44-18-30 Paragraph 1, as amended.
- 59.3 Federal Excise Tax: The LWC is exempt from the payment of any excise or federal transportation taxes. The price bid must be exclusive of taxes and will be so construed.

ARTICLE 60. WAGE RATES

- A. All Bidders must comply with the State of Rhode Island requirements as to conditions of employment to be observed and prevailing wage rates to be paid under the contract as on file in the Rhode Island Department of Labor, Office of the Director. All terms, conditions and provisions of Chapters 12 and 13 of Title 37, General Laws of Rhode Island, 1956, as amended, shall apply to all bidders, and the provisions of said Chapters 12 and 13 of Title 37, General Laws of Rhode Island, 1956, as amended, are incorporated herein by reference thereto. The Davis Bacon act and its requirements are in effect for this project.
- B. If, after the award of the contract, it becomes necessary to employ any person in a trade or occupation not classified in the above list, such person shall be paid at not less than a rate to be determined by the same Commission which established the other wage rates for this contract. Such approved minimum rate shall be retroactive to the time of the initial employment of such person in such trade or occupation. The Contractor shall notify the Owner of his intention to employ persons in trades or occupations not classified in sufficient time for the Owner to obtain approved rates for such trades or occupations. The LWC must contact the Department of Labor at <http://www.wdol.gov/e98.aspx> and submit a request using e98 Online Request Form. Contracting officers may elect to use the e98 request form for any Service Contract Act - covered contract action. Also, if a contracting officer cannot obtain an appropriate SCA Wage Determination within the [WDOL.gov](http://www.wdol.gov) database for use in an official contract action, the contracting officer must request an official SCA WD from DOL by completing the e98. Most requests are processed immediately. Some require research, and DOL may need additional time to respond.
- C. The foregoing specified wage rates are minimum rates only, and the Owner will not consider any claims for additional compensation made by the Contractor because of payment by the Contractor of any wage rate in excess of the applicable rate contained in this contract. All disputes in regard to the payment of wages in excess of those specified in this contract shall be adjusted by the Contractor.
- D. Except as may be otherwise required by law, all claims and disputes pertaining to the classification of labor employed on the project under this Contract shall be decided by the Owner's governing body or other duly designated official.

ARTICLE 61. ARBITRATION

- A. All claims, disputes, and other matters in question arising out of or relating to this Contract or to the performance or interpretation thereof shall be submitted to arbitration. Arbitration shall be commenced by a demand in writing made by one (1) party to this Contract upon the other within a reasonable time after the dispute, claim, or other matter in question arose but in no event after payment in full of the contract price has been made and accepted. The written demand shall contain a statement of the question to be arbitrated and the name of the arbitrator appointed by the party. The other party to this Contract within ten (10) days of the receipt of the written demand shall appoint an arbitrator and give notice in writing thereof to the party who commenced arbitration. The two (2) arbitrators appointed by the parties shall within ten (10) days of the appointment of the second arbitrator select a third arbitrator who shall be designated as chairman and who immediately shall select a time, date and a place for hearing and give each party five (5) days in writing thereof. The date for the hearing shall not be more than fifteen (15) days after the appointment of the third arbitrator. The arbitrators shall render their award in writing not more than thirty (30) days after the date the hearing shall commence unless the parties shall otherwise agree in writing. In the event the party of whom arbitration is demanded shall fail to appoint his arbitrator within the time specified or the two (2) arbitrators appointed by the parties are unable to agree on an appointment of the third arbitrator within the time specified, either party may petition the Presiding Justice of the Superior Court of the State of Rhode Island to appoint a single arbitrator who shall hear the parties and make an award as provided herein. The petitioner shall give five (5) days' notice in writing to the other party before filing his petition.
- B. The award rendered by the arbitrators shall be final, and the judgment may be entered upon it in accordance with applicable law in any court having jurisdiction thereof.
- C. Unless otherwise instructed in writing by the Owner, the Contractor shall carry out his obligations to perform under this Contract during any arbitration proceedings, and the Owner will continue to make payments to the Contractor in accordance with this Contract.
- D. All claims which are related to or dependent upon each other shall be consolidated and heard by the same arbitrator or arbitrators even though the parties are not the same.

ARTICLE 62. MISCELLANEOUS

Giving Notice:

- 62.1 Whenever any provision of the Contract Documents requires the giving of written notice, it will be deemed to have been validly given if delivered in person to the individual or to a member of the firm or to an officer of the corporation for whom it is intended, or if delivered at or sent by registered mail, postage prepaid, to the last business address known to the giver of the notice.

62.2 Computation of Time:

- A. When any period of time is referred to in the Contract Documents by days, it will be computed to exclude the first and include the last day of such period. If the last day of any such period falls on Saturday or Sunday or on any day made a legal holiday by the law of the applicable jurisdiction, such day will be omitted from the computation.
- B. A calendar day of twenty-four hours measured from midnight to the next midnight shall constitute a day.

62.3 Should Owner or Contractor suffer injury or damage to person or property because of any error, omission or act of the other party or of any of the other party's employees or agents or others for whose acts the other party is legally liable, claim will be made in writing to the other party within a reasonable time of the first observance of such injury or damage. The provisions of this paragraph shall not be construed as a substitute for a waiver of the provisions of any applicable statute or limitations or repose.

62.4 The duties and obligations imposed by these General Conditions and the rights and remedies available thereunder to the parties hereto, and, in particular but without limitations, the warranties, guarantees and obligations imposed upon Contractor and all of the rights and remedies available to Owner and Engineer thereunder, are in addition to, and are not to be construed in any way as a limitation of, any rights and remedies available to any or all of them which are otherwise imposed or available by Laws or Regulations, by special warranty or guarantee or by other provisions of the Contract Documents, and the provisions of this paragraph will be effective as if repeated specifically in the Contract Documents in connection with each particular duty, obligation, right and remedy to which they apply. All representations, warranties and guarantees made in the Contract Documents will survive final payment and termination or completion of the Agreement.

SECTION 00500

SPECIAL CONDITIONS

NEW DUCTILE IRON WATER MAIN INSTALLATION

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ARTICLE 1. PROVISIONS FOR FLOW OF PRESENT DRAINAGE:

Provision for the flow of all sewers, drains and water courses that are met or altered during construction shall be provided by the Contractor and all the connections shall be restored without extra charge. All offensive matter shall be removed immediately with such precautions as may be required. If required, the Contractor shall install temporary bypass connections for surface or pipe drainage facilities to provide uninterrupted or continuous service during the time of construction. Whenever and wherever a temporary bypass is provided, an alternate means of bypass shall also be provided. The alternate bypass shall insure the continued flow of drainage in the event of failure of the initial bypass. Both methods of bypass shall be approved by the Owner and shall be provided by the Contractor at no additional expense to the Owner.

ARTICLE 2. PROTECTION OF LIVES AND HEALTH:

In order to protect the lives and health of his employees under the Contract, the Contractor shall comply with all safety provisions of applicable laws, building and construction codes and all pertinent provisions of the "Manual of Accident Prevention in Construction" issued by the Associated General Contractors of America, Incorporated, and shall maintain an accurate record of all cases of death, occupational disease, and injury required medical attention or causing loss of time from work, arising out of and in the course of employment on work under this contract.

The Contractor alone shall be responsible for the safety, efficiency and adequacy of his plant, appliances and methods, and for any damage which may result from their failure or their improper construction, maintenance or operation.

The Contractor shall be solely responsible for the acts and omissions of his agents, employees and his subcontractor and their agents and employees and shall hold the Engineers and the Owner harmless and defend the Engineers and the Owner against damages or claims for damages arising out of injuries to other or property of others which result from said acts omissions.

ARTICLE 3. PROTECTION OF TREES:

The Contractor shall take special care to preserve and protect from injury all trees located along the lines of construction, and no such trees shall be cut down, trimmed or otherwise cut without permission from the Owner.

ARTICLE 4. HURRICANE PROTECTION:

Should hurricane warnings be issued, the Contractor shall take every practicable precaution to minimize danger to persons, to the work and to adjacent property. These precautions shall include closing all openings: removing all loose materials tools and/or equipment from exposed locations; and removing or securing scaffolding and other temporary work.

ARTICLE 5. FIRST AID TO INJURED:

The Contractor shall keep in his office ready for immediate use all articles necessary for giving first aid to injured employees. He shall also provide arrangements for the immediate removal and hospital treatment of any employee injured on the project who may require the same.

ARTICLE 6. CONFORMANCE WITH DIRECTIONS:

The Owner may make alterations in the lines, grade, plan, form, dimensions or materials to be used in project or any part thereof, either before or after the commencement of construction. If such alterations diminish the quantity included in any item of work, to be done and paid for at a unit price, the Contractor shall have no claim for damages or for anticipated profits on the work that thus may be dispensed with. If they increase the quantity included in any such item, such increase shall be paid for at the stipulated unit price.

ARTICLE 7. PROTECTION AGAINST HIGH WATER AND STORM:

- A. The Contractor shall take all precautions to prevent damage to the work or equipment by high water or by storms. The Owner may prohibit the carrying out of any work at any time when in his judgment, high water or storm conditions are unfavorable or not suitable, or at any time, regardless of the weather, when proper precautions are not being taken to safeguard previously constructed work or work in progress. No claim by the Contractor shall be made for lost time as a result of such shutdown by the Owner.

- B. In case of damage caused by the failure of the Contractor to take adequate precautions, the Contractor shall repair or replace equipment damaged and shall make such repairs or rebuild such parts of the damaged work, as the Owner may require, at no additional expense to the Owner.

ARTICLE 8. CONSTRUCTION SCHEDULE:

In addition to other requirements specified and within ten (10) days after notice to proceed, the Contractor shall confer with the Owner for the purpose of drafting a construction schedule satisfactory to the Owner which is to include all the work of this contract. The schedule shall be submitted on or before the Preconstruction Conference. The Contractor shall perform the work of this contract to conform to the construction schedule, as approved by the Owner, except the Owner reserves the right to amend and alter the construction schedule, as approved, at any time, in a manner which it deems to be in the best interests of the Owner so to do. The Contractor shall arrange his work under this contract to conform with the construction schedule as it may be revised from time to time by the Owner, at no additional expense to the Owner. The Contractor shall notify the Owner immediately of any circumstances which may affect the performance of the work in accordance with the current construction schedule.

The Contractor shall be required to prosecute his work in accordance with the construction schedule prepared by him in advance in accordance with additional requirements specified herein and approved by the Owner. This schedule shall state the methods and shall forecast the times for doing each portion of the work. Before beginning any portion of the work, the Contractor shall give the Owner advance notice and ample time for making the necessary preparations. The Owner reserves the right of final approval of the construction sequence.

The Construction Schedule must note any work that shall require short term interruption of service to LWC customers. In addition to inclusion in the Construction Schedule, the Contractor must notify the Engineer at least 48 hours in advance to allow adequate time for customer notification. See article 40.

ARTICLE 9. COMPETENT HELP TO BE EMPLOYED:

The Contractor shall employ experienced foremen, craftsmen and other workmen competent in the work in which they are to be engaged. All work shall be accomplished by able, skilled and competent personnel. If any person employed on the work by the Contractor shall appear to be incompetent or unreliable in any way, he shall be discharged immediately upon the request of the Owner and shall not again be employed on the work.

ARTICLE 10. STREETS AND SIDEWALKS TO BE KEPT OPEN:

The Contractor shall at all times keep the streets and sidewalks in which he may be at work open for pedestrian and vehicular traffic. If, in the opinion of the Owner, the interest of abutters and public requires it, the Contractor shall bridge or construct plank crossings over the trenches at street crossings, roads or private ways. The Contractor shall conduct his work for this objective in such manner as the Owner may direct from time to time. No sidewalk shall be obstructed where it is possible to avoid it. No additional payment shall be made to the Contractor for such work.

The Contractor shall provide all necessary Fire Crossings at principal intersection or ways usually traveled by fire apparatus with provisions for the apparatus so it can travel along the line of pipeline installations.

All work shall be conducted in such a manner as to provide minimum interference with existing business and commercial establishments. Such establishment shall be allowed to conduct business at all times during construction activities.

If, with the approval of the Engineer, a street requires closure to traffic, the Contractor is responsible for notifying the appropriate police and fire departments along with RIPTA if the street is on a bus route. All detours and road closures are to be approved by the local Traffic Engineer.

ARTICLE 11. LIGHTS, BARRIERS, FENCES, WATCHMEN AND INDEMNITY:

The Contractor shall put up and maintain such barriers, fences, lighting and warning lights, danger-warning signals and signs as will absolutely prevent accidents during the construction work and protect the work and insure the safety of personnel and the public at all times and places; and the Contractor shall defend, indemnify and save harmless the Owner and the Engineers and their agents in every respect from any injury or damage whatsoever caused by any act, omission or neglect of the Contractor or his Subcontractor, or their servants or agents, including any claims arising out of failure to erect and maintain sufficient railing or fence. The fact that the Owner may retain control of the premises, or that it or its agents may take action to erect or maintain railings or fences shall not relieve the Contractor's obligations hereunder.

The Contractor at his own expense shall furnish, maintain and use, and cause all his Subcontractors to furnish, maintain and use all necessary safety devices and safe practices in prosecution of the work and to adopt, follow and maintain such additional safety measures as in the opinion of the Owner are conducive to safe operation by the Contractor and the Subcontractors. The Owner shall have the right to order any or all work suspended where, in the Owner's opinion, such work is not being carried on in a safe and proper manner, or where persons and property are not being properly protected or safeguarded and such work shall not be resumed until the Owner's requirements have been met and the Owner has directed that work be resumed. The work required by the preceding paragraph shall be totally at the Contractor's expense.

In addition to the above, when and as necessary, or when required by the Owner, the Contractor shall post signs and employ watchmen, flagmen, or police officers for the direction of traffic at the site and for excluding at all times unauthorized persons from the project. The Contractor will not be paid additional compensation for this work, except that payment will be made under the Schedule of Bid Items for providing police for direction of traffic.

The Contractor shall be responsible for excluding at all times from lands within easement areas, all persons not directly connected with the work or authorized by the Owner to be within the project areas.

ARTICLE 12. BUS LINE INTERFERENCE

Whenever it may be necessary to interfere with any bus lines, notice shall be given to the corporation owning the same and reasonable time shall be given to said corporation to arrange the schedule for operation of same, as may be necessary.

ARTICLE 13. WORK IN COLD WEATHER:

The Owner will determine when conditions are unfavorable for work and may order the work or any portions of it suspended whenever, in his opinion, the conditions are not such as will insure first class work. In general, work shall be prosecuted throughout the year and the Contractor will be expected to keep work going and employment of labor as continuous as possible.

All methods and materials used in the performance and for the protection of the work in cold weather shall be subject to the approval of the Owner. The Contractor shall take necessary

precautions to protect the work from damage and for removing ice and frost from materials, including heating and water, sand and coarse aggregate and for protecting the newly laid masonry. The Contractor will receive no extra payment for any labor, apparatus, tools or materials necessary to comply with the above requirements, but compensation shall be construed to be included in the prices stipulated for the appropriate items of work as listed in the bid.

ARTICLE 14. TUNNELING NOT PERMITTED:

Tunneling will not be permitted without the consent of the Owner.

ARTICLE 15. RESERVED MATERIALS:

Materials found on the work suitable for any special use shall be reserved for that purpose. Where permitted, the Contractor may use in the various parts of the work, without charge therefore, any materials taken from the excavations.

ARTICLE 16. DISPOSAL OF MATERIALS; ACCESS TO HYDRANTS AND GATES

The materials from the trenches and excavations and those used in the construction of the work shall be deposited in such a manner so they will not endanger persons or the work, and so that free access may be had at any time to all hydrants and gates in the vicinity of the work. The materials shall be kept trimmed-up so as to be of as little inconvenience as possible to the public travel or the adjoining tenants. All excavated materials not approved for backfill and fill, all surplus material and all rock, boulders resulting from the excavations, and all existing piping removed from the trench during excavations shall be removed and satisfactorily disposed of off the site by the Contractor at no additional expense to the Owner. At no time is there to be debris of any kind left overnight on the jobsite.

ARTICLE 17. MAINTAINING PREMISES FREE FROM OBSTRUCTIONS

The amount of space in streets or public and private lands occupied by equipment, trench and supplies, shall not exceed the length or space considered reasonably necessary and expedient by the Owner. In determining the spaces for equipment, materials, supplies and other necessities, the Owner will consider the nature of the lands or streets where work is being done, types and methods of construction and equipment being used, inconvenience to the public or to the private parties, possible dangers and other proper matters. All work must be constructed with a minimum of inconvenience and danger to the public and all other parties concerned.

Whenever any trench obstructs pedestrian and vehicular traffic in or to any public street, private driveway or property entrance, or to private property, the Contractor shall take such means as may be necessary to maintain pedestrian and vehicular traffic and access. Until such time as the work may have attained sufficient strength to support backfill, or if for any other reason it is not expedient to backfill the trench immediately, the Contractor shall construct and maintain suitable

plant crossings and bridges to carry essential traffic in or to the street, driveway or property in question as specified or directed.

Suitable signs, lights and such required items to direct traffic shall be furnished and maintained by the Contractor.

The Contractor must keep streets and premises free from unnecessary obstructions, debris and all other materials. The Owner may, at any time, order all equipment, materials, surplus from excavations, debris and all other materials lying outside that length of working space promptly removed, and should the Contractor fail to remove such material within 24 hours after notice to remove the same, the Owner may cause any part or all of such materials to be removed by such persons as he may employ, at the Contractor's expense, and may deduct the costs thereof from payments which may be or may become due to the Contractor under the contract. In special cases, where public safety urgently demands it, the Owner may cause such materials to be removed without prior notice.

ARTICLE 18. TURF, TOPSOIL AND OTHER REPLACED ITEMS:

Where work is performed through cultivated or sodded lands, the Contractor shall stockpile the turf and topsoil separately and replace the same after the trench is filled, leaving the land as near as possible to its original condition. Trees, fences, walls, walks and such other items must not be damaged.

ARTICLE 19. DEFECTIVE MATERIALS:

No materials shall be laid or used which are known, or may be found to be in any way defective. Notice shall be given to the Owner of any defective or imperfect material. Defective or unfit material found to have been laid shall be removed and replaced by the Contractor with sound and unobjectionable material without additional expense to the Owner.

All materials furnished by the Contractor are subject to thorough inspections and tests by the Owner.

The Contractor shall submit samples as required by the Owner of the various materials used on the contract for testing purposes.

All ordering lists shall be submitted by the Contractor to the Owner for approval and shall be approved before the ordering of the materials.

ARTICLE 20. OFFICE FOR OWNER:

An office for the Owner is not required for this project.

ARTICLE 21. CONTRACTOR'S STORAGE YARD AT THE PROJECT SITE:

The Contractor is required to maintain during the performance of this contract, a storage area near the site of the project. Additionally, the Superintendent or his authorized agent shall be present at all times while the work is in progress.

The location of a yard or storage site shall be required and as approved by the Owner. The Contractor shall be responsible for obtaining a suitable site for the location of the yard and it

shall be the responsibility of the Contractor to maintain a neat and orderly area; however, the location and site shall be subject to the approval of the Owner; all costs in connection with the obtaining and use of a suitable yard site shall be the responsibility of the Contractor. The Contractor shall obtain approval of the yard location from the owner prior to entering into a contract or lease for use of the site.

ARTICLE 22. SANITARY REGULATIONS:

Adequate sanitary conveniences for use of workmen on the premises, properly secluded from public observation, shall be provided and maintained by the Contractor in accordance with the requirements of local and State health authorities and in such manner and at such points as shall be approved and their use shall be strictly enforced. Sanitary waste shall be treated and disposed of in a manner satisfactory to and as directed by the Owner and the local and State health authorities; under no circumstances shall sanitary wastes be allowed to flow on the surface of the ground.

ARTICLE 23. SPIRITUOUS LIQUORS:

The Contractor shall neither permit nor suffer the introduction or use of spirituous liquors, dope or drugs of any kind or description unless ordered by a physician upon the work embraced in this contract.

ARTICLE 24. FINISHING AND CLEANING UP:

As the work progresses, in completing the backfilling of the trenches, the Contractor shall replace all surface material to the satisfaction of the Owner, and shall then immediately remove all surplus material, temporary water service piping and all tools and other property belonging to him, leaving the entire street and surrounding work areas free and clean and in an unobstructed and unobtrusive order, at no additional expense to the Owner. The backfilling, and removing of surplus materials, temporary piping, tools, etc., shall follow closely upon the completion of the work each day. The Contractor shall exercise special care in keeping rights-of-way and private and public lands, upon which work is to be performed, clean and free of debris at all times, and to remove tools and other property belonging to the Contractor when they are not being used. Before the work will be considered complete, the Contractor shall thoroughly clean the installed pipelines of all dirt and other debris, and shall leave the pipelines in a first class condition ready for use.

ARTICLE 25. CLEAN UP AT CONTRACTOR'S EXPENSE:

In case the Contractor shall fail or neglect, after backfilling, to promptly remove all surplus materials, temporary water service piping, tools and other incidentals; or to promptly clean any area of the work so directed by Owner to be cleaned, or to promptly do the required repaving

when ordered, the Owner may, after 24 hours' notice, cause the work to be done by others, and the cost thereof shall be deducted from any moneys then or thereafter due the Contractor.

ARTICLE 26. RIGHTS OF ACCESS:

Nothing herein contained or shown on the drawings shall be construed as giving the Contractor exclusive occupancy of the work areas involved. The Owner or any other Contractor employed by him, the various utility companies, Contractors or subcontractors employed by the Federal, State or local government agencies or other utility firms or agencies involved in the general project or upon public rights-of-way, may enter upon or cross the area of work or occupy portions of it as directed or permitted. When the territory of one contract is the convenient means of access to the other, each contractor shall arrange his work in such manner as to permit such access to the other and prevent unnecessary delay to the work as a whole.

ARTICLE 27. LOADING:

No part of the structures involved in this contract shall be loaded during construction with a load greater than is calculated to carry with safety. Should any accidents or damage occur through any violation of this requirement, the Contractor will be held responsible under his contract and bond.

ARTICLE 28. POLLUTION CONTROL:

Special care shall be taken to prevent contamination or muddying up or unduly interfering with the stream flows, impounded waters of any ponds, or other bodies of water along the line of work. No waste matter of any kind will be allowed to discharge into the stream flows or impounded waters of any ponds or other bodies of water.

ARTICLE 29. COMPLETENESS OF WORK:

In addition to the specified or described portions, all other work and all other materials, equipment, and labor, of whatever description, which are necessary or required to complete the work or to carry out the full intent of the Drawings and Specifications, shall be provided by the Contractor, and payment therefore shall be considered as having been included in the prices stipulated for the appropriate items of work listed in the bid.

ARTICLE 30. PLANK CROSSINGS:

As required or directed by the Owner, the Contractor shall install at selected locations suitable plank or timber crossings substantially built and reinforced to sustain vehicular traffic across trench or other excavations. Crossings shall be constructed with passable approaches for use by the traveling public, private property owners or firefighting equipment. No separate payment will

be made for this work but the cost shall be included in the prices stipulated for the appropriate items of work as listed in the bid.

ARTICLE 31. DUST CONTROL:

The Contractor shall exercise every precaution and means to prevent and control dust arising out of all construction operations from becoming a nuisance to abutting property owners or surrounding neighborhoods. Pavements adjoining the pipe trenches shall be kept swept off daily and washed clean of excess trench material wherever and whenever directed. Earth piles along trenches, earth stockpiles and surfaces of refilled trenches shall be kept moist at all times, and treated with calcium chloride or other suitable dust-laying agent, as directed by the Engineer. No extra payment will be made for providing the dust control measures and conforming to the requirements specified above, but compensation therefore shall be considered to be included in the prices stipulated for the appropriate items of work as listed in the bid.

ARTICLE 32. CARE OF THE WORK:

The Contractor shall be responsible for all damages to persons or property that occur as a result of his fault or negligence in connection with the prosecution of the work and shall be responsible for the proper care and protection of all material delivered and work performed until completion and final acceptance, whether or not the same has been covered by partial payments made by the Owner. All valid claims for damage arising from the contractor's work is the sole responsibility of the contractor and all such claims shall be promptly submitted to the contractor and/or his insurance carrier.

ARTICLE 33. WORK BY OTHERS:

The Owner reserves the right to do any other work which may connect with, or become a part of, or be adjacent to the work embraced by this contract, at any time, by contract work or otherwise. The Contractor shall not interfere with or obstruct in any way the work of such other persons as the Owner may employ, and shall execute his own work in such manner as to aid to the executing of work by others as may be required. No backfilling of trenches or excavations will be permitted until such work by the Owner is completed.

ARTICLE 34. FIRE PREVENTION AND PROTECTION:

All Federal laws (Occupational Safety and Health Act) and all State and municipal rules and regulations with respect to fire prevention, fire-resistant construction and fire protection shall be strictly adhered to and all work and facilities necessary therefore shall be provided and maintained by the Contractor in an approved manner.

All fire protection equipment such as water tanks, hoses, pumps, extinguishers and other materials and apparatus shall be provided for the protection of the contract work, temporary work and adjacent property. Trained personnel experienced in the operation of all fire protection equipment and apparatus shall be available on the sites whenever work is in progress and at such other times as may be necessary for the safety of the public and the work.

Open fires will not be permitted.

ARTICLE 35. CERTIFICATES OF CONFORMANCE:

In addition to other requirements specified herein, the Contractor shall furnish to the Owner, in the manner as directed, notarized certificates of conformance for all materials to be furnished under this contract. The notarized certificates of conformance shall state that the material to be furnished under this contract meets the specification requirements. When directed, each shipment of material shall be accompanied by the manufacturer's notarized certificates of conformance, certifying that the materials meet the requirements of the specifications. Unless otherwise specifically specified, all testing of materials shall be provided by the Contractor at no additional expense to the Owner.

ARTICLE 36. MATERIALS AND WORKMANSHIP:

All workmanship, equipment, material and articles incorporated in the work covered by this contract are to be of the best grade of their respective kinds for the purpose. The Contractor shall furnish to the Owner for his approval the name of the manufacturer of machinery, mechanical and other equipment which he contemplates installing, together with their respective performance capacities and other pertinent information. When required by the specifications, or when called for by the Owner, the Contractor shall furnish the required information for approval of all the material or articles which he contemplates incorporating in the work. Samples of material shall be submitted for approval when and as directed. Machinery, equipment, material and articles installed or used without such approval shall be at the risk of subsequent rejection.

ARTICLE 37. FITTING AND COORDINATION OF THE WORK:

The Contractor shall be responsible for the proper fitting of all work and for the coordination of all operations of all trades, subcontractors or material men engaged upon the work. The Contractor shall be prepared to guarantee to each of his subcontractors the dimensions which they may require for the fitting of their work to all surrounding work, and shall do, or cause his agents to do, all cutting, fitting, adjusting and patching necessary to make the several parts of the work come together satisfactorily and properly and to fit the work to receive or be received by the work of other contractors.

ARTICLE 38. OPERATION OF VALVES:

The Contractor will not be permitted to operate valves in the existing water supply system except to assist the LWC in an approved emergency situation. The Contractor shall notify the Engineer for the LWC of any desired valve operations required for the work of this Contract at least 48 hours in advance, and the Owner shall furnish all necessary personnel to operate any such valve(s) as needed, without cost to the Contractor.

ARTICLE 39. CONTROL OF LEAKAGE:

In the operation of gate valves, for the purpose of shutting down where connections are to be made to existing water mains, the Owner does not guarantee or imply that shutdowns will be completely effective in shutting off the flow of water into open ends. While the Owner will make every effort to control or reduce the leakage through the closed gates to a minimum, the Contractor will be required to provide the necessary pumps or other equipment or means required to handle or divert the leakage flows sufficiently to permit proper or good workmanship in making the connections, at no additional expense to the Owner. Work stoppages because of inadequate dewatering pumps are not grounds for separate compensation to the contractor.

ARTICLE 40. NOTIFICATION OF CUSTOMERS:

The Contractor is required to notify the Engineer and LWC at least 48 hours in advance of any required temporary shutdowns that will leave LWC customers without water service. If the request for the temporary shutdown is submitted less than 48 hours in advance, LWC reserves the right to reschedule the work to allow adequate time for customer notification.

Before any mains are shutdown, the Engineer shall ascertain the customers to be affected by the shutdown, and shall notify each at least 24 hours in advance and again just prior to the shutdown. The LWC accepts responsibility of notifying all customers to be affected by a scheduled water main shutdown.

In conjunction with cleaning and lining projects, the Contractor shall notify customers in writing at least 24 hours in advance for any work that requires home or business entry. In particular the work involved with the connection of temporary by-pass service or the blow back to clean existing service connections.

ARTICLE 41. CONTRACTOR IDENTIFICATION CARDS:

Any of the Contractor's employees whose work will be on private property or will have direct contact with customers shall be required to display a company photo identification card. The ID cards shall be displayed on their person at all times and shall be clearly visible when having contact with LWC customers.

DIVISION 1
GENERAL REQUIREMENTS

NEW DUCTILE IRON WATER MAIN INSTALLATION

INDEX TO GENERAL REQUIREMENTS

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SECTION 01000 SUMMARY OF WORK

1.1 LOCATION OF WORK

- A. The work of this contract is located in the Lincoln, Rhode Island, as shown on the applicable Drawings/Plans attached herein.

1.2 WORK TO BE DONE

- A. The work shall consist of furnishing all labor and materials, including ductile iron water pipe, valves, hydrants, fittings, tools, equipment and incidentals required for the installation of approximately one thousand seven hundred (1700) feet of new 6-inch diameter ductile iron water mains, as follows:
 - 1700 feet of new 6" mains in Williams Street
- B. The work includes installing piping, valves, couplings and fittings, hydrants and hydrant branches, concrete thrust blocks, restoration of excavated surfaces, and completing all other related and incidental work required.
- C. The Contractor shall furnish all materials, all labor, tools, equipment, and incidentals required to complete the work.
- D. Compaction of all trench backfill shall be done in 12-inch layers.
- E. The Contractor shall obtain all permits necessary for the start, progress, and completion of the Work.

1.3 OTHER WORK

- A. Without invalidating the Agreement executed between the Contractor and the Owner, the Owner may, at any time, order additions, deletions or revisions in the Work; these shall be authorized by a Change Order. Upon receipt of any such documents, the Contractor shall promptly proceed as instructed. Extra work shall be paid by the Owner at the Contractor's unit prices bid in the Bid Form.

SECTION 01100 CUTTING AND PATCHING

1.1 REQUIREMENTS INCLUDED

- A. Contractor shall be responsible for all cutting, fitting and patching, including attendant excavation and backfill, required to complete the Work or to:
 - 1. Make its several parts fit together properly
 - 2. Uncover portions of the Work to inspect completed work or to provide for installations of ill-timed work.
 - 3. Remove and replace defective work.
 - 4. Remove and replace work not conforming to requirements of Contract Documents.
 - 5. Remove samples of installed work as specified for testing.

1.2 SUBMITTALS

- A. Submit a written request to the Owner well in advance of executing any cutting or alteration which affects.
 - 1. Work of the Owner or any separate contractor.
 - 2. Structural value or integrity of any element of the Project.
 - 3. Efficiency, operational life, maintenance or safety of operational elements.
- B. Request shall include:
 - 1. Identification of the Project.
 - 2. Description of affected work.
 - 3. The necessity for cutting, alteration or excavation.
 - 4. Description of proposed work including
 - a. Scope of cutting, patching, alteration, or excavation.
 - b. Trades who will execute the work.
 - c. Products proposed to be used.
 - 5. Alternatives to cutting and patching.
 - 6. Cost Proposal, when applicable.
- C. Should conditions of Work or the schedule indicate a change of products from original installation, Contractor shall submit request for substitution.
- D. Submit written notice to Owner designating the date and the time the work will be uncovered.

1.3 INSPECTION

- A. Inspect existing conditions of Project, including elements subject to damage or to movement during cutting and patching.

- B. After uncovering work, inspect conditions affecting installation of Products, or performance of work.
- C. Report unsatisfactory or questionable conditions to the Owner in writing; do not proceed with work until the Owner has provided further instructions.

1.4 PREPARATION

- A. Provide adequate temporary support as necessary to assure structural value or integrity of affected portion of Work.
- B. Provide devices and methods to protect other portions of project damage.
- C. Provide protection from elements for that portion of the Project which may be exposed by cutting and patching work, and maintain excavations free from water.

1.5 PERFORMANCE

- A. Execute cutting and demolition by methods which will prevent damage to other work, and will provide proper surfaces to receive installation of repairs. All asphalt to be removed for work must be neatly sawcut, jackhammered to a clean edge, ground out with an asphalt zipper, or cut with a cutting wheel. Ripping and tearing out of existing asphalt with a backhoe for excavations is not permitted.
- B. Execute excavating and backfilling methods which will prevent settlement or damage to other work.
- C. Execute fitting and adjustment of products to provide a finished installation to comply with specified products, functions, tolerances and finishes.
- D. Restore work which has been cut or removed; install new products to provide completed Work in accord with requirements of Contract Documents.
- E. The Contractor assumes complete responsibility for any temporary or permanent patch for a period of one year after installation. Upon notification of a trench or patch failure, the contractor shall respond, remedy, and repair the situation in a timely manner to the satisfaction of the Engineer. In the event of an unsafe roadway condition, the Contractor shall also respond immediately with the appropriate barricades, barrels, drums, cones, or signs to ensure public safety.

SECTION 01200 APPLICATION FOR PAYMENT

1.1 REQUIREMENTS INCLUDED

- A. Submit Applications for Payment to the Owner in accord with the schedule established by Conditions of the Contract and Agreement between Owner and Contractor.
- B. Submit itemized applications typed on forms approved by the Owner.

1.2 PREPARATION OF APPLICATION FOR EACH PROGRESS AND FINAL PAYMENTS

- A. Application Form:
 - 1. Fill in required information, including that for Change Orders executed prior to the date of submittal of the application.
 - 2. Fill in summary of dollar values to agree with respective totals indicated on continuation sheets.
 - 3. Execute certification with signature of a responsible officer of Contract firm.
- B. Continuation Sheets:
 - 1. Fill in total list of all scheduled component items of Work, with item number and scheduled dollar value for each item.
 - 2. Fill in dollar value in each column for each scheduled line item when work has been performed.
- C. List each Change Order executed prior to the date of submission, at the end of the continuation sheets.
 - 1. List by Change Order number, and description, as for an original component item of work.

1.3 SUBSTANTIATING DATA FOR PROGRESS PAYMENTS

- A. When the Owner or the Engineer requires substantiating data, Contractor shall submit suitable information, with a cover letter identifying:
 - 1. Project.
 - 2. Application number and date.
 - 3. Detailed list of enclosures.
- B. Submit one copy of data and cover letter for each copy of application.

1.4 SUBMITTAL PROCEDURE

- A. Submit Applications for Payment to the Owner at the times stipulated in the Agreement on a monthly basis.
- B. Number: Two copies of each Application as required by the Owner.
- C. When the Owner finds Application properly completed and correct, he will process certificate for payment to Contractor.

SECTION 01250 CHANGE ORDER PROCEDURES

1.1 REQUIREMENTS INCLUDED

- A. Promptly implement the change order procedures.
 - 1. Provide full written data required to evaluate changes.
 - 2. Maintain detailed records of work done on a time-and material/force account basis.
 - 3. Provide full documentation to the Owner on request.
- B. Designate in writing the member of Contractor's organization:
 - 1. Who is authorized to accept changes in the work?
 - 2. Who is responsible for informing others in the Contractor's employ of the authorization of changes in the work?
- C. Owner will designate in writing the person who is authorized to execute Change Orders.

1.2 DEFINITIONS

- A. Change Order: See General Conditions.
- B. Construction Change Authorization, AIA Document G713: A written order to the Contractor, signed by Owner and Engineer, which amends the Contract Documents as described, and authorizes Contractor to proceed with a change which affects the Contract Sum or the contract Time, for inclusion in a subsequent Change Order.
- C. Architect's supplemental Instructions, AIA document G710. A written order, instructions, or interpretations, signed by the Engineer making minor changes in the Work not involving a change in the Contract Sum or Contract Time.

1.3 PRELIMINARY PROCEDURES

- A. Owner or Engineer may initiate changes by submitting a Proposal Request to Contractor. Request will include:
 - 1. Detailed description of the Change, Products, and location of the change in the Project.
 - 2. Supplementary or revised Drawings and Specifications.
 - 3. The projected time span for making the change, and a specific statement as to whether overtime work is or is not, authorized.
 - 4. A specific period of time during which the requested price will be considered valid.
 - 5. Such request is for information only, and is not an instruction to execute

the changes, or to stop work in progress.

- B. Contractor may initiate changes by submitting a written notice to Owner, containing:
 - 1. Description of proposed changes.
 - 2. Statement of the reason for making the changes.
 - 3. Statement of the effect on the Contract Sum and the Contract Time.
 - 4. Statement of the effect on the work of separate Contractors.
 - 5. Documentation supporting any change in Contract sum or contract time as appropriate.

1.4 CONSTRUCTION CHANGE AUTHORIZATION

- A. In lieu of Proposal Request, the Owner may issue a construction change authorization for Contractor to proceed with a change for subsequent inclusion in a change order.
- B. Authorization will describe changes in the work, both additions and deletions, with attachments of revised Contract Documents to define details of the change, and will designate the method of determining any change in Contract Time.
- C. Owner and Engineer will sign and date the Construction Change Authorization as authorization for the Contractor to proceed with the changes.
- D. Contractor may sign and date the Construction Change Authorization to indicate agreement with the terms therein.

1.5 DOCUMENTATION OF PROPOSALS AND CLAIMS

- A. Support each quotation for a lump-sum proposal, and for each unit price which has not previously been established, with sufficient substantiating data to allow Engineer to evaluate the quotation.
- B. On request provide additional data to support time and cost computations:
 - 1. Labor required
 - 2. Equipment required.
 - 3. Products required.
 - 4. Recommend source of purchase and unit costs.
 - 5. Quantities required.
 - 6. Taxes, insurance, and bonds.
 - 7. Credit for work deleted from Contract, similarly documented.
 - 8. Overhead and profit.
 - 9. Justification for any change in Contract Time.

- C. Support each claim for additional costs, and for work done on a time-and-material/force account basis, with documentation as required for a lump-sum proposal, plus additional information:
 - 1. Name of the Owner's authorized agent who ordered the work, and the date of the order.
 - 2. Dates and times work was performed, and by whom.
 - 3. Time record, plus summary of hours worked, and hourly rates paid.
 - 4. Receipts and invoices for:
 - a. Equipment used, listing dates and times of use.
 - b. Products used, listing of quantities.
 - c. Subcontracts.
- D. Document requests for substitutions as specified in the Contract Documents.

1.6 PREPARATION OF CHANGE ORDERS

- A. Owner or Engineer will prepare each change order.
- B. Form: Change Order: AIA Document G701.
- C. Change Order will describe changes in the Work, both additions and deletions, with attachments of revised contract documents to define details of the change.
- D. Change order will provide an accounting of the adjustment in the Contract Sum and the Contract Time.

1.7 LUMP-SUM/FIXED PRICE CHANGE ORDER

- A. Content of Change Orders will be based on, either:
 - 1. Owner's or Engineer's Proposal Request and Contractor's responsive Proposal as mutually agreed between Owner and Contractor.
 - 2. Contractor's Proposal for a change, as recommended by the Engineer.
- B. Owner and Engineer will sign and date the Change Order as authorization for the Contractor to proceed with the changes.
- C. Contractor may sign and date the Change Order to indicate agreement with the terms therein.

1.8 UNIT PRICE CHANGE ORDER

- A. Content of Change Orders will be based on, either:

1. Owner's or Engineer's definition of the scope of the required changes.
 2. Contractor's Proposal for a change, as recommended by the Owner or Engineer
 3. Survey of completed work.
- B. The amounts of the unit prices to be:
1. Those stated in the Agreement.
 2. Those mutually agreed upon between Owner and Contractor.
- C. When quantities of each of the items affected by the Change Order can be determined prior to start of the work:
1. Owner and Engineer will sign and date the Change Order as authorization for Contractor to proceed with the changes.
 2. Contractor may sign and date the change order to indicate agreement with the terms therein.
- D. When quantities of the items cannot be determined prior to start of the work:
1. Engineer or Owner will issue a construction change authorization directing Contractor to proceed with the change on the basis of unit prices, and will cite the applicable unit prices.
 2. At completion of the change, Owner or Engineer will determine the cost of such work based on the unit prices and quantities used.
 - a. Contractor shall submit documentation to establish the number of units of each item and any claims for a change in Contract Time.
 3. Engineer or Owner will sign and date the Change Order to establish the change in Contract Sum and in Contract Time.
 4. Owner and Contractor will sign and date the Change Order to indicate their agreement with the terms therein.

1.9 TIME AND MATERIAL/FORCE ACCOUNT CHANGE ORDER/CONSTRUCTION CHANGE AUTHORIZATION

- A. Engineer and Owner will issue a Construction Change Authorization directing Contractor to proceed with the changes.
- B. At completion of the change, Contractor shall submit itemized accounting and supporting data as provided in the Article "Documentation of Proposals and Claims" of this Section.

- C. Engineer will determine the allowable cost of such work, as provided in General Conditions and Supplementary Conditions.
- D. Engineer or Owner will sign and date the Change Order to establish the change in Contract Sum and in Contract Time.
- E. Owner and Contractor will sign and date the Change Order to indicate their agreement therewith.

1.10 CORRELATION WITH CONTRACTOR'S SUBMITTALS

- A. Periodically revise Request for Payment forms to record each change as a separate item of Work, and to record the adjusted Contract Sum.
- B. Periodically revise the Construction Schedule to reflect each change in Contract Time. Revise subsidies to show changes for other items of work affected by the changes.
- C. Upon completion of work under a Change Order, enter pertinent changes in Record Documents.

SECTION 01300 SUBMITTALS

1.1 REQUIREMENTS INCLUDED

- A. Construction Schedules
- B. Cleaning and Lining Access Pit locations, if included in the work
- C. By Pass Piping Plan, if included in the work
- D. Traffic Plan
- E. Submit Shop Drawings, Product Data and Samples required by Contract Documents.
- F. Manufacturer's Instructions and Certificate.
- G. Certified Payroll Forms

1.2 SUBMITTAL PROCEDURES

- A. Transmit each submittal with Engineer-accepted form.
- B. Sequentially number the transmittal forms. Re-submittals to have original number with an alphabetic suffix.
- C. Identify Project, Contractor, subcontractor or supplier; pertinent drawing sheet and detail number(s), and specifications section number, as appropriate.
- D. Apply Contractor's stamp, signed or initialed certifying that review, verification of products required, field dimensions, adjacent construction work, and coordination of information, is in accordance with the requirements of the work and Contract Documents.
- E. Schedule submittals to expedite the Project, and deliver to Engineer at business address. Coordinate submission of related items.
- F. Identify variations from Contract Documents and product or system limitations, which may be detrimental to successful performance of the completed work.
- G. Provide space for Contractor and Engineer review stamps.
- H. Revise and resubmit submittals as required, identify all changes made since previous submittal.
- I. Distribute copies of reviewed submittals to concerned parties. Instruct parties to promptly report any inability to comply with provisions.

1.3 CONSTRUCTION PROGRESS SCHEDULES

- A. Submit initial progress schedule in duplicate within 10 days after date established in Notice to Proceed for Engineer review.
- B. Revise and resubmit as required.
- C. Submit revised schedules with each Application for Payment, identifying changes since previous version.
- D. Submit a horizontal bar chart with separate line for each major section of work or operation identifying first workday of each week.
- E. Show complete sequence of construction by activity, identifying work of separate stages and other logically grouped activities. Indicate the early and late start, early and late finish, float dates, and duration.
- F. Indicate estimated percentage of completion for each item of work at each

submission.

- G. Indicate submittal dates required for shop drawings, product data, samples, and product delivery dates, including those furnished by Owner and under Allowances.

1.4 CLEANING AND LINING ACCESS PIT LOCATIONS (IF REQUIRED IN THE WORK)

At the pre-construction meeting, the Contractor shall have done a thorough investigation of the site with special attention to the location of other utilities and the location of access pits required to complete the Work. A Plan of the entire work area with proposed access pit locations shall be submitted at the pre-construction meeting. Any sections of the Work where other utilizes may preclude the installation of the required access pits to clean and line the entire length of water mains to be cleaned and lined, shall be brought to the attention of the LWC at that time. This Plan shall include any utilities required to be moved or braced to complete the Work.

1.5 TEMPORARY BYPASS PIPING PLAN (IF REQUIRED IN THE WORK)

Prior to installation, the Contractor shall prepare a plan (2 copies) showing all proposed bypass piping locations and shall submit this plan to the Owner for review. Upon receipt of written approval by the Owner and the local Fire Chief, the Contractor will proceed to install and be compensated for the temporary bypass piping and services, as outlined in this Section. Should it be determined at any time during the construction, that the proposed bypass piping cannot be installed as shown on the temporary bypass piping plan or in alternate locations approved by the Owner, without extensive disruption of service of the existing water system, the Contractor will immediately notify the Owner. The Engineer shall have the final approval on the layout and pipe sizes of the proposed bypass piping system.

1.6 TRAFFIC PLAN

Prior to installation, the Contractor shall submit a Traffic Control Plan (2 copies for approval by the Owner (and RIDOT Maintenance Division on state roadways) and the local Police Department. The Plan shall include a schedule showing the proposed sequence of operations and a compatible method of maintaining traffic. Upon receipt of written approval by the Owner and local Police, the Contractor will proceed to install traffic control signs and equipment.

1.7 PROPOSED PRODUCTS LIST

- A. Within 10 days after date of Notice to Proceed, submit complete list of major products proposed for use, with name of manufacturer, trade name, and model number of each product.
- B. For products specified only by reference standards, give manufacturer, trade name, model or catalog designation and reference standards.

1.8 SHOP DRAWINGS

- A. Drawings shall be presented in a clear and thorough manner.
 - 1. Details shall be identified by reference to sheet and detail, schedule or room numbers shown on Contract Drawings.

1.9 PRODUCT DATA

- A. Preparation
 - 1. Clearly mark each copy to identify pertinent products or models.
 - 2. Show performance characteristics and capabilities.
 - 3. Show dimensions and clearances required.
 - 4. Show piping diagrams.
- B. Manufacturer's standard schematic drawings and diagrams:
 - 1. Modify drawings and diagrams to delete information which is not applicable to the Work.
 - 2. Supplement standard information to provide information specifically applicable to the Work.

1.10 SAMPLES

- A. Submit samples to illustrate functional and aesthetic characteristics of the product, with integral parts and attachment devices. Coordinate sample submittals for interfacing work.
- B. Submit samples of finish from the full range of manufacturers' standard colors, textures and patterns for Engineer's selection.
- C. Include identification on each sample, with full project information.
- D. Submit the number of samples specified in individual specification sections.
- E. Reviewed samples, which may be used in the work, are indicated in individual specification sections.

1.11 MANUFACTURERS' INSTRUCTIONS

- A. When specified in individual specification sections, submit manufacturers' printed instructions for delivery, storage, assembly, installation, start-up, adjusting, and finishing, in quantities specified for product data.
- B. Identify conflicts between manufacturers' instructions and Contract Documents.

1.12 MANUFACTURERS' CERTIFICATES

- A. When specified in individual specification sections, submit manufacturers'

- certificate to Engineer for review, in quantities specified for product data.
- B. Indicate material or product conforms to or exceeds specified requirements. Submit supporting reference data, affidavits, and certifications as appropriate.
- C. Certificates may be recent or previous test results on material or product, but must be acceptable to Architect/Engineer.

1.13 CERTIFIED PAYROLL FORMS

Certified payroll forms must be submitted by the CONTRACTOR with each payment invoice.

1.14 AS-BUILT DRAWINGS

At substantial completion, the Contractor shall provide to the Owner a complete set of Contract Plans, red-lined to show any deviations from the proposed work, to serve as as-built drawings for the completed project.

1.15 CONTRACTOR RESPONSIBILITIES

- A. Review Shop Drawings, Product Data and samples prior to submission
- B. Determine and verify:
 - 1. Field measurements.
 - 2. Field construction criteria.
 - 3. Catalog numbers and similar data.
 - 4. Conformance with specifications.
- C. Coordinate each submittal with requirements of the Work and of Contract Documents.
- D. Notify the Engineer in writing, at time of submission, of any deviations in the submittals from requirements of the Contract documents.
- E. Begin no fabrication or work which requires submittals until return of submittals with Engineer approval.

1.16 SUBMISSION REQUIREMENTS

- A. Make submittals promptly in accordance with approved schedule, and in such sequence as to cause no delay in the work or in the work of any other contractor.
- B. Number of submittals required:
 - 1. Shop Drawing: Submit one reproducible transparency and two opaque reproductions.

2. Product Data: Submit the number of copies which the Contractor requires, plus two which will be retained by the Engineer.

C. Submittals shall contain:

1. The date of submission and the dates of any previous submissions.
2. The Project Title and Number.
3. Contract identification.
4. The names of:
 - a. Contractor.
 - b. Supplier.
 - c. Manufacturer.
5. Identification of the product, with the specification section number.
6. Field dimensions, clearly identified as such.
7. Relation to adjacent or critical features in the Work or materials.
8. Applicable standards, such as ASTM or Federal Specification numbers.
9. Identification of deviations from Contract Documents.
10. Identification of revisions on resubmission.
11. An 8 in. x 3 in. blank space for Contractor and Engineer stamps.
12. Contractor's stamp, verification of products, field measurements and field construction criteria, and coordination of the information within the submittal with requirements of the Work and of Contract Documents.
13. Initials or signature of Contractor or designated representative.

1.17 RESUBMISSION REQUIREMENTS

- A. Make any corrections or changes in the submittals required by the Engineer and resubmit until approved.
- B. Shop Drawings and Product Data:

Revise initial drawings or data, and resubmit as specified for the initial submittal. Indicate any changes which have been made other than those requested by the engineer.
- D. Samples: Submit new samples as required for initial samples.

1.18 DISTRIBUTION

- A. Distribute reproductions of Shop Drawings and copies of Product Data which carry the Engineer stamp of approval to:
 1. Record Documents file.
 2. Other affected contractors.
 3. Subcontractors.

4. Resident Inspector.

B. Distribute samples which carry the Engineer stamp of approval as directed by the Engineer.

1.19 ENGINEER DUTIES

A. Review submittals with reasonable promptness and in accord with schedule.

B. Affix stamp and initials or signature, and indicate requirements for resubmittal, or approval of submittal.

C. Return submittals to Contractor for distribution, or for resubmission.

SECTION 01400 TESTING LABORATORY SERVICES

1.1 REQUIREMENTS INCLUDED

- A. Contractor shall employ and pay for the services of an Independent Testing Laboratory to perform specified services and testing.

1.2 QUALIFICATION OF LABORATORY

- A. Meet "Recommended Requirements for Independent Laboratory Qualification" published by American Council of Independent Laboratories.
- B. Authorized to operate in the State of Rhode Island and certified to perform the required analyses.
- C. Testing Equipment:
 - 1. Calibrated at reasonable intervals by devices of accuracy traceable to either:
 - a. National Bureau of Standards.
 - b. Accepted Values of natural physical constants.

1.3 LABORATORY DUTIES

- A. Cooperate with the Owner and/or Engineer and the Contractor; provide qualified personnel after due notice.
- B. Perform specified inspections, sampling and testing of materials and methods of construction:
 - 1. Comply with specified standards.
 - 2. Ascertain compliance of materials with requirements of Contract Documents.
- C. Promptly notify the Owner and/or Engineer and the Contractor of observed irregularities or deficiencies of work or products.
- D. Promptly submit written report of each test and inspection; one copy each to Engineer, Owner, Contractor, and one copy to Record Documents File. Each report shall include:
 - 1. Date issued.
 - 2. Project title and number.
 - 3. Testing laboratory name, address and telephone number.
 - 4. Name and signature of laboratory inspector.
 - 5. Date and time of sampling or inspection.

6. Record of temperature and weather conditions.
 7. Date of test.
 8. Identification of product and specification section.
 9. Location of sample in test or in the Project.
 10. Type of inspection or test.
 11. Results of test and compliance with Contract Documents.
 12. Interpretation of test results, when requested by Engineer.
- E. Perform additional tests as required by Engineer or the Owner.

1.4 LIMITATIONS OF COMMISSION OF TESTING LABORATORY

- A. Laboratory is **not** authorized to:
1. Release, revoke, alter or enlarge on requirements of Contract Documents.
 2. Approve or accept any portion of the Work.
 3. Perform any duties of the Contractor.

1.5 CONTRACTOR'S RESPONSIBILITIES

- A. Cooperate with laboratory personnel, provide access to Work to Manufacturer's operations.
- B. Secure and deliver to the laboratory adequate representational samples of materials proposed to be used and which require testing.
- C. Provide to the laboratory the preliminary design mix proposed to be used for concrete, and other materials which require control by the testing laboratory.
- D. Furnish copies of Products test reports as required.
- E. Furnish incidental labor and facilities:
1. To provide access to Work to be tested.
 2. To obtain and handle samples at the Project site or at the source of the product to be tested.
 3. To facilitate inspections and tests.
 4. For storage and curing of test sample.
- F. Notify laboratory sufficiently in advance of operations to allow for laboratory assignment of personnel for the tests.
- G. Employ and pay for the services of a separate equally qualified testing laboratory to perform additional inspections, sampling and testing required:
1. For the Contractor's convenience
 2. When initial tests indicate Work does not comply with Contract

Documents.

- H. Employment of the laboratory shall in no way relieve Contractor's obligations to perform work of the contract.

SECTION 01500 TEMPORARY YARD, FIELD OFFICE, AND FACILITIES

1.1 TEMPORARY STORAGE YARD

- A. A temporary storage yard shall be established within the Town Limits prior to proceeding with construction or delivery of materials. The yard site and location shall be approved by the owner for suitability prior to entering a lease for the site. The yard shall be of sufficient size to safely store all new materials, gravel, stone, cold asphalt, trucks, equipment, scrap, debris, and the office trailer. The location of the yard shall be in an area zoned for such an activity. The yard shall be maintained in a neat and orderly fashion.

1.2 TEMPORARY FIELD OFFICES

- A. If required, temporary offices shall be established in the storage yard where approved, adequately furnished and maintained in a clean, orderly condition by the Contractor. The Contractor shall maintain a presence in the field office at all times while the work is in progress. Instructions received there from the Engineer shall be as delivered to the Contractor.
- B. Suitable office furniture shall be provided including two 3 ft x 5 ft desks with chairs, a four drawer filing cabinet, and a 3 ft x 5 ft plan table with two stools. A copy machine shall also be provided.
- C. The Contractor shall supply all fuel (if applicable) for heating and pay all utility bills.

1.3 TEMPORARY ELECTRICITY AND LIGHTING

- A. The Contractor shall furnish temporary light and power as required to adequately light all work areas and with sufficient power capacity to meet the needs of all his subcontractors. He shall make all necessary arrangements with the local electric company for temporary electric service, and shall pay all expenses in connection therewith.

1.4 TEMPORARY TELEPHONE SERVICE

- A. Telephone service to the office trailer is not required; however the superintendent is required to have a cell phone at all times and to furnish the number to the Owner.

1.5 TEMPORARY HEATING, COOLING, AND VENTILATION

- A. The Contractor shall provide all heating, cooling, and ventilation as may be required to maintain normal office conditions for construction operations, and to protect materials and work areas from damage due to temperature or humidity.

1.6 TEMPORARY WATER

- A. The Contractor shall provide all temporary piping, branch piping, service hoses, tanks, meters, backflow devices, and appurtenances as may be required to provide water for all operations and facilities.

1.7 SANITARY FACILITIES

- A. The Contractor shall provide and maintain, throughout the contract duration, adequate temporary toilet facilities in a neat and sanitary condition for all employees and authorized visitors to the site.

1.8 WEATHER PROTECTION

- A. When and if necessary, the Contractor shall furnish, install and maintain adequate protection from the weather for materials stored at the site.

1.9 WATER CONTROL

- A. Grade site with gravel to drain runoff away from the trailer and stored materials and to avoid muddy conditions.

1.10 FENCES AND BARRICADES

- A. The Contractor shall provide and maintain, throughout the contract duration, adequate fences, barriers, lights, and barricades or as necessary to secure the work and adjacent property, and to protect persons and property.

1.11 CLEANING

- A. DURING CONSTRUCTION control accumulation of waste materials, scrap, and rubbish.
 - 1. At reasonable intervals, during the progress of the work, clean all effected public and private properties, and legally dispose of waste materials, debris, rubbish, and scrap off-site.
 - 2. Provide an on-site dump container for collection of waste materials.
 - 3. In General, this site is to be operated and maintained under the inspection and approval of the Owner.
 - 4. The Contractor must adhere to all zoning requirements, ordinances, and applicable laws.
 - 5. The site operation shall not become a nuisance to local businesses, neighbors, or residents.

B. FINAL CLEANING

1. Employ skilled workmen for final cleaning.
2. Broom clean exterior paved surfaces; rake clean other surfaces of the grounds.
3. Prior to final completion, or Owner occupancy, Contractor shall conduct an inspection of all work areas, to verify that the entire site is clean.

C. REMOVAL

1. Remove temporary materials, equipment, services, and construction prior to Substantial Completion Inspection.
2. Clean and repair damage caused by installation or use of temporary facilities. Restore site to original condition.

1.12 PAYMENT

Payment for Temporary Field Office and Yard will NOT be measured separately for payment.

No separate payment will be made for rent, utilities, maintaining, or cleaning the Temporary Field Office.

Section 01600 TRAFFIC CONTROL

1.1 SCOPE OF WORK

- A. The work required by this section of the Specifications includes furnishing the services of uniformed police officers and state certified flagpersons for direction of traffic during construction activities, as required, as ordered, or as otherwise directed by the Owner or Engineer. For this work a maximum of two police officers are to be used daily and any balance of the traffic control work force needed shall be made up of state certified flagpersons.

A Traffic Control Plan shall be prepared by the Contractor and submitted to the LWC at the Pre-Construction meeting. The Traffic Control Plan must be approved by the LWC and the local Police Department prior to the start of any work. All requirements for Police and/or Certified Flagpersons shall be in accordance with the Traffic Control Plan prepared by the Contractor and approved by the local Police Chief. See Section 01300.

1.2 MEASUREMENT

A. POLICE OFFICERS

Uniformed Special Duty Police Officers shall be utilized during construction if determined to be required by the owner to direct traffic in and around work areas and to ensure the safety of pedestrians, traffic and workers. The Contractor shall coordinate, with the approval of the Engineer, all detail assignments. It is the Contractor's responsibility to schedule officers with the appropriate Police Department. All traffic control shall be in accordance with the "Manual of Uniform Traffic Control Devices for Street and Highway" as amended and approved by the RI Department of transportation.

For the services of uniformed police officers to direct traffic during construction activities, payment will be made directly to the respective police payroll departments by the Owner. The contractor is responsible for all coordination with the respective police departments. The contractor is responsible at no cost to the Owner for scheduling police officer details, verifying, signing, and collecting all daily receipts from the officers and submitting them on a daily basis to the Engineer for processing.

Police detail payment slips must be submitted to the LWC DAILY. Payment for any slips not received by the LWC for payment within 24 hours of the completion of the detail, /shall be the responsibility of the CONTRACTOR.

B. TRAFFIC CONTROL CERTIFIED FLAGPERSONS (BID ITEM 26)

In the event, the CONTRACTOR is unable to employ the services of a uniformed police officer; the CONTRACTOR shall employ the services of a licensed Flagperson registered in the State of Rhode Island.

The contractor is responsible for all coordination with the flagpersons. The contractor is responsible at no cost to the Owner for all scheduling and coordination of flagpersons as part of his work force. Flagpersons shall be paid the prevailing wage rate for the hours worked set by the Rhode Island Department of Labor and shall be listed as part of the certified payrolls submitted on a monthly basis.

1.3 PAYMENT

A. POLICE

Payment will be made directly by the LWC to the police department, on the basis of invoices verified and accepted by the Contractor and the Engineer.

B. TRAFFIC CONTROL CERTIFIED FLAGPERSONS

Non-certified Flagpersons supplied by the Contractor will not be considered for payment.

For the services of state certified flagpersons to direct traffic during construction activities, payment will be made directly to the contractor under the item for Flagperson as listed in the Bid. The unit hourly price bid shall constitute compensation for the flagperson's services - including fringe benefits, and for associated protective clothing, hand signaling devices, and incidentals as deemed necessary by the Engineer.

SECTION 01650 PROTECTION OF TRAFFIC, PERSONS AND PROPERTY

1.1 SCOPE OF WORK

- A. Unless permission to close a street is received in writing from the proper Commission, all excavated material shall be placed so that vehicular and pedestrian traffic may be maintained at all times. If the Contractor's operations cause traffic hazards, he shall repair the road surface, provide temporary ways, erect wheel guards or fences, or take other measures for safety satisfactory to the Engineer.
- B. Detours around construction will be subject to the approval of the Owner and the local Police Department. Where detours are permitted the Contractor shall provide all necessary barricades and signs as required to divert the flow of traffic. While traffic is detoured the Contractor shall expedite construction operations, and periods when traffic is being detoured will be strictly controlled by the Owner.
- C. The Contractor shall take precautions to prevent injury to the public due to open trenches. Night watchman may be required where special hazards exist, and police protection shall be provided for traffic while work is in progress. The Contractor shall be fully responsible for damage or injuries whether or not police protection has been provided.
- D. The Contractor shall be responsible for the preservation of all public and private property, and shall use every precaution necessary to prevent damage thereto. If any direct or indirect damage is done to public or private property by or on account of any act, omission, neglect, or misconduct in the execution of the work on the part of the Contractor, his Subcontractors, Suppliers, or anyone for whom any of them may be liable, such property shall be restored by the Contractor, at his expense, to a condition similar or equal to that existing before the damage was done, or he shall make good the damage in other manner acceptable to the Engineer and the property owner.
- E. The work required by this section of the Specifications includes the furnishing, erecting, moving, re-erecting, maintaining, and removal of all signs, traffic cones, barricades, warning lights, and other devices necessary to adequately protect persons and property, and safeguard, maintain and direct vehicular and pedestrian traffic through the project for the entire duration of the project.
- F. The Contractor shall provide a sufficient number of travel lanes and pedestrian passageways to move all traffic ordinarily using the project area. If at all possible, at least one travel lane shall remain open.
- G. The Contractor shall satisfy all State and municipal requirements for maintenance and protection of traffic for this project.

1.2 MATERIALS

- A. All signs, traffic cones, barricades and necessary devices shall be of sufficient size and color so as to adequately inform the public of any possible traffic hazards and alternate routes, and shall conform to the details as outlined in "State of Rhode Island, Department of Transportation, Division of Public Works, Guide Signs and Construction Signs", and U. S. Department of Transportation, Federal Highway Administration, "Manual on Uniform Traffic Control Devices", latest revisions.

1.3 WORKMANSHIP

- A. Travel lanes and pedestrian passageways shall be drained and kept neat and reasonably smooth and in suitable condition at all times in order to provide minimum interference to vehicular and pedestrian traffic consistent with the proper prosecution of the work.
- B. Suitable ingress and egress shall be provided at all times where required, for all intersecting roads and driveways, and for all abutting properties having legal access.
- C. Prior to construction, the Contractor will submit for approval by the Owner and the local Police Department (and RIDOT Maintenance Division on state roadways) a schedule showing the proposed sequence of operations and a compatible method of maintaining traffic, and shall coordinate all such operations with the RIDOT Maintenance Division and the local Police, Fire, and Traffic Departments.
- D. The Contractor shall keep all signs in proper position, clean and legible at all times. Care shall be taken so that weeds, shrubbery, construction materials or equipment, and spoil, are not allowed to obscure any sign, light or barricade. Signs that do not apply to existing conditions shall be removed or adjusted so that the legend is not visible to approaching traffic.
- E. Should the Contractor fail to perform any of the work required under this Section, the Owner may perform or arrange for others to perform such work. In such cases, the Owner will deduct from money due or to become due to the Contractor all expenses connected therewith which are found to be greater than the cost to the Owner had the Contractor performed the specified work
- F. At no time shall the Contractor leave equipment or materials in the travel lanes or pedestrian walkways overnight without permission from the Engineer and without proper signs and lighted barricades.

1.4 MEASUREMENT

This item will not be measured for payment.

1.5 PAYMENT

No separate payment will be made under this Section of the Specifications for coordination with the local Police Department or for furnishing and maintaining signs, barricades, warning lights, and other devices required and necessary to protect persons and property and to safeguard and maintain and direct vehicular and pedestrian traffic during the length of the project, but the cost thereof shall be deemed to be included in the prices bid for other items of the work.

SECTION 01700 MATERIAL AND EQUIPMENT

1.1 APPROVAL OF MATERIALS

- A. Unless otherwise specified, only new materials and equipment shall be incorporated in the work. All materials and equipment furnished by the Contractor shall be subject to the inspection and approval of the Engineer. No material shall be delivered to the work without prior approval of the Engineer.

Material and equipment incorporated into the Work shall:

1. Conform to American Water Works Association (AWWA) Standard Specifications for Materials, Equipment and Practices used in Water Treatment and Supply, latest edition, Lincoln Water Commission Standard Specifications and Details and all other applicable specifications and standards.
2. Comply with size, make, type and quality specified, or as specifically approved in writing by the Engineer.
3. Manufactured and Fabricated Products:
 - a. Design, fabricate and assemble in accord with the best engineering and shop practices.
 - b. Manufacture like parts of duplicate units to standard sizes and gages, to be interchangeable.
 - c. Two or more items of the same kind shall be identical, by the same manufacturer.
 - d. Products shall be suitable for service conditions.
 - e. Equipment capacities, sizes and dimensions shown or specified shall be adhered to unless variations are specifically approved in writing.
4. Do not use material or equipment for any purpose other than that for which it is designed or is specified.

1.2 PROVISION OF PLANT AND EQUIPMENT

- A. The Contractor shall furnish plant and equipment which will be efficient, appropriate and large enough to secure a satisfactory quality of work and a rate of progress which will insure the completion of the work within the time stipulated. If at any time such plant appears to the Engineer to be inefficient, inappropriate or insufficient for securing the quality of work required or for producing the rate of progress aforesaid, he may order the Contractor to increase the efficiency, change the character or increase the plant equipment, and the Contractor shall conform to such order. Failure of the Engineer to give such order shall in no way relieve the Contractor of his obligations to secure the quality of the work and rate of progress required.

- B. As and when required, the Contractor shall submit to the Engineer, data relating to materials and equipment he proposes to furnish the Work. Such data shall be in sufficient detail to enable the Engineer to identify the particular product and to form an opinion as to its conformity to the specifications.
- C. Facilities and labor for handling and inspection of all materials and equipment shall be furnished by the Contractor. If the Engineer requires, either prior to beginning or during the progress of the work, the Contractor shall submit additional samples or materials for such special tests as may be necessary to demonstrate that they conform to the specifications. Such samples shall be furnished, stored, packed, and shipped as directed at the Contractor's expense. Except as otherwise noted, the Owner will make arrangements for and pay for the tests.
- D. Any delay of approval resulting from the Contractor's failure to submit samples or data promptly shall not be used by the Contractor as a basis of a claim against the Owner or the Engineer.
- E. The materials and equipment used on the work shall correspond to the approved samples or other data.

1.2 HANDLING AND STORAGE OF MATERIALS

- A. All materials and equipment to be incorporated in the work shall be handled and stored by the manufacturer, fabricator, supplier and Contractor before, during, and after shipment in a manner to prevent warping, twisting, bending, breaking, chipping, rusting, and any injury, theft or damage of any kind whatsoever to the material or equipment.
- B. Cement and lime shall be stored under a roof and off the ground and shall be kept completely dry at all times. All structural, miscellaneous or reinforcing steel shall be stored off the ground or otherwise to prevent accumulations of dirt or grease, and in a position to prevent accumulations of standing water and to minimize rusting.
- C. All materials which, in the opinion of the Engineer, have become so damaged as to be unfit for the use intended or specified shall be promptly removed from the site of the work, and the Contractor shall receive no compensation for the damaged material, its removal, and its replacement.
- D. All pipe and other materials delivered to the job shall be unloaded and placed in a manner which will not hamper the normal operation of the existing plant or interfere with the flow of necessary traffic.
- E. Only the materials and equipment required for the day's operations will be

allowed to stand within the limits of the rights-of-ways. All else shall be removed and stored by the Contractor at an offset location.

1.3 REUSE OF EXISTING MATERIAL

- A. Except as specifically indicated or specified, materials and equipment removed from the existing structure shall not be used in the completed Work.
- B. For material and equipment specifically indicated or specified to be reused in the Work:
 - 1. Use special care in removal, handling, storage and reinstallation, to assure proper function in the completed Work.
 - 2. Arrange for transportation, storage and handling of products which require off-site storage, restoration or renovation. Pay all costs for such work.

1.4 MANUFACTURER'S INSTRUCTIONS

- A. When Contract Documents require that installation of work shall comply with manufacturer's printed instructions, obtain and distribute copies of such instructions to parties involved in the installation, including two copies to Engineer.
 - 1. Maintain one set of complete instructions at the job site during installation and until completion.
- B. Handle, install, connect, clean, condition and adjust products in strict accord with such instructions and in conformity with specified requirements.
 - 1. Should job conditions or specified requirements conflict with manufacturer's instructions, consult with Engineer for further instructions.
 - 2. Do not proceed with work without clear instructions.
- C. Perform work in accord with manufacturer's instructions. Do not omit any preparatory step or installation procedure unless specifically modified or exempted by Contract Documents.

1.5 TRANSPORTATION AND HANDLING

- A. Arrange deliveries of Products in accord with construction schedules, coordinate to avoid conflict with work and conditions at the site.
 - 1. Deliver Products in undamaged condition, in manufacturer's original containers or packaging, with identifying labels intact and legible.
 - 2. Immediately on delivery, inspect shipments to assure compliance with requirements of Contract Documents and approved submittals, and that

Products are properly protected and undamaged.

- B. Provide equipment and personnel to handle Products by methods to prevent soiling or damage to Products or packaging.

1.6 STORAGE AND PROTECTION

- A. Store Products in accord with manufacturer's instructions, with seals and labels intact and legible.

1. Store products subject to damage by the elements in weather tight enclosures.
2. Maintain temperature and humidity within the ranges required by manufacturer's instructions.

- B. Exterior Storage.

1. Store fabricated products above ground, on blocking or skids, prevent soiling or staining. Cover products which are subject to deterioration with impervious sheet coverings, provide adequate ventilation to avoid condensation.
2. Store loose granular materials in a well-drained area on solid surfaces to prevent mixing with foreign matter. At no time is material to be stored in the travel lanes or pedestrian walkways overnight without the permission of the Engineer and without proper signing and barricades.

- C. Arrange storage in a manner to provide easy access for inspection. Make periodic inspections of stored Products to assure that Products are maintained under specified conditions, and free from damage or deterioration.

- D. Protection After Installation:

Provide substantial coverings as necessary to protect installed Products from damage from traffic and subsequent construction operations. Remove when no longer needed.

1.7 SUBSTITUTIONS AND PRODUCT OPTIONS

- A. Products List.

Submit to the Engineer a complete list of major products proposed to be used, with the name of the manufacturer and the installing subcontractor.

- B. Contractor's options

1. For Products specified only by reference standard, select any product meeting that standard.

2. For Products specified by naming several products or manufacturers, select any one of the products or manufacturers named, which complies with the specifications.
3. For Products specified by naming one or more Products or manufacturers and "or equal", Contractor must submit a request as for substitutions for any Product or manufacturer not specifically named.
4. For Products specified by naming only one Product and manufacturer, there is no option.

C. Substitutions.

1. For a period of 30 days after the Notice of Award, Engineer will consider written requests from Contractor for substitution of Products.
2. Submit a separate request for each Product, supported with complete data, with drawings and samples as appropriate, including:
 - a. Comparison of the qualities of the proposed substitution with that specified.
 - b. Changes required in other elements of the work because of the substitution.
 - c. Effect on the construction schedule.
 - d. Cost data comparing the proposed substitution with the Product specified.
 - e. Any required license fees or royalties.
 - f. Availability of maintenance service, and source of replacement materials.
3. Engineer shall be the judge of the acceptability of the proposed substitution.

D. Contractor's Representation:

1. A request for a substitution constitutes a representation that Contractor:
 - a. Has investigated the proposed Product and determined that it is equal to or superior in all respects to that specified.
 - b. Will provide the same warranties or bonds for the substitution as for the Product specified.
 - c. Will coordinate the installation of an accepted completely in all respects.
 - d. Waives all claims for additional costs, under his responsibility, which may subsequently become apparent.

E. Engineer will review requests for substitutions with reasonable promptness, and notify Contractor, in writing, of the decision to accept or reject the requested substitution.

SECTION 01800 CONTRACT CLOSEOUT

1.1 SUBSTANTIAL COMPLETION

Substantial completion shall be achieved when all work items EXCEPT Permanent Pavement and Loaming and Seeding shall be complete. To achieve Substantial Completion of the Work, all newly cleaned and lined water mains shall be accepted and returned to service, the Contractor shall restore permanent water service to all customers, remove all temporary by-pass piping, building service connections and all other temporary work from the project site. The Contractor shall place temporary paving as required; restore to their original condition all walks, drives, curbs, grassed areas and such other parts which have been disturbed as a result of the Contractor's operations; and do all other work as necessary and directed to leave all work and property in a clean, safe and acceptable condition. A schedule shall be submitted and approved for installation of Permanent pavement and Loaming and Seeding.

- A. When Contractor considers the work is substantially complete, he shall submit to the Owner and/or Engineer:
 - 1. A written notice that the Work, or designated portion thereof, is substantially complete.
 - 2. A list of items to be completed or corrected.
- B. Within a reasonable time after receipt of such notice, the Owner and/or Engineer will make an inspection to determine the status of completion.
- C. Should the Owner and/or Engineer determine that the Work is not substantially complete:
 - 1. The Owner and/or Engineer will promptly notify the Contractor in writing with a punchlist of deficiencies, giving the reasons therefore.
 - 2. The Contractor shall remedy the deficiencies in the Work, and send a second written notice of substantial completion to the Owner and/or Engineer.
 - 3. The Owner and/or Engineer will re-inspect the Work.
- D. When the Owner and/or Engineer concurs that the Work is substantially complete, he will:
 - 1. Prepare a Certificate of Substantial Completion on AIA Form G704, accompanied by Contractor's list of items to be completed or corrected, as verified and amended by the Owner and/or Engineer.
 - 2. Submit the Certificate to the Owner and Contractor for their written acceptance of the responsibilities assigned to them in the Certificate.

1.2 FINAL INSPECTION

- A. When the Contractor considers the Work is complete, he shall submit written certification that:
 - 1. Contract Documents have been reviewed.
 - 2. Work has been inspected for compliance with Contract Documents.
 - 3. Work has been completed in accordance with Contract Documents.
 - 4. Equipment and systems have been tested in the presence of the Owner's representative and are operational.
 - 5. Work is completed and ready for final inspection.
- B. The Owner and/or Engineer will make an inspection to verify the status of completion with reasonable promptness after receipt of such certification.
- C. Should the Owner and/or Engineer consider that the Work is incomplete or defective:
 - 1. The Owner and/or Engineer will promptly notify the Contractor in writing, listing the incomplete or defective work.
 - 2. The Contractor shall take immediate steps to remedy the stated deficiencies, and send a second written certification to Owner and/or Engineer that the Work is complete.
 - 3. The Owner and/or Engineer will reinspect the Work.
- D. When the Owner and/or Engineer finds that the Work is acceptable under the Contract Documents, he shall request the Contractor to make closeout submittals.

1.3 REINSPECTION FEES

- A. Should the Engineer perform re-inspections due to failure of the Work to comply with the claims of status of completion made by the Contractor:
 - 1. The Owner will compensate Engineer for such additional services.
 - 2. The Owner will deduct the amount of such compensation from the final payment to the Contractor.

1.4 CONTRACTOR'S CLOSEOUT SUBMITTALS TO ENGINEER

- A. Evidence of compliance with requirements of governing authorities:
 - 1. Certificate of Occupancy.
 - 2. Certificates of Inspection.
 - 3. Spare Parts and Maintenance Materials.
 - 4. Evidence of Payment and Release of Liens: To requirements of General and Supplementary Conditions.

5. Certificate of Insurance for Products and Completed Operations.
6. Evidence of Payment or rectification of any and all claims for damages resulting from the Contractor's work under this Contract.

B. The Contractor shall provide to the Owner a complete set of Contract Plans, red-lined to show any deviations from the proposed work, to serve as as-built drawings for the completed project.

1.5 FINAL ADJUSTMENT OF ACCOUNTS

A. Submit a final statement of accounting to the Owner and/or Engineer.

B. Statement shall reflect all adjustments to the Contract Sum:

1. The original Contract Sum.
2. Additions and deductions resulting from:
 - a. Previous Change Orders.
 - b. Allowances
 - c. Unit Prices.
 - d. Deductions for uncorrected Work.
 - e. Penalties and Bonuses.
 - f. Deductions for liquidated damages.
 - g. Deductions for re-inspection payments.
 - h. Other adjustments.
3. Total Contract Sum, as adjusted.
4. Previous payments.
5. Sum remaining due.

C. The Engineer will prepare a final Change Order if necessary, reflecting approved adjustments to the Contract Sum which were not previously made by Change Orders.

1.6 FINAL APPLICATION FOR PAYMENT

A. The Contractor shall submit the final Application for Payment in accordance with procedures and requirements stated in the Conditions of the Contract.

SECTION 01900 CLEANING

1.1 DURING CONSTRUCTION

- A. During the course of the work, the Contractor shall keep the site of his operation in as clean and neat a condition as possible on a daily basis. He shall dispose of all residues resulting from the construction work and, at the conclusion of the work; he shall remove and haul away any surplus excavation, broken pavement, lumber, equipment, temporary structures, and any other refuse remaining from the construction operations, and shall leave the entire site of the work in a neat and orderly condition.
1. Execute daily cleaning to keep the Work, the site and adjacent properties free from accumulations of waste materials, tuberculation matter, dust, rubbish and windblown debris, resulting from construction operations.
 2. Provide on-site containers for the collection of waste materials, debris and rubbish.
 3. Remove waste materials, debris and rubbish from the site daily and dispose of at legal disposal areas away from the site. Conduct cleaning and disposal operations to comply with codes, ordinances, regulations, and antipollution laws.
 4. Provide daily sweeping of the road surface with adequate 'street' brooms. The entire construction site is to be swept free of gravel, dust and dirt and returned to the trench area for the duration of the construction and until the permanent patch is installed. Calcium Chloride is to be applied daily as conditions warrant or as directed by the Engineer.
- B. In order to prevent environmental pollution arising from the construction activities related to the performance of this Contract, the Contractor and his subcontractors shall comply with all applicable Federal, State and local laws, and regulations concerning waste material disposal, as well as the specific requirements stated in this Section and elsewhere in the Specifications.
- C. The Contractor is advised that the disposal of excess excavated material in wetlands, stream corridors, and plains is strictly prohibited even if the permission of the property owner is obtained. Any violation of this restriction by the Contractor or any person employed by him, will be brought to the immediate attention of the responsible regulatory agencies, with a request that appropriate action be taken against the offending parties. Therefore, the Contractor will be required to remove the fill and restore the area impacted, at his expense.
- D. The disposal of all cobbles and boulders measuring 10 inches in diameter and greater, bituminous concrete, concrete, and other materials deemed by the Engineer as unsuitable for use as backfill matter shall be the responsibility of the Contractor.

- E. Existing hydrants removed as part of this Contract shall remain the property of the Owner, and shall be delivered by the Contractor to the Lincoln Water Commission's Water Treatment Plant at Child Street in the town of Warren, Rhode Island.

1.2 FINAL CLEANING

- A. Employ skilled workmen for final cleaning.
- B. Broom clean exterior paved surfaces; rake clean other surfaces of the grounds.
- C. Prior to final completion, or Owner occupancy, Contractor shall conduct an inspection of all work areas, to verify that the entire Work is clean.

1.3 MATERIALS

- A. Use only those cleaning materials which will not create hazards to health or property and which will not damage surfaces.
- B. Use only those cleaning materials and methods recommended by manufacturer of the surface material to be cleaned.
- C. Use cleaning material only on surfaces recommended by cleaning material manufacturer.

1.4 PAYMENT

- A. No separate payment will be made for normal daily sweeping and cleaning. Compensation for such work shall be considered to be included in the prices bid for other items of the proposal.

**DIVISION 2
SITE WORK**

NEW DUCTILE IRON WATER MAIN INSTALLATION

INDEX TO SITE WORK

SECTION	TITLE
02000	CONTROL OF WORK
02100	TEST PITS
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02250	RESTORATION OF LAWNS AND RIGHTS-OF-WAY AREAS
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02900	TESTING AND DISINFECTING WATER MAINS

SECTION 02000 CONTROL OF WORK

1.1 PROGRESS OF WORK

- A. The Contractor shall submit to Engineer a progress schedule and complete the work in the time stipulated in the Contract Documents.
- B. The Contractor shall review the progress schedule with the Engineer periodically. Such review shall be made monthly, or more frequently as required by the Engineer. The progress schedule shall be updated as required by the Engineer.

1.2 GENERAL OBLIGATIONS OF THE CONTRACTOR

- A. The General Obligations of the Contractor shall be as set forth in these Contract Documents. All incidental work and expense in connection with the completion of work under this Contract will be considered to have been included in the appropriate prices as bid for all items of the Bid Form of the Contractor's Bid.

1.3 SITE INVESTIGATION

- A. The Contractor shall satisfy himself as to the conditions existing within the project area, the type of equipment required to perform the work, the character, quality and quantity of the subsurface material to be encountered, and all other information that the Contractor feels to be significant for the proper completion of the work. Any failure of the Contractor to acquaint himself with the available information will not relieve him from the responsibility for determining properly the difficulty and the cost of successfully performing the work. The Owner assumes no responsibility for any conclusions or interpretations made by the Contractor on the basis of the information made available by the Owner.

1.4 COORDINATION WITH LOCAL AND STATE AGENCIES

- A. The Contractor shall supply the Local Police Department, Fire Department, School Department, and Public Works Department with the following information:
 - 1. At least weekly: A list of streets and intersections where work will be in progress.
 - 2. At least weekly: Areas where approved detours are in effect.
 - 3. Immediate notification of any drain, sewer, gas or water main breaks.
- B. The Contractor shall maintain pavements in accordance with the requirements of these Contract Documents, and shall provide the Local Public Works Department and RIDOT, as applicable, with an address at which he can be contacted. Upon notification by the Engineer the Contractor shall promptly make such corrections and repairs as necessary and required to paved surfaces.

1.5 PUBLIC UTILITIES

- A. The Contractor shall comply with the following requirements:
1. The Contractor shall notify Utility Companies in writing at least 72 hours (excluding Saturdays, Sundays, and legal holidays) but not more than 30 days before excavating in areas where underground utilities (pipes, cables, manholes, etc.) exist.
 2. The Contractor will be responsible for providing the Utility Company with schedule of his activities in areas where the utilities exist.
 3. The Contractor shall immediately notify Utility Companies of any damage to their utilities resulting from construction operations.
 4. The Contractor shall notify DIGSAFE at 1-800-225-4977 at least 72 hours before excavating in any public way.

1.6 PRIVATE LAND

- A. The Contractor shall not enter or occupy private land outside of easements, except by permission of the land owner.

1.7 DISTRIBUTION SYSTEM AND SERVICES

- A. The Contractor shall interrupt water services and disrupt the normal functioning of the distribution system as little as possible, and only with the written approval of the Engineer. He shall notify the Engineer 48 hours in advance of any requirement for unwatering or isolating a section of the main, so that water customers may be notified and the necessary arrangements may be made with the Owner and appropriate Fire Department. The Owner reserves the right to limit the amount of the system piping that may be shut down at any one time, during progress of the work. **Operation of live valves shall be performed by the LWC only.**
- B. Consistent with the above the Contractor shall coordinate his activities with the Owner continuously throughout the work to avoid disrupting the normal functioning of the adjacent sections of the water distribution system outside the working limits of this Contract.
- C. The Contractor is responsible to secure information on the depths of cover on existing mains, and the depths to groundwater, or make his own investigation in these regards, as this information is not provided in the Contract Documents.
- D. If the Commission's water supply requirements necessitate an immediate resumption of service through any or all sections of the water mains within the working limits of this Contract, upon written direction of the Owner, the Contractor shall suspend the work in progress and shall immediately restore the main to operable condition in order that the Owner may place the main back in

service.

- E. The Contractor shall make at his expenses, and as much as needed, and test excavations to locate existing water mains. If during the course of the excavation, the Contractor for whatever reason causes the existing water main to fail, the Contractor shall restore service in the shortest time possible, at his expenses, and working around the clock if necessary. He shall cooperate with the Owner to the most possible extent including but not limited to supplying emergency water if needed. The Contractor will be required to reimburse the Owner for the actual cost of the services of LWC personnel required during time other than regular working hours, for such emergencies, or any other emergencies, caused by the Contractor, his Subcontractors, Suppliers, or anyone for whom any of them may be liable.

1.8 PIPE LOCATIONS

- A. The new pipelines to be installed under this Contract shall be located as specified by the Engineer. The Contractor shall make the installation in the locations designated. The Engineer reserves the right, in locating piping, to make modifications to avoid Interference with existing structures or for other reasons. Where fittings are noted on Drawings, such notation is for the Contractor's convenience and does not relieve him from laying and jointing different or additional items where required.

1.9 OPEN EXCAVATIONS

- A. All open excavations shall be adequately safeguarded by providing temporary barricades, caution signs, lights and other means to prevent accidents to persons, and damage to property. The Contractor shall, at his own expense, provide suitable and safe bridges and other crossings for accommodating travel by pedestrians and workmen. Bridges provided for access during construction shall be removed when no longer required. The length or size of excavation will be controlled by the particular surrounding conditions, but shall always be confined to the limits prescribed by the Engineer and this Specification. If the excavation becomes a hazard, or if it excessively restricts traffic at any point, the Engineer may require the Contractor to limit the length of the open trench, and/or prohibit stacking excavated material in the street. No trench shall remain open overnight.
- B. The Contractor shall take precautions to prevent injury to the public. All trenches, excavated material, equipment, or other obstacles which could be dangerous to the public shall be well lighted at night.

1.10 PROTECTION AND RELOCATION - EXISTING STRUCTURES & UTILITIES

- A. The Contractor shall assume full responsibility for the protection of all buildings, structures, and utilities, public or private, including poles, signs, services to

buildings, utilities in the street, gas pipes, water pipes, hydrants, sewers, drains, and electric and telephone cables, whether or not they are shown on the Drawings. The Contractor shall carefully support and protect all such structures and utilities from injury of any kind. Any damage resulting from the Contractor's operations, or the operations of his Subcontractors, Suppliers, or anyone for whom any of them may be liable, shall be repaired by the Contractor at his expense.

- B. Assistance will be given to the Contractor in determining the location of existing water piping and services. The Contractor, however, shall bear full responsibility for locating all underground utilities and structures (including existing water mains and services, drain lines, and sewers). Services to buildings shall be maintained, and all costs or charges resulting from damage thereto shall be paid by the Contractor.
- C. Protection and temporary removal and replacement of existing utilities and structures shall be a part of the work under the Contract and all cost in connection therewith shall be included in the prices bid in the Bid Form, except as described below and approved by the Engineer PRIOR to removal.

The Contractor shall adequately protect any utility pole as necessary when excavating access pits and/or trenches. Cost for protection of utility poles shall be included in the price of the cleaning and lining work. This work shall include the related removal and reinstallation of guy wires, or support poles whether shown on the Drawings or not.

If required, the Contractor shall be responsible for making all arrangement with the proper utility companies for the bracing and protection of utility poles that may be damaged or endangered by the Contractor's operations. Payment for bracing of utility poles by the utility company, if such work is required, shall be included in the price for cleaning and lining work and will not be paid separately.

- D. If, in the opinion of the Engineer, permanent relocation of a utility is required, he may direct the Contractor, in writing, to perform the work. Work so ordered will be paid for at the Contract unit prices, if applicable, or as extra work at a mutually agreed price between Contractor and Owner. If relocation of a privately owned utility is required, the Engineer and the Contractor will notify the utility to perform the work as expeditiously as possible. The Contractor shall fully cooperate with the Engineer and Utility, and shall have no claim for delay due to such relocation. The Contractor shall notify all utility companies in writing at least 72 hours (excluding Saturday, Sunday and Legal holidays) before excavating in any public way. Contractor shall also notify Rhode Island Dig Safe, telephone 1-800-225-4977 at least 72 hours prior to start of work.
- E. The Contractor shall coordinate the removal and replacement of traffic loops, detectors and signals, if required for the performance of the work, at no additional cost to the Owner.

1.11 WATER FOR CONSTRUCTION PURPOSES

- A. Water for construction purposes, as described herein, is defined as water required by the Contractor for backfill compaction, materials cleaning, and other miscellaneous purposes.
- B. The Contractor shall provide and use a tank truck when requiring water for construction purposes.
- C. Owner will inform Contractor of location where tank truck may be filled. Contractor shall provide a meter with an RPZ backflow preventer for this purpose.
- D. Water for pipeline chlorination and pressure testing shall be provided at no charge by the Owner when so required.
- E. The expressed approval of the Owner shall be obtained before water for pipeline chlorination and pressure testing is used. Hydrants shall only be operated under the supervision of the Owner's personnel.
- F. In either case, waste of water by the Contractor shall be sufficient cause for withdrawing the privilege of use.

1.12 MAINTENANCE OF FLOW

- A. The Contractor shall at his own expense, provide for the flow of sewers, drains and water courses interrupted during the progress of the work, and shall immediately cart away and remove all offensive matter. The entire procedure of maintaining existing flow shall be fully discussed with the Engineer well in advance of the interruption of any flow.

1.13 SPECIAL REQUIREMENTS

- A. **Mainline and sideline valves and hydrants shall only be operated by LWC personnel.**

The Contractor is advised that total shutdown of some valves or connections may not be possible. This may require that side-line water main and valves be replaced under partial flow conditions requiring adequate dewatering measures by the Contractor. The Contractor is responsible for providing an adequate number of the proper type pumps for sufficient dewatering to complete the work. Do separate payment will be made for dewatering.

- B. The Contractor when making openings close to or against active mains shall restrain any pipe, valve, or other fitting required to complete his work. This

requirement is made to avoid the possibility of any movement of valves or pipes as a result of unbalanced hydrostatic pressure.

- C. The Contractor's attention is directed to the making of openings and closures in the mains and to the replacement of the existing valves. The contractor is advised that no substitution of materials, fitting, or installation details will be permitted without the express written approval of the Engineer.
- D. The new valves and piping assemblies installed by the Contractor shall be field tested as specified in this Specification. Operation of the valves shall be observed by the Engineer.

1.14 PERMITS

- A. The Contractor shall be required to obtain all necessary permits for proper execution of the Project. The Contractor shall fill out all forms required to obtain the permits. No work shall commence on any phase of the work requiring a permit until the permit is obtained. All fees associated with these permits shall be paid by the Contractor, at no cost to the LWC.
- B. The Contractor shall obtain required street opening permits for excavation within streets or sidewalk or shoulder areas. The Contractor, when needed, shall submit an Application for Permit for construction in Rhode Island Highways. The Contractor shall be responsible for obtaining permission from the Rhode Island Department of Transportation (RIDOT), as needed. No work in State Highways may begin without the expressed consent of the RIDOT. The Contractor must adhere and be fully responsible for all conditions specified in the RIDOT permit.
- C. The Contractor, when needed, shall also be required to submit application for permit to the Rhode Island Department of Environmental Management, Division of Freshwater Wetlands, and to the Coastal Resources Management Council.

1.15 WORKING HOURS

- A. Work under the contract other than maintenance work, shall not be prosecuted on Saturdays, Sundays or on Rhode Island State holidays, except in time of emergency, and then only under written permit from the Engineer, who shall be the judge as to the existence of the emergency.
- B. Normal working hours shall be 7:00 AM to 5:00 PM, Monday through Friday. If the Contractor wishes to prosecute any portion of the work between the hours of 5 PM and 7 AM he shall first obtain permission from the Owner and the local Commission, notifying them each time in advance, giving them ample time in which to procure an engineer or inspector for the work. In case of night work, the light, safety and other facilities which are deemed necessary by the Owner for performing such night work shall be provided by the Contractor. No work shall be done between 5pm and 7am without approval of the local Commission.

- C. If the Owner requests that the Contractor work outside the normal work hours, the Contractor will be paid an additional amount per the Bid Item. If the Owner requests and approves NIGHT WORK, a mutually agreeable schedule shall be arranged and the Contractor shall provide a crew to perform the required work. The Bid Item for Night Work shall include the additional labor costs for the crew to work one eight hour shift between the hours of 7pm and 6am.

It will be the Contractor's responsibility to obtain approval from the local Commission if the Owner requests or approves work to be done outside the normal working hours. No "NIGHT WORK" shall be scheduled without approval of the local Commission.

1.16 MEASUREMENT

- A. NIGHT WORK ADDITIONAL COST (BID ITEM 28)

Additional payment for work done at night shall be measured on a per day basis for each shift of night work required between 7:00 PM and 6:00 AM.

1.17 PAYMENT

- A. Payment for Night Work shall be made on a per day basis at the Bid Price for this item and shall include the additional labor cost only for one crew to work one shift.

SECTION 02100 TEST PITS

1.1 SCOPE OF THE WORK

- A. Test pits for the purpose of locating underground pipeline or structures in advance of the construction shall be excavated and backfilled by the Contractor, after approval of the Engineer. Test pits shall be backfilled immediately after their purpose has been satisfied and the surface restored and maintained in a manner satisfactory to the Engineer.

The work under this section includes furnishing all labor, equipment appliances, materials, and incidentals, and performing all operations in connection with excavating and backfilling, by machine and/or by hand, exploratory test pits at locations indicated or directed. The purpose of the test pits shall be for locating water mains, ground water, storm drains, sewerage pipes, and other utilities, rocks structure foundations, or other obstacles, and for examining soil.

1.2 GENERAL

- A. Test pit excavations shall have neat, clean-cut and vertical sides. Upon completion of the test pit excavation, the Owner shall be notified so that any necessary location measurements can be made. Excavation and backfilling shall conform to the applicable requirements of the Section "Earth Trench Excavation and Backfill". Hand digging shall be employed when required by the Owner.
- B. It shall be agreed that the Contractor entered into this contract with full knowledge that in any work involving excavation, operation in public highways, or adjacent to other developments, some unforeseen utility relocations, obstacles, difficulties, unforeseen soil or groundwater conditions, etc., may be encountered; and that the contractor has included in his bid and contract obligations the assumptions of the risks and costs to which such obstacles, etc. may subject him.
- C. In the event that an existing service line that is designated to be replaced is found to be acceptable, the excavation and backfill shall be paid for under the item for Test Pits.

The Test Pit item shall NOT be paid for any services that require reconnection to the newly installed water main. The excavation and backfill at these locations are to be paid for under other items of the Contract.

1.3 MEASUREMENT

- A. TEST PITS (BID ITEM 1)

Excavation for test pits will be measured for payment by the unit "Each". Work shall include but is not limited to saw cutting existing pavement, removal and

disposal of concrete/bituminous pavement and excess soil, excavation, dewatering, shoring, and furnishing and installing new bedding or backfill, as required, furnishing and installing temporary and permanent pavement and all site restoration. Only test pits approved by the Engineer PRIOR to excavation shall be paid for by the Owner.

1.4 PAYMENT

- A. Payment for approved "TEST PITS", measured as provided above, will be made at the unit price bid for EACH TEST PIT at the price listed in the Bid,

No payment will be made for test pits used as excavation trenches for the installation of new water transmission mains, service connections, valves and hydrant assemblies and appurtenant work.

The unit price for Test Pits shall include ALL WORK to complete the task. There shall be no additional payment for any saw cutting or removal of existing pavement, new backfill material, temporary or permanent pavement or any other incidental work required to excavate and backfill the test pit and restore the area. These costs shall be included in the payment for each test pit.

SECTION 02200 PROVISIONS FOR CONTROL OF EROSION

1.1 The work covered under this Section shall include all work required by the Commission or permitting agencies for erosion and sediment control including but not necessarily limited to:

- A. Furnishing and installing straw bales, silt fence, swales, wattles, soil berms, mulches, grasses, channels, crushed stone, rip-rap, filter fabric drainage inlet protection, grading to control runoff and all other devices required to control erosion from the limits of the contract areas onto the adjacent down gradient areas.
- B. Continual maintenance of all installed devices to control erosion.
- C. Removal and clean-up.

All erosion and sediment control materials and methods are to be provided in accordance with the Rhode Island Erosion and Sediment Control Handbook and the RI Department of Transportation Standards.

1.2 The Contractor shall be responsible during the course of his work for providing all erosion protection and siltation prevention facilities, and to carry out his operation by methods acceptable to the applicable local, State or Federal agencies.

- A. The Contractor shall take sufficient precautions during construction to minimize the run-off of polluting substances such as silt, clay, fuels, oils, bitumen and calcium chloride into supply and surface waters. Special precautions shall be taken in the use of construction equipment to prevent operations which promote erosion.
- B. Disposal of drainage shall be in approved areas. The Contractor shall prevent the flow or seepage of drainage back into the drained area. Drainage shall not be disposed of until silt and other sedimentary materials have been removed. Particular care shall be taken to prevent discharge to a water supply or surface water body.
- C. As a minimum, the following shall apply:

In unpaved areas brush and stumps shall not be removed until no more than two days prior to the start of pipe laying in that area. The existing ground surface shall be disturbed as little as possible until no more than two days before start of pipe laying.

Staked bales of hay shall be provided as approved by the Engineer at points here drainage from the work site leaves the site, to reduce the sediment content of the

water. Other methods which reduce the sediment content to an equal degree as hay bales may be used as approved by the Engineer.

1. Drainage leaving the site shall flow in such a manner to prevent erosion.
 2. Loaming and seeding of unpaved areas shall take place as soon as practicable after laying of the pipeline.
 3. Drainage catch basins shall be protected using haybales or siltfences as required by the regulating Commission or the Engineer.
- D. Measures for control of erosion must be adequate to assure that turbidity level in the receiving water will not be increased more than 10 standard turbidity units (s.t.u.), or as otherwise required by the State or other controlling body, in waters used for public water supply or fish. In surface water used for other purposes, the turbidity must not be increased by more than 25 s.t.u., unless otherwise permitted.
- E. When excavating in the vicinity of wetlands or river floodplain, where no temporary diversion structure is required, the excavated material shall be placed on the uphill side of the trench so that the trench serves as a barrier between the excavated material and the wetland or floodplain.

1.3 SUBMITTALS

Prior to commencement of the work, the Contractor shall:

- A. Meet with the Engineer to develop mutual understandings relative to compliance with the provisions of this Section and administration of the erosion and sedimentation control program.
- B. Should the Contractor desire to change or modify the specified erosion controls then he shall submit in writing his plans to the Owner for implementing erosion and sediment control, including but not limited to, placement of straw haybales, silt fence, containment berms, temporary channels and settling ponds, as well and a description of all construction techniques intended to minimize erosion and sedimentation, and a program for maintenance of these facilities throughout the performance of construction activities.
- C. The Contractor, should he desire to modify the specified plan, shall submit to the Owner and Engineer his detailed erosion and sedimentation plans for approval at least two weeks prior to initiation of the Work.

1.4 PRODUCTS

- A. STRAW BALES

Bales shall be made of straw or hay with forty pounds minimum weight and one hundred and twenty pounds maximum weight. They should be either wire bound or string tied. Wood stakes shall be a minimum of 2 inches by 2 inches nominal size by a minimum of 3 feet long. As an alternate, 1-inch diameter steel rods or steel reinforcing bars may be used.

B. FIBER ROLLS (STRAW WATTLES)

1. Fiber rolls shall consist of wood excelsior, rice or wheat straw, or coconut fibers that are rolled or bound into a tight tubular roll. Fiber rolls shall be either prefabricated rolls or rolled tubes or erosion netting.
2. For assembly of fiber rolls in the field, roll length or erosion control blanket into a tube of minimum 8 inches in diameter. Bind roll at each end and every 4 feet along length of roll with jute-type twine. Stake fiber rolls into a 2 to 4 inch trench. Drive stakes at the end of each fiber roll and spaced 4 feet maximum on center. Use wood stakes with a nominal classification of 3/4-inch by 3/4-inch and minimum length of 2 feet. If more than one fiber roll is placed in a row, the rolls shall be overlapped, not abutted.

C. SILT FENCE

1. Silt fences or sedimentation barriers shall consist of wood posts with industrial support netting and sediment control filter fabric attached. It shall be placed as directed by the Engineer. The cost of this work shall include the periodic maintenance of these materials and the ultimate removal upon completion of the project.
2. The filter fabric material shall be type #3401, as manufactured by RI Dupont de Nemours & Co., Mirafi#100 as manufactured by Celanese Fibers Marketing Co., Inc. Bidim C-28 or C-34 manufactured by Monsanto Co., or an approved equivalent. The posts shall be at 4.5 feet long and control fabric shall be at least 3 feet minimum to 8 feet maximum wide.

D. EROSION NETTING

1. Erosion netting or erosion control blanket shall be a machine-produced 100% biodegradable mat with an agricultural straw fiber matrix with a typical functional longevity of approximately 12 months. The blanket shall be of consistent thickness with the straw evenly distributed over the entire area of the mat. The blanket shall be covered on the top and bottom sides with 100% biodegradable natural woven fiber netting.
2. The straw erosion control blanket shall be S150BN as manufactured by

North American Green or approved equivalent.

E. DIVERSIONS

1. Diversions for directing surface runoff away from and/or around trenching and other construction operations shall be installed and stabilized in advance of new work. The Contractor shall select the cross-section shape (parabolic, vee-shaped, or trapezoidal) such that the equipment he has on-site will be available for as needed maintenance.
2. The minimum capacity of the diversion shall be sized to accommodate a 2-year design storm.
3. Periodic cleaning shall be done to maintain capacity.

F. REMOVAL AND CLEAN-UP

All temporary erosion control facilities and accumulated sediments shall be removed in a neat and workmanlike manner and legally disposed of when all disturbed areas have been satisfactorily stabilized.

1.5 EXECUTION

- A. Baled hay protection must be provided on the downhill side of the trench, offset six (6) feet from the edge of the excavation, and/or as required by the Engineer, in all areas defined by the Regulating Agencies. All drainage collection basins along the work areas shall be protected so that drainage from the work area is adequately filtered before entering the storm water system.
- B. All discharges from pumping of groundwaters must pass through hay bale sediment traps. The number of sediment traps necessary to filter all pumped water shall be determined by the Contractor and approved by the Engineer, and approved by the controlling agencies, as needed.
- C. Hay bale erosion controls shall be placed in all streams crossed by the trench.
- D. Prior to the installation of any control structures, the Contractor shall receive all required permits by the controlling agencies.
- E. The Contractor will be required to maintain hay bales in good condition, rotating them periodically to maximize their effectiveness. Any damaged haybales shall be promptly replaced. The Contractor will also be required to remove accumulated sediment from the sediment traps periodically or when the sediment exceeds ½ of the height of the haybales or as directed.
- F. Any wetland, wetland buffer zone, and/or marsh area contaminated by the

sediment from the work must be restored to its original condition by the Contractor at his expense. All sediment and other materials shall be removed from those sections when construction along those sections has been completed and the land shall be restored to its former condition. If this procedure is not sufficient to restore plant growth, direct seeding as determined by the controlling agencies shall be done by the Contractor at his expense.

- G. All construction phase erosion controls shall be inspected by the Contractor at least once every seven (7) days and within twenty-four (24) hours after any storm event which generates at least ½ inches of rain in a 24 hour period. The Contractor shall note areas of erosion and sediment migration, as well as the condition and effectiveness of the storm water controls.
- H. Upon completion of the project and permanent stabilization of the ground surface, all sediment control barriers shall be removed so as not to impede storm flow or drainage and disposed of in an appropriate fashion.

1.6 MEASUREMENT

- A. EROSION AND SEDIMENT CONTROL, TRENCH (BID ITEM 24a)

Erosion and sediment control, in-place and approved by the Engineer and the applicable controlling agencies, will be measured per LINEAR FOOT of trench, along the centerline of the trench.

- B. EROSION AND SEDIMENT CONTROL, DRAINAGE BASINS (BID ITEM 24b)

Where sediment controls are placed at or around storm drainage catch basins, these shall be measured per EACH drainage basin or other protected structure as approved by the Engineer.

1.7 PAYMENT

- A. Payment for erosion and sediment control will be made for the quantity determined above at the price bid in the Bid Form. Price and payment shall constitute full compensation for all work required, materials, tools, and equipment to furnish and install erosion control facilities, including maintenance, removal and cleanup, and all incidentals thereto for which payment is not provided under other items of the Bid Form.

SECTION 02250 RESTORATION OF LAWNS AND RIGHT-OF-WAY AREAS

1.1 SCOPE OF THE WORK

- A. The work covered under this section of the Specifications consists of the furnishing of all labor, equipment, materials and appurtenances and performing all operations in connection with restoration of lawns and right-of-way areas disturbed by the construction activities performed under this contract, complete in accordance with the Specifications, the Drawings, and as directed by the Owner.
- B. The work shall also include stripping; stockpiling; hauling, handling and rehandling of topsoil; maintaining and protection of stockpiled topsoil; preparation of subgrades; spreading, compacting, grading and replacing deficiencies in quantities of topsoil; protection of completed topsoiled areas; raking, rolling, seeding, sodding, watering and maintenance of all seeded or sodded areas, and all other work incidental and necessary for the satisfactory completion of the work included under this section of the Specifications.
- C. All work required by this section of the Specifications shall be performed immediately following trench backfilling operations or as soon thereafter as weather conditions will allow through each individual lot except as limited by paragraph 1.2 of these Specifications. If this work is not performed as stated above or as directed by the Owner, the Owner may order the work done by others and the cost of said work shall be charged to the Contractor.

1.2 PLANTING SEASON

- A. A The sowing of seed shall be done only within the season extending from April 1st to May 31st and August 15th to October 15th, except at such times therein as the Owner may deem inadvisable because of weather or other conditions, and except as otherwise herein specified. In the event that seasonal and other conditions permit, and upon approval of the Owner, seeding may start earlier and/or be continued later than the specified dates. The sowing of seed shall be started on all areas during the first planting season after the areas have been released to the Contractor for lawn operations. The preparation of lawn areas shall not start until immediately preceding the season for seeding, except that topsoil may be spread at the option of the Contractor, provided that it be thoroughly loosened to its full depth and brought to a friable, mellow condition before the seed bed is further prepared.
- B. Sodding shall be installed in the Fall from August 25th to October 1st, or in the Spring between April 1st and May 15th unless otherwise approved by the Owner.
- C. Deciduous Plants shall be planted only when dormant; before leaves appear in the Spring or subsequent to their loss in the Fall, unless otherwise specified by the Owner.

- D. Evergreen Plants shall be planted in the Spring, until the time when new growth begins to take place, and from August 21st to October 15th.

1.3 PROTECTION OF TREES

- A. All trees, except those approved by the Owner to be removed for construction, which are subject to damage in conjunction with this contract shall be protected by wood planking, wrapping or whatever means which might become necessary or as directed by the Owner. Any tree to be removed and replaced after construction, shall be bagged, balled, stored, and maintained in a safe condition, pending replanting. One (1) year guarantee will commence from the day of replanting.
- B. No backfill of any nature shall be placed by the Contractor above the root spread of a tree or plant which it is desired to preserve until a fill of porous material not less than three inches in depth, or as directed by the Owner, and a mulch layer have first been placed above its roots.
- C. Where tree root protection is ordered, the area to be protected shall be thoroughly cleaned of all vegetation. Porous material shall then be spread loosely over the area to a depth ranging from three to twelve inches. On top of the porous material, a mulch layer shall be spread, over which a layer of fill material acceptable to the Owner shall be placed.
- D. Care shall be taken that trees or shrubs which are to be preserved in place are not scarred or damaged by the operations under this item. The root area to be protected shall be the area of ground surface lying within the periphery of the tree or as directed by the Owner.

1.4 ESTABLISHMENT

- A. At all times adequate protection shall be provided for all restored areas against trespassing or damage by others. The moving of heavy equipment or materials over the restored areas shall be avoided as far as possible, but if necessary, must be done on planks.
- B. The Contractor shall properly care for all lawn areas by watering, weeding, mowing, rolling, trimming and edging, and by performing any other necessary operations of maintenance. All areas and spots that do not show a prompt "catch" shall be reseeded at intervals of 10 days which shall continue until a good growth of grass is established over the entire restoration area. The methods pursued in the renewal or replacement of disturbed areas shall be as specified.

Maintenance shall immediately follow the accomplishment of planting operations or the accomplishment of any other unit of work so specified, and shall continue

for a period of sixty days after the close of the specified planting season during which the last planting operations or lawn operations were accomplished, and if necessary, shall continue further until the requirements of the above are fulfilled. No requirements of this specification shall be interpreted to relieve the Contractor of the responsibility of maintenance as outlined.

1.5 GUARANTEE AND REPLACEMENT

- A. The Owner will not accept lawn areas until the completion of all the work required under this project.
- B. Sodded areas shall be guaranteed for a period of one (1) year after acceptance by the Owner, and shall be alive and in satisfactory growth at the end of the guarantee period. At the end of the guarantee period, upon written request by the Contractor, the Owner will inspect sodded areas. Any sodded area required under this Contract that is dead or not in satisfactory growth, as determined by the Owner, shall be removed and replaced as soon as conditions permit, during the normal planting season. In case of any question regarding the condition and satisfactory establishment of a rejected area, the Contractor may elect to allow such sodded areas to remain through another complete growing season at which time the rejected areas, if found to be dead, or in an unhealthy or badly impaired condition, shall be replaced. All replacements shall be of the same kind specified. They shall be furnished and planted as specified; the cost shall be borne by the Contractor, except for possible replacements resulting from removal, loss or damage due to occupancy of the Project in any part, or vandalism.

1.6 MATERIALS

Landscaping materials shall conform to the specifications of the Rhode Island Department of Transportation Standard Specifications for Road and Bridge Construction, latest edition, unless otherwise stated herein.

- A. All topsoil needed to complete the work shall be provided by the Contractor by processing topsoil obtained in stripping and stockpiling operations during construction at the site; and/or obtained from an approved source off the site at no additional cost to the Owner. The topsoil shall be natural, friable soil possessing characteristics of the topsoils of the vicinity which produce heavy growth of crops, grass or other vegetation and shall be light to dark brown in color. Before the soil is used, it shall be reasonably free from subsoil, clay, lumps, stones, stumps, roots and similar objects, any of which are larger than one inch in diameter, brush, objectionable weeds or other litter, excess acid or alkali or any other material or substance which may be harmful to plant growth or a hindrance to grading and maintenance operations.
- B. Commercial fertilizer shall meet the specifications of RIDOT Specification M.18.06 with 10 percent of the nitrogen derived from natural organic sources, 10

percent phosphoric acid and 10 percent potassium. The commercial fertilizer shall be delivered to the site in the original unopened containers which shall bear the guaranteed statement of analysis of the manufacturer.

- C. Lime shall be per RIDOT Specification M.18.05.1 for Ground Lime. Ground lime for all roadside horticultural purposes shall consist of a standard commercial product of ground dolomitic limestone intended for agricultural use. It shall be fine ground dolomite such that, when "burned" by standard lime producing methods, it shall yield at least 30 percent calcium oxide and 5 percent to 20 percent magnesium oxide for a total of 50 percent yielded from calcium and magnesium oxide. At least 40 percent but not more than 60 percent should pass through a 100-mesh screen, and all shall be able to pass a 20-mesh screen.
- D. Lawn seed shall be fresh, clean, new crop Residential Seed Mix per RIDOT Specification M.18.10.4. Seed may be mixed by an approved method on the site or may be mixed by the dealer. If the seed is mixed on the site, each variety shall be delivered in the original containers which shall bear the guaranteed analysis of the dealer. If the seed is mixed by the dealer, the Contractor shall furnish to the Owner the guaranteed statement of the dealer of the composition of the mixture and percentages of purity and germination of each variety. Grass seed for the areas to be seeded shall be composed of the following seeds mixed in the proportions by weight and testing the minimum percentages of purity and germination as indicated herein.

Type of Seed	Proportion by Weight Percent	Percent of Purity	Percent Germination
Lawn or Developed Areas			
Chewings Fescue	30	95	88
Kentucky Bluegrass	30	95	90
Perennial Ryegrass	40	98	90

- E. Sod shall meet the RIDOT Specification M.18.11. All sod shall be well-established, good quality, permanent lawn grass, grown in open ground on a recognized sod farm. It shall be strongly rooted, containing a minimum of seventy (70) percent Kentucky Bluegrass and ten (10) percent Red Fescue, free of pernicious weeds and coarse, burned or bare spots. Grass shall have been mowed to a height of two (2) inches before lifting, and shall have a uniform soil thickness of one and one-half (1-1/2) inches. The Contractor shall furnish the Owner with an adequate sample for inspection and approval before any sod is delivered to the Site.
- F. Mulch shall be of any of the following material, or any approved locally available material other than these specified. Mulch material which contains an excessive quantity of matured seed of noxious weeds or other species will not be acceptable.

Straw or other mulch material which is fresh and excessively brittle, or which is in such an advanced stage of decomposition as to smother or retard the growth of grass, will not be acceptable.

1. Straw: Straw shall be the threshed straw of oats, wheat, barley, rye, flax beans or peas.
 2. Hay: Hay shall be cured, dried, and shall be of such types as native hay, Sudan-grass hay, broom-sedge hay, and grass clippings.
- G. After subgrades of the areas have been satisfactorily brought to the proper condition, elevations and contours, and immediately prior to placing and spreading the topsoil, the subgrade shall be loosened by discing, scarifying or other approved method, to a depth of approximately 3 inches to permit bonding of the topsoil to the subgrade.
- H. Topsoil shall be placed only when seeding can follow within a reasonable time. The topsoil shall be uniformly distributed and compacted on the areas designated to be seeded in sufficient depth to compensate for any shrinkage. The average thickness of the compacted topsoil shall be not less than 6 inches. The surfaces of the areas shall finish evenly with adjacent undisturbed surfaces. They shall be rolled with a hand roller weighing not more than 100 pounds per foot of width. During the rolling, all depressions caused by settlement or rolling shall be filled with additional topsoil and the surfaces shall be regraded and rolled until they present a smooth and uniform finish free from depressions where water will stand and with all surfaces at the required grade. Topsoil shall not be placed when the topsoil or subgrade is frozen, excessively wet, extremely dry or in a condition which would be detrimental to the operations. All areas shall be protected and maintained in a proper and satisfactory condition until they are fertilized and seeded.

1.7 LOAMING

A. Preparation:

Prepare the subgrade of all areas on which loam is to be placed at the proper elevation free of depressions and irregularities. Clear all vegetation, stones, roots, brush, debris, and any other material which might interfere with or be harmful to plant growth.

B. Placing Loam:

Loaming shall be performed only when it can be followed within a reasonable time by seeding. The loam shall be a minimum of 4" thick and uniformly distributed and compacted on the areas designated to be grassed in sufficient depth to compensate for any shrinkage. The surfaces of the loamed areas to be sodded shall be rolled with a hand roller weighing not more than 100 pounds per

foot of width. During the rolling, all depressions caused by settlement or rolling shall be filled with additional loam and the surfaces shall be regraded and rolled until they present a smooth and uniform finish, free from depressions where water will stand and with all surfaces at the required grade. Loam shall not be placed when the loam or subgrade is frozen, excessively wet, extremely dry or in a condition which would be detrimental to the operations. All loam areas shall be protected and maintained in a proper and satisfactory condition until the subsequent operations.

C. Fine Grading:

The soil surface shall be brought to the required finished grades free from ridges and depressions, through successive stages of light rolling, fine grading and raking operations. The surfaces shall be cleared of all objectionable weeds and shall be free from stone, roots, or objects larger than one inch in diameter and other materials which would be a hindrance to planting operations or to plant growth. A finely pulverized soil surface shall be obtained.

1.8 SEEDING

- A. Before starting work, approved types of equipment shall be on hand and it shall be demonstrated that the application of lime, fertilizer and seed will be made at the specified rates.
- B. Residential Seed Mix as specified herein, shall be used for seeding and sodding in all existing lawn areas disturbed by this construction. All other disturbed areas unless otherwise superseded by previous right of way easement agreements shall be seeded with field grass mix, as specified herein.
- C. The seed bed shall be brought to the required finished grades, free from ridges and depressions, through successive stages of light rolling, fine grading and ranking operations. The surfaces shall be cleared of all objectionable weeds and shall be free from stone, roots or objects larger than one inch in diameter and other material which would be a hindrance to planting operations or to plant growth. A finely textured seed bed shall be obtained.
- D. Lime shall be spread uniformly over the areas to be seeded at a rate of 2,000 pounds per acre. Fertilizer shall be spread uniformly over the areas to be seeded at a rate of 900 pounds per acre. Each material shall be worked independently into the top 3 inches of soil by discing, harrowing or other acceptable methods. Sticks, stones and debris shall be removed from the areas and disposed of satisfactorily.
- E. After the areas to be seeded have been prepared as specified herein, the specified seed mixture shall be uniformly sown thereon at a rate of 4 ½ pounds per 1,000 square feet. Hand seeders, power-drawn drills or other approved equipment shall be used. After sowing, the seed shall be lightly covered and the seeded areas

compacted by rolling. All seeding shall be done only at times approved by the Owner.

No seeding shall be permitted after a rain unless the surface of the ground is loosened or when the velocity of the wind exceeds a gentle breeze or about five miles an hour. Extreme care shall be exercised during seeding and raking so that no change in grade is made and so that the seed is not raked from one spot to another.

1.9 MULCHING

- A. The mulch shall be spread uniformly in a continuous blanket, using 2 tons per acre. If the mulching material is too long and brittle for proper spreading, it shall be cut to length of not less than 8 inches and watered as needed before spreading. The mulch shall be spread by hand or other approved methods. Mulching shall be started at the windward side of flat areas, or at the upper part of steep slopes and shall continue uniformly until the area is completely covered.
- B. On all slopes 3 on 1 or steeper, mulch shall be secured to the soil by means of staking and string line, by brush, by a shallow covering of earth or by pressing mulch into the soil at approximately 1-1/2 foot intervals with a spade or other approved tool or by other suitable means which will not be detrimental to subsequent maintenance.

1.10 SODDING

- A. Care shall be exercised at all times to retain the soil on the roots of the sod during the process of transplanting. Dumping from vehicles will not be permitted. The sod shall be planted within twenty- four hours from the time it is harvested unless it is tightly rolled or stored roots-to-roots in a satisfactory manner. All sod in stacks shall be kept moist and shall be protected from exposure to the sun and from freezing. No storage longer than five days will be permitted. Sod which becomes dried out or does not meet the specifications will be rejected.
- B. There shall be a minimum of four inches, after tamping, of topsoil under all sod unless otherwise specified. Excavations or trenches shall be made to a sufficient depth below the finished grade of the sod to accommodate the depth of topsoil as specified and the thickness of sod as specified. Fertilizer shall be applied at a rate to provide 100 pounds of nitrogen per acre unless fertilizer has been applied under another item in this contract to the topsoil in the sod bed. Lime, although not required in sodbed preparation, will be permitted in the sodbed if applied in a previous operation. Fertilizer applied shall be incorporated with the topsoil to a depth of at least two inches before the sod is laid, unless otherwise specified or approved. Incorporation shall be accomplished by discing, harrowing, drilling, raking, or other approved means.

- C. The soil on which the sod is laid shall be reasonably moist and shall be watered, if so directed. The sod shall be laid smoothly, edge to edge, and all openings shall be plugged with sod. In drainage-ways and where continuous solid sodding is called for on the plans, the sod shall be laid with their longest dimensions parallel to the contours. Such sodding shall be begun at the base of slopes or grades and the sodding progress in continuous parallel rows working upward. Vertical joints between such sod shall be staggered. All sod shall be laid to the grades formed with special care at the junction of drainage-ways. Immediately after the sod is laid, it shall be pressed firmly into contact with the sodbed by tamping, rolling, or by other approved methods so as to eliminate all air pockets, provide true and even surfaces insure knitting and protect all exposed sod edges but without displacement of the sod or deformation of the surface of the sodded areas and watered at the rate of 5 gallons per square yard of sodded area unless otherwise directed.
- D. Sod shall be held in place by stakes in all drainage-ways, on all slopes steeper than 4:1 and elsewhere where specified or as directed. Pegging shall be done immediately after tamping. At least one stake shall be driven through each sod to be staked, and the stakes shall be not more than two feet apart. Stakes shall have their flat sides against the slope and be driven flush.
- E. Excess sod or excess soil resulting from excavations or trenching shall be disposed of as approved. Excess soil shall not be left to form a ridge adjacent to the sodded area or sodded strips. No payment will be made for rejected or excess sod which is not laid.

1.11 MEASUREMENT

- A. LOAMING AND SEEDING (Item 23)
Measurement will be made per SQUARE YARD for loaming and seeding, installed per these Specifications, in place and approved by the Engineer.

1.12 PAYMENT

Payment of the in-place and approved loaming and seeding will be made for the quantity determined above at the price bid in the Bid Form. Price and payment shall constitute full compensation for all labor, materials and equipment, and all incidentals thereto for which separate payment is not provided under other items of the Bid Form.

SECTION 02300 EARTH EXCAVATION AND BACKFILLING

1.1 WORK INCLUDED

- A. The work under this section of the Specifications includes the furnishing of all labor, equipment and materials, and performing all operations in connection with excavating, backfilling, compacting, grading, and all other incidental earth work necessary and required for the satisfactory installation of new water mains, service connections, hydrant assemblies, valves, and appurtenant work in accordance with the Drawings and Specifications, and as directed by the Owner. The work also includes installing sheeting and bracing as necessary; providing approved crushed processed gravel from off-site sources when directed for backfills of excavation and refills of below-grade excavations, and for bedding for pipelines; excavation and disposal at approved locations of pavements, surplus and unsuitable materials; protection of existing pipelines, utilities and structures and of new work; compaction of trench bottom, backfills, refills and subgrades; restoration of sidewalks and grassed areas and lawns; the removal and replacement of walls, fences and other structures which may be removed to carry out the work; and all other appurtenant work as required or as directed by the Owner. Included in the work of this item shall be the furnishing and proper and safe placement of approved steel plates on all open trenches during non-working hours. Such steel plates shall be adequate for wheel loads anticipated.

1.2 The following definitions shall prevail:

- A. Earth excavation shall mean the excavation, removal, stockpiling and/or satisfactory disposal, of all materials within the limits set forth herein. Materials to be excavated shall include organic and inorganic silts, peat, clays, sand, gravel, pavement, cobbles and boulders less than one cubic yard in volume, soft or disintegrated rocks and all other obstructions.
- B. Materials unsuitable for use as backfill are defined as organic matter, silt, peat, or any combination thereof, and any other materials having unsuitable bearing and compaction properties, and all materials that are too loose or saturated to provide satisfactory bearing and compaction.
- C. All fill to be used for trench backfilling shall consist of sand or mineral soil and shall be free of clay, organic material, loam, wood, trash, snow, ice, frozen soil, or any objectionable material or any material which may not be compacted properly. All fill shall be crushed type (not washed), and angular in shape.
- D. 95 percent density of compaction, means that fill shall be compacted by an approved method to 95 percent of the material's maximum density at the material optimum saturation, as determined by ASTM Compaction Test, Designation D1557, Method D.

Excavated unsuitable material (and/or unsuitable material) shall mean material which does not meet the requirements for backfill, as given in BACKFILL MATERIAL in this Section. This material shall be removed from the site by the Contractor, and disposed of at an appropriate location designated by the Contractor. The Contractor shall be fully responsible for the proper disposal of all unsuitable materials. However, no material shall be removed from the site without the explicit approval of the LWC inspector.

- E. Excavated excess material (and/or excess material) shall mean material which meets the requirements for backfill, as given in BACKFILL MATERIAL in this Section, but is not used for backfilling the trench. This material shall be hauled by the Contractor to other job sites included in the Work of this Contract, and/or to the LWC pipe yard in Warren, as explicitly directed by the LWC inspector.

However, no material shall be removed from the site without the explicit approval of the LWC inspector.

1.3 Protection of trees, utilities and property

- A. Existing trees and shrubbery shall be protected from injury. Except as otherwise directed, cutting and trimming of existing trees will not be permitted. All existing trees which may be damaged by construction operations shall be protected and such protection shall be maintained until completion of the work.
- B. Excavations and backfill operations shall be done in such a manner to prevent cave-ins or the undermining, damage, or disturbing of existing utilities and structures and the new work.
- C. Backfill shall be placed and compacted in such a way to prevent future settlement or damage to existing utilities and structures and new work and pavements. Any excavation improperly backfilled or where settlement occurs shall be reopened to the depth required, then refilled with new materials and compacted and the surface restored to the required grade and condition.
- D. Backfilling and compaction around existing utilities shall be performed according to the requirements of the particular utility company, and this Specification. The Contractor shall be responsible for contacting all utility companies prior to any trench excavations, and shall protect and maintain all gas, water, and sewer lines and laterals encountered, and shall support the same during the course of his excavation and backfill.
- E. Where concrete sidewalk, driveway, or curb is partially damaged, it shall be removed in its entirety from joint to joint and the entire slab of section shall be replaced. The cost of such removal and replacement shall be included in the unit price bid under the Item for "Class A and B Concrete".

Bituminous sidewalks and driveways partially damaged, shall be repaired. Separate payment will be made for restoration of bituminous sidewalks and driveways at the unit price as listed in the Bid under the unit price for "TEMPORARY ASPHALT" AND "PERMANENT ASPHALT". All sidewalks, driveways, and curbs shall be removed and replaced where new services are installed as directed.

- F. Any damage due to excavation, backfilling, or settlement of the backfill, or injury to persons, or damage to property occurring as a result of such damage, shall be the responsibility of the Contractor. All costs to repair such damage, in a manner satisfactory to the Commission and/or the Controlling Agencies shall be borne by the Contractor, at no additional cost to the Commission.

1.4 BACKFILL MATERIAL

- A. CRUSHED PROCESSED GRAVEL - Crushed processed gravel for backfill and refills of below-grade excavations and subbase for pavement and sidewalks and to replace existing gravel roadways. All gravel shall consist of clean, hard and durable stone, well graded, and shall be free from clay, organic matter and other objectionable material. It shall, in general, be as specified by the "Standard Specifications for Road and Bridge Construction:" of the State of Rhode Island Department of Transportation, Article M.01.09, Crushed Gravel. No segregation of large or fine particles will be allowed, but the gravel as spread shall be well graded with no pockets of fine material. Crushed gravel shall conform to the following gradation limits:

U.S. Standard	Percent Passing
Sieve Size	By weight
2 ¼ "	100
2"	90 – 100
1 ½ "	30 – 55
1 ¼ "	0 – 25
1"	0 – 5

- B. RECLAIMED (RECYCLED) PROCESSED GRAVEL borrow may be produced by reclamation of selected materials as approved by LWC, which are suitably proportioned and processed to produce a mixture of granular particles meeting the gradation requirements specified herein. Suitable materials may include: natural granular soils, boulders, or rock; roadway subbase, base and asphalt or concrete pavement; and other concrete, stone, brick, or cinder block, recovered from existing foundations, buildings, or selected utilities. It shall, in general, be as specified by the "Standard Specifications for Road and Bridge Construction:" of the State of Rhode Island, Article M.01.09, Reclaimed and Process Granular Material".

Materials not allowed for reclamation shall include but are not limited to: rubber, plastic, glass, wood, reinforcing steel or other metallic materials; building materials which may be sources of lead or asbestos; components of septic, leaching bed, and sanitary sewer systems including soils, pipes, and structural concrete; soils or other materials contaminated by synthetic organic or inorganic compounds, metals or petroleum hydrocarbon products.

Processing shall crush or pulverize and break down asphalt concrete conglomerations such that only bituminous coatings remain on aggregates. All materials suitable for reuse shall be broken down such that the process mixture shall meet the following gradation limits:

U.S. Standard Sieve Size	Percent Passing By weight
3"	100
1 1/2 "	70 - 100
3/4"	50 - 85
No. 4	30 - 55
No. 50	8 - 25
No. 200	2 - 10

C. COMMON FILL shall consist of mineral soil, free of clay, organic material, loam, wood, trash, snow, ice, frozen soil, and any other objectionable material which cannot be compacted properly. Common fill shall not contain stones larger than 3-inch in any dimensions, broken concrete, masonry, rubble, asphalt pavement, or other similar material. It shall have physical properties, as approved by the LWC inspector, such that it can be readily spread and compacted.

D. 3/4-INCH STONE - Shall consist of sound, durable stone, free of any foreign material, angular in shape, free from chemical decay. The stone shall be maximum size of 1-inch and minimum size of 1/2-inch.

E SAND - Shall be coarse sand consisting of clean, hard, durable articles not frozen and conforming to the following gradation requirements:

<u>US Standard Sieve</u>	<u>Percent Passing</u>
3 "	60 - 100
1/2"	50 - 85
3/8"	45 - 80
No. 4	40 - 75
No. 40	0 - 45
No. 200	0 - 10

1.5 EXCAVATION:

A. Excavation shall extend to a practical minimum for the execution of the work, but not more than 60 inches. If an excavation is made deeper and/or wider than the

trench sizes established herein and shown in the Drawings, without the prior explicit and/or written approval by the Inspector, payment will only be made for the approved limits of width and depth for all the affected items of work, such as new backfill material, pavements, etc. Backfill, pavements, and all other affected items, for all unauthorized excavation, shall be provided by the Contractor in accordance with this Specification, as directed by the Inspector, at no cost to the Commission. In the event that excavations need to be made deeper than the maximum limits, due to obstructions or other reasons which would prevent the execution of the Work, the Contractor must obtain the explicit approval of the LWC resident inspector prior to progressing with the work. In the event that the excavation needs be wider than the maximum limits, the Contractor must obtain the written approval of the LWC resident inspector.

- B. All existing pipelines, utilities and structures shall be protected by the Contractor. The Contractor shall provide for the flow of sewers, drains and water courses interrupted during construction. The entire procedure of maintaining existing flow shall be fully discussed with the Commission's Inspector well in advance of the interruption of any flow.

Excavation operations adjacent to and below existing structures and utilities shall be done manually and in a manner to prevent disturbance of or damage to the existing structures and utilities. Butt bracing of utility poles shall be utilized where necessary to safeguard the poles.

- C. All material and equipment shall be kept a safe distance back from the edge of excavation to avoid overloading of the sides of excavation and prevent slides or cave-ins.
- D. Excavations shall be kept dry at all times, and all construction work shall be performed in the dry, unless otherwise authorized by the Commission. Accumulated water shall be removed by pumping or other approved methods, and the pipeline shall not be used for trench draining. The work shall be protected from flooding at all times.
- E. Any material which becomes unsuitable as a result of the Contractor's lack of dewatering or improper dewatering shall be removed by the Contractor and replaced with dry and approved backfill material, at no additional cost to the Commission.
- F. The removal of existing bituminous concrete pavements shall be done in such a way to result in clean and generally straight edges. Excavations shall be accurately graded to allow satisfactory construction of the systems. All excavation shall be refilled as set forth herein with compacted and approved materials.

Existing pavements and base courses shall be carefully saw cut and removed to obtain sound, vertical edges to the lines indicated. Existing pavements and base

courses beyond the indicated lines which are to remain and which have been disturbed or damaged shall be restored or replaced by the Contractor to match existing pavements and base courses, at no additional expense to the Owner.

- G. The Contractor shall perform manual excavation adjacent to and below existing structures and utilities to prevent disturbance or damage to the existing structures and utilities. He shall provide temporary support to existing subsurface utilities as approved by the respective utility companies and all other facilities, adjacent to or crossing through excavation. He shall take all necessary measures to prevent lateral movement or settlement of the existing structures or work in progress.
- H. Pipe bell holes and depressions for joints shall be dug after the trench bottom has been graded and compacted and after gravel bedding has been placed and compacted. The bottom quadrant of each pipe barrel shall have complete and uniform bearing for the full length of each pipe. The trench bottom shall again be thoroughly compacted just prior to final shaping for bedding and installation of pipe. The Contractor shall exercise care in all placing and compacting operations so as to prevent disturbing joints and displacement or damage to the pipe.
- I. The Contractor shall provide sheeting and shoring in all locations where required to maintain the trench in a safe condition and to meet all safety regulations. The safety of the trench is the responsibility of the Contractor, and he shall be responsible for the amount of shoring and bracing needed. An approved type of trenching box may be used if in the opinion of the Contractor sufficient stability will be obtained.

The Commission may order additional trench support. No excessive trench widths will be allowed to avoid the use of sheeting or trenching box.

1.6 BACKFILLING

- A. Unless directed otherwise by the Owner, excavations shall not be backfilled until being inspected by the Engineer and until the work as installed conforms to all requirements specified in these Sections. Each layer of backfill material shall be moistened and compacted in such manner as to permit the proper and desired compaction of the backfill, so that paving of excavated areas can proceed immediately after backfilling is completed.

Minimum pipe cover shall be 4 feet to finished grade.

- B. Pipe bedding material shall consist of sand, as defined in section 1.4, placed and compacted under and around the pipe to the horizontal and vertical dimensions indicated on the Plans. The Contractor shall shape the surface of bedding material along the bottom of the trench to fit the bell of pipes to a depth equal to the thickness of the pipe or bell, as directed by the Engineer.

If approved by the LWC, pipe bedding material may be from suitable trench or roadway excavation material, provided it meets the minimum requirements as described above.

Pipe bedding of 12" minimum final thickness shall be thoroughly compacted to 95 percent density and shall be installed in such a way to provide continuous support of the pipe. With the approval of the Commission's Inspector, crushed stone not larger than 1 inch may be used where ground water is persistent and the trench cannot be properly dewatered; the crushed stone must be thoroughly compacted. With the approval of the Engineer, use of approved excavated material may be allowed as pipe bedding.

Bedding shall be placed in layers not exceeding 6 inches in depth. Each layer shall be compacted with an approved plate-type vibratory compactor to 95 percent density.

Under the pipe, bedding shall be graded, compacted and shaped so that the full length of pipe has complete and uniform bearing. Bell holes and depressions for joints shall be dug after the bedding has been graded and compacted, and shall be the proper clearance for jointing of pipes.

Bedding shall be deposited uniformly on both sides of the pipe and shall be compacted by tamping under and on each side of the pipe, to provide uniform support, free of voids. (Dumping backfill material into the trench and then spreading it will not be permitted until bedding has been placed).

Following inspection and approval of pipe installation by the LWC Inspector, additional bedding material shall be carefully hand placed by the sides of the pipe and properly compacted, in six (6) inch lifts to a height equal to one-foot above the crown of the pipe.

The Contractor shall exercise care in all operations to prevent disturbing joints, displacement of or damage to the pipes already installed.

- C. The remaining excavation shall be backfilled as soon as practicable with approved excavated material. If suitable material as approved by the Owner is not available from the excavations in the quantities required for proper backfilling of excavations, the Contractor shall provide the necessary approved processed gravel for backfilling.
- D. All backfill in trenches shall be compactable materials as approved by the Owner, not frozen and without any stones larger than four inches in their greatest dimension. It shall be spread in layers not exceeding twelve (12) inches in loose depth and each layer shall be compacted by at least four passes of an approved

plate-type vibratory compactor to 95 percent density. All trench backfilling shall be carefully placed to avoid disturbance of new work and of existing utilities or structures. The moisture content of backfill shall be such that proper compaction will be obtained. Puddling of backfill with water will not be permitted.

- E. During filling and backfilling operations, pipelines will be checked by the Owner to determine whether any displacement of the pipe has occurred. If the inspection of the pipelines shows poor alignment, displaced pipe or any other defects, the defects designated by the Owner shall be remedied in a satisfactory manner by the Contractor at no additional expense to the Owner.

After backfilling trenches, the Contractor shall maintain the filled surfaces in good condition, with a smooth surface level with adjacent undisturbed surfaces. Any subsequent settling shall be immediately repaired by the Contractor in a manner satisfactory to the Owner and such maintenance shall be provided by the Contractor for the remainder of this contract, at no additional expense to the Owner.

The finished surfaces of filled excavations shall be compacted, and reasonably smooth and free from surface irregularities. Sub grade upon which either topsoil or pavements is to be placed shall be maintained in a satisfactory condition until the finish courses are placed. The storage or stockpiling of materials on finished sub grade will not be permitted.

- F. Backfilling against masonry or concrete shall only be done when approved. Symmetrical backfill loading adjacent to structures shall be maintained. During backfilling and compacting operations, care shall be exercised so that equipment used will not overload the structures. Backfill adjacent to structures shall be placed in layers not more than six (6) inches in loose depth and each layer thoroughly compacted with at least 4 passes of an approved plate-type vibratory compactor.
- G. Road subbase of 1 foot final thickness shall be processed gravel placed in two 6-inch layers and compacted to 95 percent density. Prior to paving upon the sub grade, all soft or unsuitable material shall be removed and replaced with suitable material from excavation or processed gravel, as approved by the Owner. All low sections, holes or depressions shall be brought to the required grade with material approved by the Owner. The entire sub grade shall be shaped to line, grade and cross section and thoroughly compacted.
- H. When the trench is in gravel roads (unpaved streets), the trench shall be backfilled as specified above except that the top 12-inch layer of fill shall consist of processed (or screened) gravel laid in 6-inch layers and compacted to 95 percent density. The Contractor shall place sufficient material to ensure that the compacted fill will be at existing grade.

- I. When the trench is not in streets, but in unpaved shoulders and/or in cross-country areas, the excavated material shall be used for backfilling unless otherwise explicitly required by the LWC resident inspector. The Contractor shall thoroughly consolidate the backfill and shall maintain the surface as the work progresses. If settlement occurs, he shall immediately deposit additional fill to restore the level of the ground. The Contractor shall loam and seed.
- J. The surface of any driveway or any other area which is disturbed shall be restored by the Contractor to a condition at least equal to that existing before work began, at no additional cost to the Commission.
- K. Curbing, fencing, driveways, walls, walks, bushes, trees, shrubbery and other physical features in the vicinity of the Contractor's operations shall be adequately protected, and if necessary, removed and restored to at least original conditions after backfilling. All existing physical features which are damaged during construction shall be replaced by the Contractor with material fully equal or better than existed prior to construction, at no additional cost to the Commission.

1.7 CLEANUP

- A. As the work progresses, and at the end of each work day, the Contractor shall remove and dispose all excess materials from excavation operations, trim-up all earth piles along trenches, dispose of all refuse, rubbish, scrap materials, and debris caused by his operations, and render the site of the work in a neat, unobstructed, unobtrusive, orderly and workmanlike appearance, at all times and to every extent possible.
- B. In case the Contractor shall fail or neglect to remove all such excess materials, debris, rubbish, etc. when ordered, the Owner may, after 24 hours notice to the Contractor, cause the cleanup work to be done by others, and the cost thereof shall be deducted from any monies then or thereafter due the Contractor.
- C. The Contractor is advised that all disposal of excess materials and debris shall be in an approved manner consistent with proper disposal practices and procedures.

1.8 EXCAVATION EQUIPMENT

- A. No track type equipment shall be allowed on the job unless expressly permitted by the Owner. Rubber shoes are required on the stabilizers on all excavation equipment. All damage to existing pavement or sidewalk outside the limits of excavation as defined, shall be replaced by the Contractor to the satisfaction of the Owner, at no additional cost to the Owner.

1.9 MEASUREMENT

- A. The volume of "EARTH EXCAVATION AND BACKFILL" for new water mains, valves, hydrants, service connections, and all other items requiring excavation and backfill shall not be measured separately for payment.
- B. Measurement NEW TRENCH REFILL MATERIAL

PROCESSED OR RECLAIMED PROCESSED GRAVEL (BID ITEM 16a)
COMMON FILL (BID ITEM 16b)
¾" CRUSHED STONE (BID ITEM 16c)
SAND (BID ITEM 16d)

New trench refill materials shall be provided with the approval of the Engineer when the excavated material is not suitable for backfilling. The material will be measured in cubic yards (CY) at actual in-place compacted dimensions as determined by the Engineer, but not exceeding the maximum width and depth. The maximum widths for measurement of new trench refill material is 60 inches.

The maximum depths are as follows:

Processed and Reclaimed Gravel	12-inch
Pipe Bedding and Sand	32-inch

No allowance will be made for loss from consolidation of material. Truck measurements will not be permitted.

"PROCESSED GRAVEL", "RECLAIMED PROCESSED GRAVEL" "COMMON FILL", "¾ CRUSHED STONE" and "SAND" for pipe bedding and subbase for pavements, sidewalks and driveways, and as backfill and refill of below-grade excavations, as directed, will be measured separately for payment as the actual volume in cubic yards (C. Y.) measured in place, compacted to the lines, grade and limits shown on the Drawing.

1.10 PAYMENT

- A. No separate payment will be made for work required under this Section of the Specifications for earth excavation, backfill, shoring, steel plating and all necessary related work. Compensation for such work shall be considered to be included in the prices bid for other items of the proposal.
- B. Payment for new trench refill ("PROCESSED GRAVEL", "RECLAIMED PROCESSED GRAVEL" "COMMON FILL", "SAND" and "¾" CRUSHED STONE") will be made for the quantity determined above at the respective unit prices bid in the Bid Form. Price and payment shall be full compensation for furnishing, hauling, placing, compacting and all else incidental thereto for which separate payment is not provided under other items of the Bid Form

- C. No separate payment will be made for sheeting and bracing, except that sheeting ordered by the Owner to be left-in-place will be measured and paid for as specified in Section "EXCAVATION SUPPORT SYSTEMS".

SECTION 02310 ROCK REMOVAL

1.1 WORK INCLUDED

- A. The Contractor is forewarned that Rock Excavation has been included in the Scope of Work for this Contract as a "Provisional Item", and it is the Owner's intent to minimize rock excavation whenever practicable. Should rock and/or ledge be encountered during the earth trench excavations, the Contractor shall notify the Owner immediately. The Contractor shall perform such additional excavations, as may be required by the Owner, to determine the limits and/or depths of the rock and/or ledge intruding into the limits of the excavations. If applicable, the Contractor shall modify the proposed locations of the installation(s) as directed by the Owner to minimize and/or avoid the rock excavation. Items of work incurred to minimize and/or avoid the excavation of rock and/or ledge, shall be measured as provided for in the applicable sections of the Specifications, and payment which will be made at the unit bid price for the respective items listed in the Bid, shall constitute full compensation for all work required therewith.

- B. The work covered under this section of the Specifications consists of furnishing all labor, equipment and materials, and performing all operations in connection with rock excavation and subsequent earth refill within the payment lines for excavation, as indicated on the Drawings, and all incidental work in accordance with the Drawings and Specifications and as directed. For excavation and disposal of rock as defined below, the Contractor shall receive, in addition to the unit price bid for Earth Trench Excavation and Backfill, the unit price bid for Rock Removal and Refill. The work shall also include providing and compacting crushed processed gravel for refilling depressions resulting from removal of boulders; the satisfactory removal and disposal of the excavated rock materials; and the protection of existing utilities, structures and appurtenant facilities and the contract work.

- C. When rock is encountered, the material shall be uncovered and the Commission's Inspector notified at once. The Commission's Inspector will take cross sections of the rock surface. If the Contractor fails to uncover the ledge and/or notify the Inspector to allow ample time for cross-sectioning the undisturbed material, the Contractor shall have no right-of-claim to any classifications other than that allowed by the Commission.

- D. Boulders of 1.0 cubic yard in volume, or greater, when encountered in earth or trench excavation will be measured for payment.

- E. Rock excavation shall include the excavation, removal and disposal of all boulders and detached rock fragments one cubic yard or more in volume and all ledge rock, the removal of which, in the opinion of the Commission, can be accomplished only by systematic drilling and splitting hydraulically,

mechanically, ram hammering or by hand, ramming or by blasting. All soft or disintegrated rock which can be removed without the means noted above, shall be classified as "Earth Excavation".

- F. In completing the work under this Section, the Contractor shall comply with all applicable regulations governing the work of rock excavation by blasting or other means, he shall obtain all required permits, pay all fees and give all notices required. Costs associated with rock excavation and removal shall be included in the unit price bid for Rock Excavation and Disposal, and in no case shall be charged to the Commission as a separate cost.

1.2 EXECUTION

- A. When boulders are exposed on the sides of or in the bottom of excavations, they shall be wholly or partially removed as specified by the Engineer. Boulders shall be removed to the approved trench width and depth, and to not less than twelve (12) inches below the underside of pipes. Depressions resulting from the removal of boulders shall be refilled with approved compacted material.
- B. Rock occurring within the lines specified for excavation for pipelines shall be excavated to the approved trench width and depth. Unauthorized excavation in rock, or excavations made beyond the approved limits, shall be refilled with approved compacted material, at no additional cost to the Commission.
- C. Whenever rock is encountered, it shall be stripped of the overlying material in sections as directed by the Engineer.
- D. Rock shall be excavated not less than thirty (30) feet in advance of pipeline installation, unless otherwise directed by the Engineer.
- E. Blasting operations, where permitted, shall be conducted by qualified persons licensed in the State of Rhode Island and in full compliance with all laws, regulations, local ordinances and with all possible care to avoid injury to person or property. See section 57.5 of the General Conditions. The rock shall be well covered and sufficient warning shall be given to all persons in the vicinity of the work before blasting. Care shall be taken to avoid injury to utilities or other structures above and below ground. Authorized representative of all utilities which might be affected by blasting operations shall be notified at least 48 hours before any blasting is performed.

No blasting will be allowed prior to 8:00 a.m. or after 4:00 p.m. In addition to observing all laws, regulations and ordinances, relating to transporting, storage and handling of explosives, the Contractor shall conform to any further regulations which the Commission may deem necessary. The Contractor shall be held liable for all and any injury to persons and all and any damage to property caused by blasting and/or the transportation, storage and handling of explosives.

- F. Rock encountered within areas where blasting is not permitted shall be removed by drilling and splitting mechanically or by hand, or by any other approved method not requiring the use of explosives. No separate payment will be made for such methods, and all associated costs shall be included in the Contract unit price bid for rock excavation.
- G. The excavated rock shall be disposed of off-site by the Contractor unless written permission is granted by the Commission to dispose of same at a particular location on site.

1.3 MEASUREMENT

EXCAVATION AND REMOVAL OF ROCK OR BOULDERS 1 CY OR LARGER (BID ITEM 15)

- A. When rock is encountered, and its presence impedes progress of the work, the materials shall be uncovered and the Engineer notified. The Engineer will take cross sections of the rock surface. If the Contractor fails to uncover the rock and to notify the Engineer to allow ample time for cross-sectioning the undisturbed material, the Contractor shall have no right-of-claim to any classification other than that allowed by the Engineer.
- B. Boulders of more than one cubic yard in volume when encountered in earth or trench excavation will be measured for payment as rock.
- C. Measurement of rock excavation will extend to a maximum of 12-in below the specified bottom of pipe. Maximum trench width measured for payment will be 5.0 ft. Rock excavation and disposal will be measured IN Cubic Yards (CY) in its original position prior to excavation. The Contractor will be paid for the actual quantity of rock removed, as directed by the Engineer. Measurement will not include unauthorized excavation. Boulders which are one cubic yard or more in volume will be measured individually and the volume computed on the average dimensions in three representative directions.

1.4 PAYMENT

EXCAVATION AND REMOVAL OF ROCK OR BOULDERS 1 CY OR LARGER

Payment for rock and boulder excavation and disposal will be made for the quantities as above determined, measured in cubic yards, at the unit price bid in the Bid Form, which price and payment will be full compensation for excavation, blasting and disposal of rock, refilling depressions, and all work incidental thereto, for which payment is not provided under other items of the Bid Form.

SECTION 02320 EXCAVATION SUPPORT SYSTEMS

1.1 Scope of Work

- A. The work covered under this section of the Specifications consist of furnishing all labor, equipment and materials, and performing all operations in connection with providing, installing, maintaining, and removing all temporary and permanent timber sheeting and bracing necessary to permit the proper installation and construction of the work; to prevent injury to persons or damage to pavements, utilities or structures; to prevent injurious caving or erosion, or loss of ground; to maintain at all times pedestrian and vehicular traffic on public or private streets; or where shown on the Drawings, necessary for unforeseen reasons, or directed by the Owner, all in accordance with the specifications and the Drawings and as directed.
- B. The Contractor shall furnish, put in place and maintain sheeting and bracing needed to support the sides of the excavation and prevent loss of ground, which could damage or delay the work or endanger persons and/or adjacent structures. If the Commission's Inspector is of the opinion that at any point sufficient or proper support have not been provided, he may order the Contractor to install additional supports. Compliance with such order shall not relieve the Contractor from his responsibility for the sufficiency of such supports. The Contractor is the sole responsible for the safety of all aspect of construction. Care shall be taken to prevent voids outside of the sheeting, but if voids are formed, they shall be immediately filled.
- C. Sheeting and bracing shall be of sufficient strength to safely sustain all loads from the sides of the excavations together with all water pressure and surcharge. The Contractor shall be exclusively responsible for the adequacy of sheeting and bracing used, and shall take all precautions necessary to prevent movement of material along the sides of Excavations. It is expressly understood and agreed that whenever sheeting and bracing is used, it shall not relieve the Contractor of the sole responsibility of any damages or injury due to installation or failure of the sheeting or bracing or the settling of the backfill, the pipeline or the adjacent ground. Such sheeting, and bracing shall be done in accordance with Associated General Contractors of America "Manual of Accident Prevention in Construction" and as required by the United States, Department of Labor, Occupational Safety and Health Administration.

1.2 MATERIALS

A. Timber Sheeting and Bracing:

Timber sheeting and bracing may be of any species of wood which will satisfactorily withstand all driving and construction stresses and the loads to which the members will be subjected. Sheeting shall not be less than three inches

nominal thickness. All timber sheeting and bracing shall be free from wormholes, windshakes, loose knots, decayed or unsound portions or other defects which might impair its strength or tightness.

C. Miscellaneous Hardware and Fastenings:

Provide all miscellaneous hardware and fastenings necessary in connection with the satisfactory installation of all sheeting and bracing.

1.3 EXECUTION

- A. All trench excavations over 5'-0" or greater in depth shall be performed in vertically sheeted or shored trenches. The Contractor may elect to employ a steel trenching box in lieu of the use of sheeting. The use of a trenching box and the conditions and locations where the same shall be allowed, will be subject to the determination and approval of the Owner. No shoring or steel trenching box shall be used in areas underlain by unsuitable soils. Sheeting driven below mid-diameter of any pipe shall remain in place from the driven elevation to at least one (1) foot above the crown of the pipe.
- B. Where the Contractor elects to use sheeting, or where sheeting is ordered by the Owner, it shall be installed as the excavation progresses, to maintain or otherwise protect the sides of the excavation from cave-ins or loss of ground. No separate payment will be made for sheeting, unless ordered by the Owner to be left in place, in which case payment will be as specified under Bid Item 17. Sheeting shall be adequately braced to prevent cave-ins or loss of ground, and portions of the sheeting or bracing shall be left in place as directed by the Owner to maintain stability as backfilling progresses. The Contractor may use steel sheeting in lieu of wood sheeting whenever this use is necessary.
- C. When movable trench bracing, such as trench boxes, moveable sheeting, shoring or plates are used to support the sides of the trench, care shall be taken in placing and moving the boxes or supporting bracing to prevent movement of the pipe, or disturbance of the pipe bedding and backfill.
- D. No excessive trench widths will be allowed to avoid the use of sheeting. The trench width at and below a level one foot above the top of the pipe shall not exceed the payment limit indicated on the drawings for the size pipe being installed, unless otherwise permitted by the Owner.
- E. Where existing subsurface utilities or other facilities adjacent to or crossing through the excavation require temporary support or protection, such temporary support or protection shall be satisfactorily provided by the Contractor, at no additional expense to the Owner. All necessary measures shall be taken by the Contractor to prevent lateral movement or settlement of existing facilities or of work in progress.

- F. Grading shall be done as necessary to prevent surface water from flowing into excavations and any water accumulating therein shall be removed by pumping or other approved method as specified under Section "DEWATERING CONTROL AND DIVERSION OF WATER". The pipelines shall not, at any time, be used for trench drainage.
- G. Where access pits for pipeline work are located in roadways, the contractor shall furnish, place and maintain approved steel plates during non-working hours. The steel plates shall overlap the trench opening by a minimum of 12 inches all around and shall be sized adequately to support anticipated wheel loads. The steel plates shall be secured to road surface to prevent movement under traffic loads.

1.4 INSTALLATION AND REMOVAL

A. Installation:

Where timber sheeting is used, it shall be driven ahead of all excavation operations. Sheeting shall be driven to sufficient depths below the lowest excavation level to maintain sufficient restraint of the adjacent soil and to prevent movement of the sheeting. If voids occur behind the sheeting, they shall be filled immediately with selected material to the satisfaction of the Owner.

B. Removal of Timber Sheeting:

Withdrawal of sheeting shall be carefully performed to prevent movement of material along the sides of the backfilled excavations; to prevent damage to utilities, structures or the work and to avoid injury to persons. Unless otherwise permitted, sheeting shall be withdrawn in lifts of not more than four feet, and all voids shall be filled immediately with selected materials and thoroughly compacted.

Where directed by the Owner, timber sheeting ordered left in place shall, after the excavations have been satisfactorily backfilled and compacted to within six inches of the cutoff grade, be cut-off and the remainder permanently left in place as follows:

1. In paved areas, two feet below existing ground surface.
2. At all other locations, at a level two feet above the top of pipe.

1.5 MEASUREMENT PERMANENT TIMBER SHEETING (BID ITEM 17)

- A. Timber sheeting will not be measured separately for payment, except where ordered to be left in place by the Owner, in which case measurement for payment will be as follows:

Where permanent timber sheeting is ordered by the Owner to be left in place, measurement for payment will be the surface area in square feet (S.F.) of permanent timber sheeting so ordered to be left in place. Measurement of the surface area will be the product of the horizontal length of timber sheeting along each side of the trench times the applicable height of timber sheeting below the specified cutoff level. No allowance will be made for the quantity of timber wasted in cutting of sheeting within the specified cut-off limits, nor for timber wasted in cutting and fitting sheeting.

B. PAYMENT

No separate payment will be made for timber sheeting used, unless ordered by the Owner to be left-in-place as provided above, but the cost thereof shall be deemed to be included in the unit prices bid for the applicable items of work for which timber sheeting is used. Payment for "PERMANENT TIMBER SHEETING", measured as provided above, will be made at the unit price as listed in the Bid.

SECTION 02330 DEWATERING, CONTROL AND DIVERSION OF WATER

1.1 WORK INCLUDED

- A. The work covered under this Section includes furnishing all labor, equipment and materials, and performing all operations in connection with the dewatering, control and diversion of water, and all other operations necessary to maintain in a dry condition all excavations and work areas of this Contract.

1.2 MATERIALS

- A. The Contractor shall be responsible for providing, maintaining, operating and removing all dewatering and other facilities, including all pumping and appurtenant equipment, required to maintain in a dry condition the areas in which construction is to be conducted.

1.3 EXECUTION

- A. Excavation for work required under this Contract may be to some extent below existing ground water levels. The Contractor shall provide, operate and maintain all pumps, drains, or any facility necessary for the control, collection and disposal of all surface and subsurface water encountered in the performance of the Contract work. All excavations shall be kept dry at all times, and all construction work shall be performed in the dry, unless otherwise authorized by the Commission.
- B. Any damage to existing facilities or new work resulting from the failure of the Contractor to maintain the work areas in a dry condition shall be repaired by the Contractor, as directed by the Commission at no additional expense to the Commission. Pumping shall be as necessary to protect the work and to maintain satisfactory progress.
- C. The Contractor's pumping and dewatering operations shall be carried out in such a manner that no loss of ground will occur. All pipelines or structures not stable against uplift during construction or prior to completion shall be thoroughly braced or otherwise protected against movement or damage.
- D. Water being disposed of by pumping and dewatering operations shall be disposed of in such a manner to avoid injury to persons and public or private property, or to the work in progress. Dewatering shall be accomplished by approved methods which have a successful record of dewatering similar excavations with subsurface conditions similar to those encountered in the work.
- E. The Contractor shall be responsible for providing and maintaining all ditching, grading, sheeting and bracing, pumping and appurtenant work for the temporary

diversion of water courses and for protection from flooding as necessary to permit the construction of work in the dry. The Contractor shall be responsible during the course of his work for providing all erosion protection and siltation prevention facilities, and to carry out his operation by methods acceptable to the applicable local, State or Federal agencies. See Section 02200, PROVISIONS FOR CONTROL OF EROSION.

- F. Water shall not be permitted to flow into or through excavations in which work is underway or has been partially completed. The Contractor shall not restrict or close off the natural flow of water in such a way that ponding or flooding will occur, and shall at all times prevent flooding of public and private property. Costs associated with repairing any and all damage resulting from flooding or restriction of flows shall be the sole responsibility of the Contractor, at no additional expense to the Commission.

1.4 MEASUREMENT

- A. The work and materials required for dewatering the work areas, as described by this Section of the Specifications will not be measured separately for payment.

1.5 PAYMENT

- A. No separate payment will be made for work required under this Section of the Specifications for "Dewatering, Control and Diversion of Water" and necessary related work. Compensation for such work shall be considered to be included in the prices bid for other items of the proposal.

SECTION 02360 EXTRA DEPTH

1.1 WORK INCLUDED

- A. In the event that the excavation need be made deeper than the approved normal as shown in the Drawings and specified in this Specification, due to obstructions and/or other reasons which would prevent the execution of the work, the Contractor must obtain the explicit approval of the LWC inspector prior to progressing with the work.

EXTRA DEPTH shall be further defined as approved excavation greater than 7.5' in depth.

- B. Backfilling and compaction shall be performed in accordance with Section 02300, EARTH EXCAVATION AND BACKFILLING.

1.2 BACKFILL MATERIALS

- A. All backfill materials used for work under this Section shall be in accordance with Section 02300.

1.3 EXECUTION (See Section 02300.)

- A. Provide sheeting, shoring or trenching box, as needed.
- B. No excessive trench widths will be allowed. The trench width shall not exceed 60". If an excavation is made wider than the approved limits, unless authorized in writing by the LWC inspector there will be no payment made for such unauthorized excavation, and all other affected work. All labor, all materials (including new fill), and all affected items of the work, and all incidentals thereto, for all unauthorized excavations shall be made by the Contractor in accordance with this Specification, and none will be measured for payment.

1.4 MEASUREMENT EXTRA DEPTH (BID ITEM 14)

- A. Measurement of excavation deeper than 7.5', as specified AND APPROVED by the Engineer, shall be made per foot of depth per linear foot of trench. Measurement will be taken along the horizontal centerline of the trench.
- B. If the trench bottom is below normal grade through error of the Contractor or if improper drainage softens the subsoil and additional excavation is required, such removal and replacement of material shall not be measured for payment.

1.5 PAYMENT

- A. Payment for the new trench refill will be made for the quantity determined above

at the respective unit prices in the Bid Form. Price and payment shall be full compensation for furnishing, hauling, placing and all else incidental thereto for which separate payment is not provided under other items of the Bid Form.

SECTION 02500 PAVEMENT RESTORATION

1.1 WORK INCLUDED

- A. The work covered under this Section includes the furnishing of all labor, equipment and materials required in connection with providing temporary and permanent bituminous pavement in paved roadway and/or sidewalk areas specified and marked by the Engineer.
- B. Except as otherwise specified and/or required by the LWC and/or the local controlling agencies, the current Standard Specification for Road and Bridge Construction, Latest Edition, including all Addenda, issued by the State of Rhode Island, Department of Transportation, (Standard Specifications) shall apply to materials and workmanship. It is the responsibility of the Contractor to perform all work in accordance with RIDOT or municipal permit requirements.

If there are any conflicts between the Contract Documents and the RIDOT Specifications, the RIDOT Specifications shall prevail.

Any work in State roadways requiring a permit from the RIDOT must comply with all requirements of the specific RIDOT Roadway Permit issued for that location. The Contractor shall be responsible for obtaining any and all Local and/or State Roadway permits.

1.2 MATERIAL

- A. Temporary pavement shall be hot mix, Class I, bituminous concrete, Type I-1. Cold mixed bituminous concrete meeting Standard Specifications, may be used when approved by the Commission's Inspector.
 - 1. Processed (or screened) Gravel shall conform to Article M.02.09, Column II, of the Standard Specifications.
 - 2. Plant mix bituminous concrete pavement shall conform to Section M.03.01 of the Standard Specifications. The surface course shall be Class I-1 in roadways and Class I-2 in sidewalks.
 - 3. Asphalt cement shall conform to Section M.03.02.1 of the Standard Specifications.
 - 4. Aggregate for Plant Mix Bituminous Base shall conform to Section M.03.02.3 of the Standard Specifications.

Aggregate for Flexible Pavements shall conform to Section M.03.02.2 of the Standard Specifications.

Aggregate for Filler shall conform to Section M.03.02.4 of the Standard Specifications.

- C. Tack coat shall be SS-1, SS-1h, CSS-1, or CSS-1h conforming to Section 403 of the Standard Specifications with an application rate of 0.05 gallons per square yard.
- D. Portland cement concrete for roadway base shall conform to Sections 304.02 thru 304.03.4, 601.02.1, 601.03.1 thru 601.03.5 of the Standard Specifications

Non-Bituminous Concrete (for sidewalks) shall be as specified in Section 03000, Miscellaneous Concrete Work.

1.3 EXECUTION – TEMPORARY PAVEMENT

- A. Temporary trench pavement shall be placed as soon as possible and in no case more than one week after backfilling is complete. The sub-base shall be compacted to 95 percent, and surface adjacent to the trench area shall be broomed and hose cleaned, but no paving shall be installed until the subsurface is dry. The temporary pavement shall be 2 inches thick and maintained in a condition suitable for traffic for at least 90 days, or until replaced with the permanent pavement. Defects shall be repaired within 24 hours of notification.

The Contractor shall exercise special care in making the joints with existing pavement and in obtaining a surface conforming to the contour and grade of the adjacent pavement.

1.4 EXECUTION – PERMANENT PAVEMENT

- A. Unless otherwise directed by the LWC Inspector, permanent pavement shall be placed not sooner than 90 days from the completion of the temporary pavement.
- B. All pavement thicknesses referred to herein are compacted thickness. The Contractor shall place sufficient material to ensure that the specified thickness of pavement results. Pavement lifts, after compaction, shall not exceed 3-inch in thickness, and shall not be less than 1-1/2-inch in thickness. After the paving mixture has been properly spread, initial compaction shall be obtained by the use of power rollers weighing not less than 240 pounds per inch width of tread. Final compaction shall be accomplished by rollers weighing not less than 285 pounds per inch width of tread. Along curbs, structures, and all places not accessible with a roller, the mixture shall be compacted with tampers weighing not less than 25 pounds and with a tamping face of not more than 50 square inches. The surface of the mixture after compaction shall be smooth and true to the established line and grade. No vehicular traffic or loads shall be permitted on the newly completed pavement until adequate stability has been attained and the material has cooled sufficiently to prevent distortion or loss of fines. If the climate or other conditions warrant it, the period of time before opening to traffic shall be extended.

Thickness of permanent pavement on local roads shall be at the direction of the local Commission, but not less than 4" total compacted thickness.

The Contractor shall exercise special care in making the joints with existing pavement and in obtaining a surface conforming to the contour and grade of the adjacent pavement.

- C. When the air temperature falls below 50 degrees F., extra precautions shall be taken in drying the aggregates, controlling the temperature of the materials and placing and compacting the mixtures. No mixture shall be placed when the air temperature is below 40 degrees F., or when the material on which the mixtures are to be placed contain frost or has a surface temperature below 40 degrees F.
- D. Temporary pavement and sub-base shall be removed to the required depths below the top of the existing pavement. When explicitly authorized by the Inspector, the existing pavement shall be saw-cut approximately 1 foot behind each edge of the temporary trench pavement. The cuts shall be straight and continuous along the full length disrupted by the work. All loose edges shall be trimmed and all edges shall be broomed and tack coated with emulsified or cut back asphalt. Saw-cutting shall be performed as and when authorized by the Engineer. Additional and/or unauthorized saw cuts will not be measured for payment.
- E. Unless otherwise directed by the Commission's Inspector, all roads must be final paved to the requirements of the Rhode Island Department of Transportation or municipal road opening permit.
- F. Up to and including seven-inch thick pavements shall be placed in two courses: ½ total thickness of binder coarse and remaining thickness of top course. Both shall be compacted with steel-wheeled roller. All edges of existing pavement and binder course shall be broomed and tack coated. Top course shall be smooth finished and flush with surface of existing pavement. (RIDOT or local Commission concurrence must be obtained by Contractor prior to paving).
- G. Eight-inch thick and all thicker pavement shall be placed with 6-inch binder course in two 3-inch lifts, first lift-base course mix, second lift-binder course mix, and each lift shall be compacted by steel-wheeled roller. Existing pavement and binder course shall be primed in accordance with RIDOT. Specifications and a 2-inch (or greater) top course shall be placed and compacted. Grade shall be flush and true with existing pavement. (RIDOT concurrence must be obtained by Contractor prior to paving).
- H. In trenches where (non-bituminous) concrete sub-base has been removed, temporary pavement and concrete sub-base shall be replaced with hot bituminous concrete comprised of a base course equal in thickness to the existing concrete sub-base (4 inch to 8 inch) and 2-inch overlay. The base course shall be applied in lifts not exceeding 3-inch final thickness. All lifts must be compacted. (RIDOT concurrence must be obtained by Contractor prior to paving. Non-bituminous Portland Cement concrete sub-base may be required by RIDOT).

Roads that have existing (rigid) concrete base shall be replaced in matching thickness as designated by the Engineer, local Commission or the RIDOT and shall be replaced with concrete road base in accordance with the Standard Specification and all permit requirements.

- I. All final pavements shall be maintained by the Contractor for a period of at least one year from completion, except that RIDOT and/or the local permitting agencies may require a longer maintenance period, and the Contractor, in this case, shall conform to that requirement. During this period, all areas which have settled, or are unsatisfactory to the requirements of this Specification and/or the requirements of agencies with jurisdiction (local public bodies and/or RIDOT), shall be repaired by the Contractor at his expenses. Repairs include, but are not limited to, pavement replacement, leveling, re-striping, curb-to-curb repaving, and all appurtenant and incidental work thereto, and all equipment and materials necessary to make such repairs, all to be furnished by the Contractor at his expenses, in accordance with the requirements of the agency with jurisdiction, and/or the LWC.

J. BITUMINOUS SURFACE COURSE OVERLAY 1 ½”

Curb to curb overlay, when required will be 1 ½” thick pavement. This will include raising any existing manholes, culverts, and valve boxes in roadway. This work shall consist of placing a friction course on prepared, sound, dense surfaces of bituminous concrete at the locations and to the thicknesses indicated on the Plans or as directed by the Engineer, all in accordance with these specifications and as described in section 402 of the "Standard Specifications for Road and Bridge Construction" Department of Transportation, Division of Public Works, State of Rhode Island, latest revision.

Bituminous Surface Course Overlay shall be performed in the following general manner:

1. In the event that the RIDOT requires or the Engineer determines that prior to placing a Bituminous Surface Course Overlay, the surface condition requires the removal of bituminous material using cold planing or grinding methods shall be performed as described above.
2. General cleaning of the area to receive the Bituminous Surface Course Overlay shall be performed as directed by and to the satisfaction of the Engineer.
3. Application of an Asphalt Emulsion Tack Coat - This work consists of furnishing, delivering, and placing a liquid asphalt tack coat on bituminous concrete or portland cement concrete, prior to the placement of a bituminous concrete overlay, all in accordance with these specifications. The asphalt emulsion shall be SS-1, SS-1h, CSS-1, or CSS-1h. Application of the asphalt emulsion tack coat shall be by means of a pressure distributor capable of producing a uniform and continuous fine spray, through multiple nozzles, resulting in a uniform continuous coat

over the section to be treated. Any puddles of tack coat must be squeegeed or broomed out. The application rate shall be .05 gallons per square yard. Surfaces of curbs, gutters, vertical faces of existing pavements, and all structures to be in contact with the bituminous mixture shall be given a thin, even coating of Asphalt Emulsion Tack Coat. Care shall be taken to avoid the splattering of surfaces which will not be in contact with the bituminous mixture.

4. Bituminous Surface Course Overlay mixing, placing, and finishing of bituminous surface course shall conform to the applicable requirements of Section 401 of the "Standard Specifications for Road and Bridge Construction" Department of Transportation, Division of Public Works, State of Rhode Island, latest revision. The mixture of the Bituminous Surface Course 1-1/2" Overlay material shall be "Class I-1" mix. The following additional conditions apply:
 - a. Both the mixing temperature and the temperature of the friction course at the time of placement shall be 240 degrees F to 280 degrees F.
 - b. The mixture shall be placed as soon as possible after completion at the plant. It shall be placed within 60 minutes from the time of its arrival at the job site, subject to the specified placement temperature range.
 - c. Unless otherwise shown on the Plans, mixtures shall be spread by means of a mechanical self-powered paver capable of spreading the mixture true to line, grade, and crown set by the Engineer. When laying mixtures, the paver shall be capable of being operated at forward speeds and proper thicknesses consistent with the satisfactory laying of the mixture. Bituminous pavers shall be self-contained, power propelled units, provided with activated vibratory screed and solid vibratory screed extenders and capable of spreading and finishing courses of bituminous plant mixed material in lane widths applicable to the typical section and thickness as specified. The screed and screed extenders shall vibrate while placing the mixture and shall effectively produce a finished surface of the required evenness and texture without tearing, shoving, or gouging the mixture. The screed and screed extenders shall be heated if necessary to maintain the bituminous mixture at the required placement temperature.
 - d. Spreading of the mixture shall be performed carefully and the operation shall be as continuous as possible. Particular attention shall be given to the joints and any irregularities shall be removed before compacting.
 - e. After placement, the mixture shall be thoroughly and uniformly compacted with power rollers as directed by the Engineer.

Compaction of the mixture shall be accomplished immediately after lay down when the temperature of the layer is 240 degrees F + 20 degrees F. Rolling shall continue until all roller marks are eliminated and the surface is of uniform texture and is true to line and grade. Static or vibratory steel wheel rollers or pneumatic tire rollers shall be employed. They shall be in good condition, capable of reversing without backlash, and shall be operated at speeds slow enough to avoid displacement of the bituminous mixture. The weight and type of rollers shall be sufficient to compact the mixture to the required density within the allowable time. The use of equipment which results in the excessive crushing of the aggregate is not permitted.

K. Unless otherwise specified, the Contractor shall reline all streets with pavement equal in type and location in all places where existing prior to construction. Epoxy Resin Pavement Markings shall conform to the RIDOT Standard Specifications T20.03.6, and shall be placed on the final surface course of newly paved roadways no sooner than 2 weeks but no longer than 4 weeks from the completion of each days paving operation.

L. Edges of the area shall be sealed with a suitable asphalt emulsion RS-1 or equal. A cationic maltenes emulsion sealant shall be hand sprayed on the patched area and adjacent edges at the rate of approximately one tenth (0.1) gallon per square yard to seal the newly treated area. Sand shall be spread over the newly sealed area.

1.6 MEASUREMENT

A TEMPORARY PAVEMENT HOT MIX (BID ITEM 18a) TEMPORARY PAVEMENT COLD MIX (BID ITEM 18b)

Measurement of temporary trench pavement, 2" thick, will be the actual number of square yards placed and accepted by the Engineer, but not exceeding 60" width for trench pavement and shall be the actual square yards of the access or test pit, (length times the width), as measured by the Engineer and as agreed to PRIOR to the excavation.

Measurement shall be centered horizontally along the center of the pipe.

CRUSHED PROCESSED GRAVEL will be measured separately for payment under that item in the Bid.

B. PERIPHERAL SAW-CUTTING (BID ITEM 20a and 20b)

Peripheral trench saw-cutting, shall be measured per linear foot of cut. Saw cutting shall be performed as and when authorized by the Engineer. The measurement shall be a one-time measurement; additional saw cutting that the

Contractor may perform, and/or unauthorized saw cutting will not be measured for payment.

C. CURB LINE MILLING

Measurement for payment for Curb Line Milling will be the actual number of square yards of pavement milled as accepted by the Engineer.

D. COLD PLANING (BID ITEM 19b)

Measurement for payment for removing existing bituminous pavement by Cold Planing will be the measured in square yards based on the actual area of pavement removed and disposed of in a manner approved by and as directed by the Engineer.

E. PERMANENT PAVEMENT BITUMINOUS ASPHALT (BID ITEM 19a)

Permanent trench pavement, shall be Type I-1 bituminous concrete. Measurement for payment will be the actual number of square yards placed and accepted by the Engineer, but not exceeding 60" widths for trench pavement. Thickness of permanent pavement shall be at the direction of the local Commission, but not less than 6" compacted depth.

For pipe installation trenches, measurement shall be centered horizontally along the center of the pipe.

For cleaning and lining access pits, the measurement shall be the length times the width of the rectangular pit, as approved by the Engineer prior to the excavation.

In the event that the portion of roadway pavement remaining alongside the trench or access pit, between the trench and the edge of road, is less than two feet, the Engineer may approve a greater trench width to provide for pavement to the edge of the road. The Contractor must gain prior approval of the Engineer before removing the pavement outside the 60 inch maximum stated above.

F. BITUMINOUS SURFACE COURSE OVERLAY 1 ½" (BID ITEM 19c)

Permanent Bituminous Course Overlay 1 ½" will be measured by the actual number of square yards placed and accepted by the engineer.

Crushed processed gravel will be measured for payment under the item for "Crushed Processed Gravel".

G. ROAD CONCRETE SUB-BASE REMOVAL AND DISPOSAL (BID ITEMS 21a AND b)

Measurement for payment will be the actual number of square yards removed and accepted by the Engineer, but not exceeding 60" widths for trench pavement.

H. ROAD CONCRETE SUB-BASE INSTALLATION (BID ITEM 21c)

Measurement for payment will be the actual number of inches thickness per square yard of concrete sub-base installed and accepted by the Engineer, but not exceeding 60" widths for trench pavement.

G. ROAD STRIPING (BID ITEM 25)

Permanent road striping shall be measured by the linear foot of striping installed and approved by the Owner.

1.7 PAYMENT

A. Temporary Pavement

Payment for temporary trench pavement, complete in place and approved by the Engineer, will be made for the quantity determined above at the respective unit prices bid in the Bid Form. This price and payment shall be full compensation for placing the temporary pavement, cutting and priming the edges of existing pavement, furnishing and placing calcium chloride for dust control, cleaning and preparing the surface of the gravel base, furnishing and placing tack coat, furnishing, placing and compacting the bituminous concrete and all else incidental thereto for which payment is not provided under other items of the Bid Form.

B. PERIPHERAL SAW CUTTING

Payment for peripheral trench saw cutting, complete and approved by the Engineer, will be made for the quantity determined above at the respective unit prices in the Bid Form. Price and payment shall constitute full compensation for all labor involved, for the removal and disposal of the cut pavement, and all incidental work for which payment is not provided under other items of the Bid Form.

C. CURB LINE MILLING

Price and payment will be full compensation for all work specified in this Section, including hauling off and stockpiling or disposing of the milled material.

D. COLD PLANING

Payment for "Removing Bituminous Pavement by Cold Planing" will be made for the quantity determined above at the price bid on the Bid Form. The price so-stated constitutes full and complete compensation for all labor, materials and equipment, and all other incidentals required to finish the work complete and accepted by the Engineer.

E. PERMANENT PAVEMENT BITUMINOUS ASPHALT

Permanent Pavement

Payment for permanent bituminous concrete pavement, complete in place and approved by the Engineer, will be made for the quantity determined above at the respective unit prices in the Bid Form. This price and payment shall be full compensation for removing temporary pavement, furnishing and placing calcium chloride for dust control, priming the edges of existing pavement, cleaning and preparing the surface of the gravel base, furnishing and placing tack coat, furnishing, placing and compacting the bituminous concrete and all else incidental thereto for which payment is not provided under other items of the Bid Form.

Payment for Bituminous Surface Course Overlay 1 ½" will include all incidentals necessary or otherwise required to satisfactorily perform the 1 ½" thick bituminous friction course overlay.

No separate payment shall be made for adjusting of valve road boxes to grade but the cost for this work shall be included in the cost for installing the permanent pavement.

F PERMANENT PAVEMENT CONCRETE SUB-BASE

Payment for permanent bituminous concrete pavement, complete in place and approved by the Engineer, will be made for the quantity determined above at the respective unit prices in the Bid Form. This price and payment shall be full compensation for removing temporary pavement, priming the edges of existing pavement, cleaning and preparing the surface of the gravel base, furnishing, placing the concrete sub base in accordance with RIDOT Standard Specifications and details, and all else incidental thereto for which payment is not provided under other items of the Bid Form.

- G. Payment for Road Striping shall constitute full payment for all measurement, preparation, materials, workmanship, safety measures and any other incidentals required to properly install the pavement striping as directed by the Owner.

1.1 WORK INCLUDED

- A. The work covered under this Section includes the furnishing and installation of Ductile Iron water pipes, including all fittings, valves, adapters, connections to other pipes, testing, jointing and all related and appurtenant work required for a complete functioning system.

It is not intended that the Drawings shall show every pipe, fitting, specials and accessories, etc., but the Contractor shall be required to furnish, without additional charge, all material necessary to complete the pipeline systems in accordance with the best practice and intent of the Drawings and Specifications.

- B. The Owner will furnish personnel to operate all valves in the system without cost to the Contractor. The Contractor shall be responsible for notifying the Lincoln Water Commission 48 hours prior to any desired valve operations required for the work of this contract. The Contractor shall not operate any valves without the express permission of the LWC.
- C. An ample supply of materials and equipment for repair of trench settlement shall be kept on the job site and the Contractor shall provide continuous maintenance, filling depressions and ruts as they appear. The Contractor shall make repairs within 24 hours after notification by the Commission. If repairs are not made within the time specified, the Commission may repair or have the same repaired and the cost of such repairs shall be deducted from the money due the Contractor.
- D. Pipe delivery shall be closely coordinated with installation. No debris, tools, clothing or other materials shall be placed in the pipe.

All stockpiled water pipe shall have their ends sealed until the day of installation, to prevent any debris or animals from entering the mains.

Care shall be taken in loading, transporting, and unloading pipe and all pipe appurtenances to prevent injury of any kind of the pipe and pipe appurtenances. Pipe or fittings shall not be dropped and they shall be examined by the Contractor and the Commission's Inspector before laying. No piece shall be installed which is found to be defective. Handling and laying of pipe and fittings shall be in accordance with the manufacturer's instructions and as specified herein.

- E. All pipe and fittings shall be thoroughly cleaned before laying, shall be kept clean until they are used, and when laid, shall conform to the lines and grades specified. Ductile Iron pipe and fittings shall be installed in accordance with AWWA Standard Specification C-600 except as otherwise provided herein.

- F. When laying is not in progress, including lunch time, the open ends of the pipe shall be closed by watertight plugs or other approved means. If water is in the trench when work is to be resumed, plugs shall not be removed until the trench is dewatered, or as approved by the Commission's Inspector, until satisfactory provisions have been made to prevent water, earth, or any other substance from entering the pipe.
- G. Good alignment of the pipe shall be made and preserved in laying. The deflection of joints shall not exceed that recommended by the manufacturer. Fittings shall be available for crossing utilities which may be encountered upon opening of the trench.
- H. The Contractor shall have on hand at the start of the job, one 1/32 bend, one 1/16 bend and one 1/8 bend for each size of pipe; these shall be used as work conditions require.
- I. Blow-offs shall be installed and set by the Contractor in a manner approved by the Commission's Inspector. Drainage branches or blow-offs shall not be connected to any sewer, submerged in any stream or installed in any manner that will permit back siphonage into the distribution system.

1.2 MATERIAL

All materials that shall come in contact with the potable water shall be NSF 61 certified. Certification for all such materials will be required to be submitted to the Engineer with Shop Drawings.

- A. All pipe fittings, gaskets, accessories and appurtenances shall be new and unused.
- B. All pipe and materials, including bends, fittings, valves and piping accessories, shall be supplied by the contractor. All fittings shall be lead free.
- C. Examine all pipe and fittings, whether supplied by the Owner or the Contractor, for cracks, flaws, or other defects. Remove defective pipe and fittings from the site. Pipe and fittings in which the lining has been broken, or loosened shall be replaced. Where damaged areas are small and readily accessible, the Contractor may be permitted to repair the lining at the discretion of the Owner.
- E. Pipe will be ductile iron pipe conforming to ANSI/AWWA C151, Class 52 double cement lined. Ductile iron fittings shall conform to ANSI/AWWA C110. Joints for pipes shall be push-on joints. Joints for fittings shall be mechanical joints conforming to ANSI/AWWA C111 or C153.
- F. All pipe and fittings shall have a bituminous outside coating in accordance with ANSI/AWWA C151 and C110, respectively. All pipe and fittings shall be cement mortar lined and seal coated in accordance with ANSI/AWWA C104 except the lining thickness shall be twice that specified in Section 4.8.1 of C104.

Cement mortar lining for fittings shall conform in all respects to AWWA Specification C104, latest revision, except that lining thickness shall be twice that specified in Section 4-10.1 of AWWA Specification C104.

- G. Tyton gasket joints for pipe and rubber gasket joint, tee head bolts and hexagonal nuts for fittings, to be furnished by the Contractor, shall conform to AWWA Specification C111, latest revision.
- H. Flexible couplings and reducer couplings to be furnished by the Contractor shall be installed where required for connection of new pipe to existing pipe, as shown on the Drawings, as directed, or as otherwise required for the complete installation of the pipeline system. Where end-to-end connections of new and existing pipe are required, couplings specifically pre-manufactured for the connection of dissimilar sizes and types of pipe will be subject to the approval of the Owner.

The Contractor shall furnish to the Owner manufacturer's notarize test reports and method of test to show compliance with all specification requirements; and notarized certificates of conformance stating that all pipe, valves, hydrants, corporation stops, curb stops, and appurtenant materials to be shipped and installed conform with all specification requirements.

1.3 EXECUTION

- A. Installation of pipe, valves, hydrants, corporation stops, curb stops and appurtenant materials shall be performed in conformance with AWWA Specification C600, latest revision, for the various materials listed, and to the requirements of the LWC.

As specified by the Engineer, pipe restraining action at bends, tees, hydrant branches, reducers, plugs or caps, and any other location in the pipeline as specified by the Engineer, shall be accomplished by installing restrained joint (mechanical joint, MJ) pipe for the lengths as established in the "table of restrained joint requirements" provided in the Drawings, or by installing concrete thrust blocks, or shall be accomplished by installing a combination of restrained joint pipe and concrete thrust blocks. The surface area of the concrete thrust blocks shall be as shown in the applicable table of values provided in the Drawings, unless otherwise approved by the Engineer.

Unless otherwise specified by the Engineer, minimum pipe cover shall be four (4) feet to finished grade. Pipelines shall be constructed in dry trenches and shall not be laid when the conditions of the trench or the weather are unsuitable for such work. If water is present in the trench after installation, then the seal shall be left in place until the trench has been pumped dry.

In the case of new water mains which are to replace an existing water main (which is to be removed), the new main shall be placed in the same location and depth as the existing main, unless directed otherwise by the Engineer.

- B. Proper equipment, tools and facilities satisfactory to the Inspector shall be provided by the Contractor for the proper and satisfactory execution of the work.
- C. A firm, even bearing throughout the length of the pipe shall be constructed by tamping/compacting approved material under and at the sides of the pipe. Blocking will not be permitted. If any defective pipe or unsatisfactory length is discovered after it has been laid, it shall be removed and replaced with a sound pipe in a satisfactory manner by the Contractor, at his own expense.

When cutting of the pipe is required, the cutting shall be done by machine, leaving a smooth cut at right angle to the axis of the pipe. Cut ends of the pipe to be joined with a bell shall be beveled to conform to the manufacturer spigot end. Cement lining shall be undamaged.

The interior of all pipe, fittings, valves and hydrants shall be thoroughly cleaned of all foreign material, and inspected for cracks, flaws or other defects before installation, and shall be kept clean until the work is accepted. All joint contact surfaces shall be kept clean until the joint is completed. Mark all defective, damaged or unsound materials with bright marking crayon or paint and remove from job site.

Before lowering into the trench and while suspended, each pipe and fitting shall be carefully examined for defects and no pipe or fitting shall be laid which is known to be defective. All pipe or fittings found to be defective before being laid shall be clearly marked and removed from the job, as stated above. If any pipe or fitting shall be found to be defective after being laid, it shall be removed and replaced with a sound pipe or fitting by the Contractor at his expense.

- D. Push-on joints shall be made in accordance with the manufacturer's instructions. Pipe shall be laid with bell-ends looking ahead. A rubber gasket shall be inserted in the groove of the bell-end of the pipe, and the joint surfaces shall be cleaned and lubricated. Pipe lubrication shall be NSF certified for use with potable water. The plain end of the pipe to be laid shall then be aligned and inserted in the bell of the pipe to which it is to be joined, and pushed home with a jack or by other acceptable means. After joining the pipe, a metal feeler shall be used to make certain that the rubber gasket is correctly located. At no time shall the pipe be pushed from the plain end. Mechanical joints shall be installed in accordance with this Specification and set in accordance with Appendix A of ANSI/AWWA C111, and the manufacturer's instructions. Restrained joints shall be installed in accordance with the table of restrained joint requirements shown in the Drawings. Joints and rubber gasket shall be thoroughly cleaned and lubricated with soapy water before assembly. Bolts shall be tightened to the specified torque; under no conditions shall extension wrenches or pipe over handle of ordinary ratchet wrench be used to obtain greater leverage.

Extreme care shall be exercised to insure that there is no restraint on opposite ends of pipe or fitting which will prevent uniform gasket compression, cause unnecessary stress, bending or torsional strain to joint flanges, restraining glands or flanged fittings. Adjoining push-on joints, shall not be assembled until mechanical joints have been tightened. Bolts shall be tightened alternatively and evenly. After installation, a bitumastic coating shall be applied to bolts and nuts.

Jointing of mechanical joint fittings, specials and valves shall be provided in accordance with the printed recommendations of the pipe manufacturer, and as specified. The mechanical joint fittings, joint restraint systems, specials and valves shall be suitable for jointing with the pipe with which they are used, and the Contractor shall provide, at no additional expense to the Owner, all necessary adapters for the proper jointing of pipe, pipe fittings, specials, and valves. The last 8 inches of the outside of the spigot end of pipe and the inside of the bell of the mechanical joint shall be thoroughly cleaned to remove all oil, grit and other matter from the joint. When assembling joint, it is essential that the gland be brought into place and bolts tightened in a manner to insure the maintaining of the same space between the gland and the face of the flange at all points around the socket. The range of bolt torque in making the joints shall be as recommended by the manufacturer of the mechanical joints. Over stressing of bolts will not be permitted; if effective sealing is not obtained at the recommended maximum bolt torque, the joint shall be disassembled, thoroughly cleaned and reassembled.

No pipe joints shall be covered in any way until the joints have been inspected by the Commission's Inspector

- E. All fittings shall be anchored to prevent any movement of the fittings or the adjacent pipe. In general this anchorage shall be provided by the installation of Class B Portland Cement concrete thrust blocks, and clamps, yokes and tie rods as specified and shown on the drawings, as directed by the Owner, or as otherwise required to satisfactorily restrain all fittings and appurtenances. All required mechanical restraints shall be included in the cost of the fittings. Hand excavation may be required to excavate for the concrete thrust blocks. The Owner may require concrete to be placed at points on the pipeline other than at fittings. All concrete used for thrust blocks shall be exposed for at least sixteen hours before being covered. Insofar as possible, thrust blocking shall be placed so that the pipe and fitting joints will be accessible for repair. Concrete for thrust blocks is specified under Section 03000 "MISCELLANEOUS CONCRETE WORK", and will be measured separately for payment under the Item "Concrete Thrust Blocks In-Place", as listed in the Bid.

F. Testing

The Contractor shall perform pressure leakage testing in the presence of the LWC Inspector, and other LWC Personnel as required. Leakage testing shall be in accordance with Section 02900 of these Specifications.

G. Chlorination

Before being placed in service, all new pipelines (including hydrant branches) shall be chlorinated as specified in the AWWA C651 latest revision, and as specified herein and in Section 02900.

All water quality testing to confirm proper disinfection shall be performed by the LWC and shall be scheduled at least 24 hours in advance. Two consecutive water quality samples, performed at least 24 hours apart, shall be tested for both total coliform bacteria and for heterotrophic plate count (HPC) and results approved by the LWC before any new or newly cleaned and lined water main is put into service.

1.4 Measurement

Measurement for payment does not signify that the water main is acceptable. The Contractor shall provide assistance to the LWC Engineer for making measurements.

A. FURNISH AND INSTALL 6" DUCTILE IRON PIPE (BID ITEM 2a)
AND 8" DUCTILE IRON PIPE (BID ITEM 2b)

Ductile iron pipe for water mains and hydrant branches will be measured for payment by the linear foot (L.F.) in-place, complete, tested and disinfected, as measured along the axis of the pipe from the face of the hub forming the beginning of the work to the hub or spigot constituting the end of the line, with no deductions made for the length of fittings and valves in the line. Measurement shall be to the nearest tenth of a foot. Only water main that is installed and backfilled shall be considered for payment. No pipe will be measured for payment until it has been tested, disinfected, and put back in service.

Removal and disposal of existing water main and appurtenances, where they are to be replaced with new pipe, shall NOT be measured separately for payment, but shall be included in the Bid Price for this item.

B. DUCTILE IRON WATER MAIN FITTINGS (BID ITEM 5a)

Ductile iron pipe fittings will be measured for payment by the unit "pound" (LB.). The number of pounds of fittings to be paid for shall be the weight stated in

AWWA C153, latest revision. The Contractor shall furnish a copy of the Manufacturer's catalog to the Owner at the start of the work, and all fitting weights shall comply with AWWA C153. Fittings shall include all solid sleeve couplings, bends, reducers, tees, crosses, MJ plugs and other incidental appurtenances not measured for separate payment. The weight of restraints, glands, bolts and nuts shall NOT be included in the weight for payment, but the cost of these items shall be included in this Pay Item. Removal and disposal of existing fittings, where they are to be replaced with new fittings, shall NOT be measured separately for payment, but shall be included in the Bid Price for the new fittings installed.

C. TESTING AND DISINFECTION

Testing and disinfecting water lines will not be measured separately for payment, and shall be included in the cost of the water main installation.

D. PIPE COUPLINGS WITH RESTRAINT (BID ITEM 5b)

Flexible couplings (4" through 24" nom. diameter) will be measured for payment as unit assemblies "Each" complete, in-place and accepted, as listed in the Bid. This price shall include the cost of material and installation of all restraints as required on the Plans or by the Engineer.

1.5 Payment

A. DUCTILE IRON WATER MAINS

Payment for (furnishing and) installing new ductile iron pipe, including pipe appurtenances, of the size specified will be made for the quantity as above determined at the contract price bid per linear foot in the Bid Form, as applicable. That price and payment shall be full compensation for furnishing all materials and labor and equipment, (excluding rock excavation and boulder excavation of one cubic yard or greater; and excluding road concrete sub-base removal), for trench backfilling and compaction with excavated material and/or new material (depending on whether or not the excavated material is suitable as specified by the Engineer), for sheeting and bracing, for dewatering and drainage, for disposal of excess or unsuitable materials as authorized by the LWC Engineer, for laying, jointing, and setting pipe and fittings, for crossing existing culverts and utility lines, for crossing sewer lines and sewer services, for restoring the trench surface to grade, for restoring all physical features, including curbs, sidewalks and driveways, for cleaning, for inspecting, for chlorinating and testing the pipe, and all related work specified and all else in connection therewith and incidental thereto for which separate payment is not provided under other Items of the Bid Form. That price and payment, shall also be full compensation for excavation and

backfilling (after the new installed main has been chlorinated and accepted by the LWC) at the TIE-IN points into the existing piping system.

Removal and disposal of existing water main and appurtenances, where they are to be replaced with new pipe, shall be paid for under this item.

B. FITTINGS

Ductile Iron Fittings, measured as provided above, will be paid for at the unit price bid in POUNDS, which shall constitute full compensation for furnishing and installing all materials, jointing accessories, joint restraint systems, sleeves, gaskets, glands, nuts, bolts and special apparatus including labor and tools and equipment, testing and disinfecting, handling, hauling, furnishing services of manufacturer's representatives and for all other specials and incidental and necessary work to complete the item as specified.

The cost for removal and disposal of existing fittings shall be included in the cost for "Ductile Iron Fittings" and no extra payment will be made for this work.

Restraints, glands, bolts and nuts shall NOT be included in the weights, but cost of these materials and installation shall be included in this Pay Item.

C. TESTING AND DISINFECTION

There shall be no separate payment for testing and disinfecting water lines.

d. PIPE COUPLINGS WITH RESTRAINT

The quantity of Pipe Couplings with restraints, as measured above, will be paid for at the unit price bid for EACH, as listed in the bid Form.

SECTION 02620 GATE VALVES, TAPPING SLEEVE & VALVES, INSERTION VALVES, LINESTOPS, VALVE BOXES AND APPURTENANCES

1.1 SCOPE OF THE WORK

The work covered under this section of the Specifications consists of furnishing all labor, materials, equipment and appurtenances, and performing all operations in connection with providing gate valves, butterfly valves, tapping sleeve and valves, insertion valves, linestops, valve boxes and accessories, and all miscellaneous and appurtenant work, in accordance with the Specifications and Drawings, and as directed by the Owner.

1.2 QUALITY ASSURANCE

A. Conformance Certificates:

The Contractor shall furnish to the Owner manufacturer's notarized certificates of conformance stating that all materials to be furnished under this section of the specifications conform with all specification requirements, and each shipment of gate valves, butterfly valves, tapping sleeves and valves, valve boxes and accessories meet all requirements of the specifications.

B. Submittals:

Shop Drawings shall be submitted for approval in accordance with section 01340. They shall conform to the requirements of the AWWA Standard Specifications, latest revision, and shall include complete dimensional fabrication and erection details, net weights, material lists, maintenance data and all other additional information required by the Owner. Materials shall not be manufactured prior to shop drawing approval.

C. The inspection, receiving, handling, and storage of all materials shall conform in all respects to the requirements of AWWA Specification C 600, latest revision, Section 2.

1.3 MATERIALS

All materials that shall come in contact with the potable water shall be NSF 61 certified. Certification for all such materials will be required to be submitted to the Engineer with Shop Drawings.

A. Gate Valves:

All gate valves shall be ductile iron body, resilient-seated and shall meet the requirements of AWWA C509 or C515. Valves shall be rated for 250 psi minimum working pressure and 300 psi minimum test pressure. Valves shall be of the ductile iron body, rubber-encapsulated gate type, with non-rising stem fitted with a minimum of three "O-Ring" seals. The operating nut shall be standard AWWA 2-in square. Gate valves shall open right or clockwise. Bonnet

and gland bolts/washers shall be stainless steel. Wedges shall be fully encapsulated.

The interior and exterior surfaces of ductile iron components shall be fusion bond epoxy coated 8 mils minimum thickness. Epoxy coating must be undamaged with no chips or abrasions. Field touch-up of interior coating is not allowed. Field touch-up of exterior surfaces shall be in accordance with manufacturers recoating specifications only. Contractors shall use special handling and installation precautions with the use of epoxy coated valves as necessary to ensure that no coating system damage occurs. At a minimum fiber slings or belts shall be used for all handling. All epoxy-coated valves shall be palletized and properly shrink-wrapped upon delivery to assure coating system integrity is not compromised. All epoxy valves found mishandled at delivery or during installation shall be rejected and removed from the job site.

Gate Valves shall conform to AWWA Standard C 509 or C515, as manufactured by Mueller Model A-2360-20 or approved equal; and shall incorporate the following features:

- Type of Valve Ends: Mechanical Joint
- Body: Ductile Iron
- Type of Gate: Resilient Seat, non-rising stem
- Stem: 420 Stainless steel or equal with minimum 60,000 PSI yield strength
- Stem Seal: Minimum three O-ring seals
- Type of Gaskets: Full Cut Rubber Impregnated Duck Material
- Direction of Operating Nut Rotation: Open Right
- Working pressure: 250 psi
- Fasteners: Stainless steel, type 304 for all of the valve

Coatings: Internal & exterior to be coated with fuse bonded holiday free epoxy coating minimum 8 mils nominal thickness meeting or exceeding AWWA C550.

Wedges: Fully rubber encapsulated ductile iron gate meeting AWWA C509 OR C515.

Wrench Nuts shall be 2-inch square operating nut with hexagon stainless steel bolt fastener, and shall conform to section 19 of AWWA Specification C 500, latest revision.

B. Butterfly Valves:

Butterfly valves shall conform to AWWA Standard C 504 for Class 150B service, Mueller Linseal III - Model B-3211-20 as manufactured by Mueller or approved equal. The valve shall be suitable for buried service and shall incorporate the following features:

Type of Valve Ends: Mechanical Joint
Body: Ductile iron, ASTM A 126 Class B.
Disc: Ductile iron, ASTM A 536 Grade 65-45-12
Shafts: Stainless steel, ASTM A276, Type 304
Seat: Buna N rubber, ASTM D 2000
End Cover: Cast iron, ASTM A 126 Class B
Direction of Operating Nut Rotation: Open Right
Working pressure: 200 psi

Interior and exterior surfaces shall be shop-coated with an epoxy coating conforming to the requirements of ANSI/AWWA C550 to a minimum dry film thickness of 8 mil. The coating shall be NSF/ANSI approved.

Wrench nut shall be 2-inch and shall conform to AWWA Specification C500, latest revision.

The valve discs shall be of streamlined shape to substantially reduce turbulence and insure low head loss across the valve.

Field touch up of interior wetted surfaces is allowable.

C. Tapping Sleeve and Valves:

The Contractor shall perform all other work, excavation, backfilling, etc., as required, and make the main ready to be tapped. The LWC shall determine the location of the existing main to be tapped to confirm that the Contractor's proposed position for the tapping sleeve will be satisfactory and no interference will be encountered, such as the occurrence of existing utilities or of a joint or fitting at the location proposed for the connection. No tap will be made closer than three (3) feet from a pipe joint. In all cases, the correct and proper location of the tap is the responsibility of the Contractor.

Installation shall be under pressure and the flow of water through the existing main shall be maintained at all times. The diameter of the tap shall be a minimum of 1/4-in less than the inside diameter of the branch line.

Tapping sleeves shall conform to AWWA Standards and shall have a 200 psi minimum working pressure and be a mechanical type joint to provide pressure-tight installation and be suitable for use with the existing pressurized pipe material. Mechanical tapping sleeves are to be stainless steel with removable bolts, and shall be Ford FTSS, JCM 432, Smith Blair 665 or PowerSeal, or approved equal.

The outlet, body, flange, nuts, bolts and washers shall be 18-8 type 300 stainless steel. All welds shall be fully passivated to restore stainless characteristics. Flanges shall conform to AWWA Standard C207, Class D, ANSI 150# with drilling recessed to accept standard type tapping valves per MSS-SP60. Bolt

holes straddle pipe centerline. Gasket shall be full circumferential gasket compounded for water use per ASTM D2000. Gaskets to be Buna-N (NBR).

Tapping sleeve and valve with boxes shall be set vertically and squarely centered on the main to be tapped. Adequate support shall be provided under the sleeve and valve during the tapping operation. Proper tamping of supporting fill around and under the valve and sleeve is mandatory. After completing the tap, the valve shall be flushed to ensure that the valve seat is clean.

Tapping valves shall be ductile iron body, resilient-seated and shall meet the requirements of AWWA C509 or C515. Tapping sleeve and valve shall be of mechanical joint type, designed for vertical burial. The valve shall be non-rising type and shall open right or clockwise. Stuffing boxes shall be of the "O-Ring" type. Operating nut shall be AWWA Standard 2-in square.

Tapping valves shall comply with A.W.W.A. Standard C-500 latest revision, ductile iron body, bronze mounted, resilient disc, non-rising stem, parallel seat type. They shall have a maximum working pressure of 200 psi and be tested at 400 psi. Valves shall be furnished with "O" ring packing consisting of three "O" rings, and shall open to the right. The inlet flange shall be A.S.A. Class 125 flange and have raised portion to fit outlet flange of the Tapping Sleeve. The outlet side of tapping valve shall be A.W.W.A. Standard mechanical joint.

D. Valve Boxes:

Each valve and tapping sleeve and valve shall be accompanied by a valve box of the sliding type, constructed of cast iron and provided with cast iron cover. The bottom of the lower section shall enclose the operating nut of the valve. Boxes shall be of lengths consistent with the pipe depths. Boxes shall be adjustable with a lap of at least 6-in when in the most extended position. Covers shall have the word "WATER" cast on top.

Valves and boxes shall be set with the operating stem vertically aligned in the center of the valve box. Valves shall be set on a firm foundation and supported by tamping approved material under and at the sides of the valve. Boxes shall be installed vertically, centered over the operating nut, and the elevation of the top shall be adjusted to conform with the finished surface of roadway or other surface at the completion of the job. Boxes shall be adequately supported during backfilling to maintain vertical alignment.

Valve boxes shall be compatible with the valves, and shall be of tough even-grained cast iron and of the adjustable, slip, heavy pattern type. The upper section of the box shall be provided with a flange having sufficient bearing area to prevent undue settlement. The length of the top section shall be at least 26-inch and the length of the bottom section shall be at least 36-inch for a 5-foot box. The

inside diameter of the box shall be at least 5-1/4 inches. The lower section of the box shall be designed with a bell to enclose the operating nut and stuffing box of the valve. Covers shall be tight fitting and essentially dirt-tight, shall be flush with the top of the box, and shall be marked "WATER". Valve boxes shall be thoroughly coated with two coats of asphalt varnish. Valve boxes shall be suitable for the size valve on which they are used and shall be as manufactured by Quality Water Products, South Barre, MA 01074.

Before backfilling, all exposed portions of bolts used to hold the two halves of the sleeve together shall be coated with two coats of bituminous paint comparable to Bitumastic No. 50 by Koppers Co., or equivalent.

D. Insertion Valves:

Insertion Valves shall be ductile iron body and conform to AWWA Standard C509 or C515 for material specifications, TEAM Valve or approved equal; and shall incorporate the following features:

Type of Valve Ends: Split Mechanical Joint

Type of Gate: Resilient Seat, split bolted body, epoxy coated ductile iron

Type of Stem seal: O-Ring

Type of Mounting: Rotating body with Symmetrical Wedge Disc - (Rubber Encapsulated) cut with the End Mill process.

Type of Stem: Non-rising stainless steel

Type of Gaskets: Full Cut Rubber Impregnated Duck Material

Direction of Operating Nut Rotation: Open Right

Working pressure: 250 psi

Wrench Nuts shall be 2-inch, and shall conform to AWWA Specification C 500, latest revision.

E. Linestops:

Linestops shall be as manufactured by Hydra-Stop of Alsip Illinois. Fittings shall be the Hydra-Stop Premier type with 18-8 type 304 stainless steel construction and shall incorporate the following features:

150 psi working pressure.

360 degree coverage with SBR or Buna-N compounded throat gasket.

18-8 stainless steel UNC threaded nuts and bolts

Extruded outlet and nozzle for superior strength

Test port shall be used to assure positive seal before stopping.

The actual HydraStop installation and removal shall only be performed by an experienced contractor approved by the Engineer.

1.4 INSPECTION

All valves, valve boxes, and accessories shall be carefully inspected by the Contractor for defects before installation and all defective, unsound or damaged materials shall be rejected. The Owner will make such additional inspection he deems necessary and the Contractor shall furnish all necessary assistance for such inspection.

Operation parts shall be operated several times to demonstrate proper operation and adjustment.

1.5 PREPARATION

Proper implements, tools and facilities, satisfactory to the Owner shall be provided by the Contractor for the proper and satisfactory execution of the work.

The interior of gate valves, tapping sleeve and valves, insertion valves, linestop fittings, valve boxes, and accessories shall be thoroughly cleaned of foreign matter before being lowered into the trench and shall be kept clean during laying operations.

Gate valves, tapping sleeve and valves, insertion valves, linestop fittings, valve boxes and accessories shall be handled, stored, installed, jointed and protected by the Contractor in strict accordance with the printed recommendations of the manufacturer of the piping materials.

1.6 INSTALLATION

The Contractor shall furnish to the Owner for his use, copies of the printed recommendations of the respective valve manufacturer(s) for the handling, storing, protection and installation of valves and accessories.

Gate valves, tapping sleeve and valves, insertion valves, linestop fittings, valve boxes and accessories shall be installed in conformance with AWWA Specification C 600, latest revision, and as specified herein.

All tapping sleeve and valves shall be pressure tested with air prior to tapping pipe.

Installation of valves and valve boxes shall not be made when trench or weather conditions are unsuitable for the work. All excavations and valve structures shall be kept free of water during installation of the valves and jointing operations and for such additional lengths of time as may be required to insure the satisfactory installation of the valve assemblies and appurtenant work.

Valve Boxes shall be provided for all valves and they shall be set plumb. Valve boxes shall be centered on the valve operating nut. Care shall be taken that no part of the riser section and its pad shall bear on any part of the valve. Provision shall be made to keep any stones, mud or debris from entering the riser section during and after backfilling. Any blockage of the box shall be remedied by the Contractor at his own expense. Valves and riser section shall be centered on valves and the cover shall be set flush with the finished

surface. The bottom of the cover shall have a minimum clearance of three (3) inches from the top of the riser pipe.

Sand or gravel bedding shall be carefully tamped under and around the valve box riser section and pad, and compaction will extend to a distance of at least four feet in locations of continuous trenching, elsewhere to the undisturbed trench face in each direction. Jointing of mechanical joint valves and accessories shall be provided in accordance with the printed recommendations of the manufacturer as specified. The mechanical joint valves shall be suitable for jointing with the pipe with which they are used and the contractor shall provide, at no additional expense to the owner, all necessary adapters for the proper jointing of the pipe, pipe fittings, specials and valves. The last eight inches of the outside of the spigot end of the pipe and the inside of the bell of the mechanical joint shall be cleaned to remove all oil, grit and other foreign matter from the joint. When assembling joint, it is essential that the gland be brought into place and bolts tightened in a manner to insure the maintaining of the same space between the gland and the face of the flange at all points around the socket. The range of bolt torque in making up joints shall be as recommended by the manufacturer of the mechanical joints. Overstressing of bolts will not be permitted; if effective sealing is not obtained at the recommended maximum bolt torque, the joint shall be disassembled, thoroughly cleaned and assembled. All materials found to be defective during the process of the work will be rejected by the Owner and the Contractor shall promptly remove such defective material from the site. All defective material shall be replaced by the contractor with new sound material at no additional expense to the Owner. The contractor shall be responsible for the safe storage of all material.

Cut in valves, insertion valves, linestop fittings shall be installed according to the details provided in the Drawings and where designated by the Engineer. Sufficient crushed stone will be provided for bearing under the new valve or fitting. Insertion valves and linestops are provisional and shall be used only when needed as determined by the Engineer for the purpose of dewatering the existing water main to facilitate the work.

1.7 REMOVAL AND DISPOSAL OF VALVE ROAD BOXES

All existing valve road boxes on abandoned water main as designated by the Engineer shall be removed entirely and disposed of by the Contractor. All removed materials become the property of the Contractor. The excavation shall be properly backfilled with suitable material and compacted.

1.8 MEASUREMENT

- A. FURNISH AND INSTALL 6" GATE VALVE AND BOX(BID ITEM 3a)
FURNISH AND INSTALL 8" GATE VALVE AND BOX (BID ITEM 3b)

Gate valves and Butterfly valves with Valve boxes will be measured for payment as unit assemblies "Each" complete, in-place and accepted, as listed in the Bid for

the sizes and number actually installed in the completed project and accepted by the Engineer.

Said prices will include excavation (excluding rock excavation and boulder excavation of one cubic yard and greater in volume, and excluding road concrete sub-base removal), for backfilling of the trench with excavated material and/or new material, as Authorized by the Engineer when excavated material is not suitable; for setting and jointing of the pipeline, for providing screened gravel drainage pockets, for installing tie rods, restrained joints, **valve boxes and fittings**, for cleaning, chlorinating, and testing, for all work required and/or incidental to satisfactory completion and for which separate payment is not provided under other items of the Bid Form.

Removal of existing valves and valve boxes and disposal will NOT be measured separately. Cost to remove and dispose existing gate valves shall be included in the cost of installing the new valve or other bid item.

Pavement items will be paid under the unit prices as listed in the Bid.

B. FURNISH AND INSTALL TAPPING SLEEVE AND VALVE
(BID ITEM 4a and 4b)

Tapping sleeves and valves with valve boxes will be measured for payment as unit assemblies "Each" complete, in-place and accepted, as listed in the Bid.

C. FURNISH AND INSTALL VALVE BOX (BID ITEM 3C)

ONLY Gate Boxes installed, with the approval of the LWC, for an existing valve shall be paid for under this Bid Item. All NEW Valves installed shall include the valve box at no additional cost.

Gate Boxes will be measured for payment as unit assemblies "Each" complete, in-place and accepted.

1.9 PAYMENT

- A. For furnishing and installing unit assemblies of gate valves and butterfly valves with cast-iron valve boxes, complete, in-place and accepted, the Contractor will receive the contract unit price bid "Each" for "FURNISH AND INSTALL VALVE AND VALVE BOX", of the sizes and type listed in the bid.

No additional payment shall be made for removing and disposing abandoned water valve road boxes on abandoned water mains.

- B. For furnishing and installing unit assemblies of tapping sleeves and valves with cast-iron valve boxes, complete, in-place and accepted, the Contractor will receive the contract unit price bid "Each" for "FURNISH AND INSTALL

TAPPING SLEEVE AND VALVE AND VALVE BOX", of the size listed in the Bid.

- C. For furnishing, installing and removing unit assemblies of linestopping system (6" thru 12" sizes) by Hydra-Stop, Inc. of Blue Island, Illinois or equal, complete, in-place and accepted, the Contractor will receive the contract unit price bid "Each" for "FURNISH, INSTALL AND REMOVE LINESSTOP", of the size listed in the Bid. Patching will be measured separately for payment under the appropriate pay items.
- D For furnishing and installing unit assemblies of valve boxes, complete, in-place and accepted, the Contractor will receive the contract unit price bid "Each" for "FURNISH AND INSTALL VALVE BOX", of the sizes and type listed in the bid.

No additional payment shall be made for removing and disposing abandoned water valve road boxes.

SECTION 02640 INSTALLATION OF FIRE HYDRANTS

1.1 DESCRIPTION

- A. The work covered under this section of the Specifications consists of the furnishing of all labor, equipment, materials, appurtenances, and performing all operations in connection with the installation of Fire Hydrants, at the locations and to the details indicated, and/or as directed by the Owner including removal of designated existing fire hydrants and delivery of same to the LWC, and all other related appurtenant work, complete, in-place and accepted.

All fire hydrants shall conform to the requirements of AWWA Specification C502, latest revision and to the additional requirements specified herein. Manufacturer shall supply complete maintenance data drawings for approval, and certificates of compliance in accordance with Section 1 of AWWA Specifications.

As shown on the Plans, or as directed by the Engineer, existing hydrants shall be either replaced with new hydrants as specified herein, or shall be reset. Hydrants designated to be reset will have new hydrant Tee and Gate Valve and Branch installed.

1.2 MATERIAL

- A. All hydrants shall be of the dry barrel, compression shut off type closing with the pressure, with National Standard Thread. For purposes of standardization, hydrants shall be the K-81A Guardian, as manufactured by Kennedy. The drain valve shall operate automatically when the hydrant is operated, to provide drainage of the barrel. Bronze to bronze seating shall be standard.

The valve drainway shall be all bronze. Pressure seals in the main valve area shall be o-rings. Hydrants shall conform to the additional requirements specified herein:

Bury Length: Exact bury is to be determined in the field by the Contractor, prior to installation. Depth shall be per the manufacturer's specification.

Hydrants shall be equipped with the following features:

Type of Hydrant: Traffic type with safety stem coupling and safety flange.

Pumper Outlets:

Installed hydrants shall have One - 4-inch Pumper Outlet with cap, thread G.A. 7-465

Number of hose outlets:

Two - 2 1/2-inch Hose Outlets with caps, thread G.A.N.S.

Joint Type: 6" Mechanical Joints.

Type Construction:

Upper Valve Plate - Bronze Seat Ring - Bronze

Drain Ring - Bronze

Operating Nut - Bronze Nozzles – Bronze

Operating and cap nuts to be 1 3/8" point to flat pentagon

Size of Hydrant (Nominal Diameter of Main Valve Opening): 5 1/4- inches

Direction of Operating Nut Opening Rotation: Left

Stem type: Dual O-Ring

The foot piece, or elbow design, shall have smooth transitional contours for maximum flow, and shall be coated with approved epoxy. It shall have blocking pads for easier setting, and two (2) lugs for strapping. Inlet connection shall be standard 6-inch mechanical joint.

Hydrants shall conform to the Torque requirements specified in AWWA Specification C502, latest revision, regardless of bury length.

The opening between the wrench nut and top of the hydrant bonnet shall be protected from rain and dirt by an acceptable weather cap. Open left with arrow shall be on weather cap.

All nozzles shall be provided with heavy cast iron caps, screwed on and attached to the upper barrel by non-kinking chains with connector ring. Chain loop shall permit free turning of the cap.

All nozzles shall be fitted with gaskets. The operating nuts on nozzle caps shall be exactly the same size as that on top of the main stem. The operating nuts on nozzle caps and on top of the main stem shall be 1 3/8 inch pentagonal nuts. Hose and steamer nozzles shall be secured to the upper barrel by threads or quarter turn lock-type nozzles and locked into place for easy field replacement.

Hydrants shall have two coats of factory applied paint.

1. Barrel, Head. Bonnet and caps: Finish coat to be exterior alkyd gloss enamel recommended for metal services. COLOR: Yellow (Safety Yellow).
- B. Gate Valves and Valve Boxes for Fire Hydrants are specified under section 02620 of the Specifications.
- C. Ductile iron pipe for Fire Hydrants is specified under Section 02600 of the Specifications.
- D. 3/4" Crushed stone fill around Hydrants shall be per the Specifications in Section 02300, EARTH EXCAVATION AND BACKFILL.

- E. Class B Cement Concrete for thrust blocks and restraints as shown on the Drawings shall be as specified in Section 03000 "MISCELLANEOUS CONCRETE WORK".

1.3 INSPECTION

- A. All hydrants shall be carefully inspected by the Contractor for defects before installation and all defective, unsound or damaged materials shall be rejected.

1.4 PREPARATION

- A. Proper implements, tools, and facilities, satisfactory to the Owner, shall be provided by the Contractor for the proper and satisfactory execution of the work.
- B. The interior of new hydrants shall be thoroughly cleaned of foreign matter before being lowered into the trench and shall be kept clean during laying operations.
- C. The trench bottom and bedding shall be shaped and compacted and a flat rock or block shall be placed beneath the hydrant to give substantially uniform unyielding support to the hydrant.
- D. Hydrants and accessories shall be handled, stored, installed, jointed and protected by the Contractor in strict accordance with the printed recommendations of the manufacturer.

1.5 INSTALLATION

- A. Installation of Fire Hydrants shall be in conformance with the requirements of AWWA specification C600, latest revision, and as indicated by drawings and as directed by the Owner.

All new and reset hydrants shall be buried to a depth as specified by the manufacturer.

- B. Resetting of existing fire hydrants shall be accomplished by the removal of the existing hydrant, hydrant service pipe and gate valve, and reinstallation of the existing hydrant, a new swivel hydrant tee, a new 6-inch ductile iron hydrant service pipe, a new 6-inch gate valve and a new valve box. The new hydrant service pipe shall be of one piece, if possible, between the hydrant and the gate valve and be properly restrained using mechanical joint restraints. The existing hydrant shall be reconnected to the new hydrant service pipe according to details provided on the Drawings and as directed by the Owner.

If in the event that the reset hydrant is in need of an extension (flange nuts are below grade), the proper barrel extension or vertical bend is to be properly installed by the Contractor at no additional cost to the Owner, per Detail. Hydrant

extension or vertical bend must be approved by LWC prior to installation.

- C. Hydrant and hydrant branch shall be installed in dry trenches and shall not be installed when trench or weather conditions are unsuitable for such work.
- D. Proper equipment, tools and facilities shall be provided by the Contractor for the proper and satisfactory execution of the work.
- E. The trench bottom and bedding shall be shaped and compacted to provide substantially uniform support to the full length as the branch pipe and the hydrant heel.
- F. A drainage pit shall be constructed and filled with crushed stone around the heel of the hydrant at the "drain holes". Stone in this area shall be covered with felt roofing paper to prevent material from filling voids in stone.
- G. A gate valve shall be installed on each hydrant branch. The valve box shall be centered over the operating nut and adjusted to grade. Valve box shall be supported during backfill to maintain alignment.
- H. Backfill material shall be deposited evenly on both sides of the branch pipe and hydrant in tamped layers, not exceeding 6" in depth until a point 12" above the pipe has been reached.
- I. Concrete thrust blocks shall be installed as specified in the Drawings and required in this Specification. Care shall be taken to insure that concrete does not plug the drain ports.

1.6 JOINTING

- A. When cutting of the pipe is required, the cutting shall be done by machine, leaving a smooth cut at right angles to the axis of the pipe. Cement lining shall be undamaged.
- B. Mechanical joints and gaskets shall be thoroughly cleaned and lubricated before assembly. Bolts shall be tightened to specified torques.
- C. All joints on the hydrant branch must be restrained (See Drawings).

1.7 Existing Hydrant Removal

- A. The Contractor shall remove all hydrants designated for removal in the drawings. The Contractor shall provide all labor and materials, and all incidental work for removing, backfilling, restoring the ground surface, repaving, and/or restoration to existing conditions to all that is disturbed during removal. Existing hydrants, gate boxes and covers, and curb boxes, removed shall remain the property of the

LWC, and shall be delivered by the Contractor to the LWC pipe yard in Lincoln, Rhode Island.

1.8 MEASUREMENT

A. FURNISH AND INSTALL FIRE HYDRANT, TEE AND GATE VALVE (BID ITEM 7a)

Fire Hydrants ASSEMBLIES will be measured for payment as units "Each" complete, in-place, as specified, and as shown on the Drawings.

1.9 PAYMENT

A. Fire Hydrants measured for payment as specified above, will be paid for at the unit price bid for "FURNISH AND INSTALL FIRE HYDRANT, TEE AND GATE VALVE", as listed in the Bid, which shall constitute full compensation for furnishing and installing all hydrants, including hydrant branch tee, gate valve, valve box, ductile iron pipe and bedding, restraints, tie rods, jointing materials, and accessories, and all incidentals necessary to complete the work as specified, indicated on the Drawings, or as directed by the Owner.

Ductile iron hydrant branch tee for Fire Hydrants shall be paid for under the Pay Item for the Fire Hydrant.

Gate Valves and Valve Boxes for Fire Hydrants shall be paid for under the Pay Item for the Fire Hydrant.

Ductile iron pipe for Fire Hydrants shall be paid for under the Pay Item for the Fire Hydrant.

Class B Cement Concrete for thrust blocks and restraints for fire hydrants shall be paid for under the Pay Item for the Fire Hydrant.

$\frac{3}{4}$ " Crushed stone used as bedding for fire hydrants shall be paid for under the Pay Item for the Fire Hydrant.

SECTION 02650 WATER SERVICE LINES

1.1 SCOPE OF WORK

- A. This section covers the furnishing of all labor, equipment, and appurtenances, and performing all operations in connection with the installation of new water service connections, the replacement of old water services, and the installation of new air release valves, consisting of piping, goosenecks, fittings and adapters, corporation stops, hydrant stops, curb stops, curb and valve boxes and all appurtenant items, complete, in-place, as shown on the Drawings, as specified herein or as otherwise directed by the Owner. The work shall also include removing existing curb stops and curb boxes.

1.2 QUALITY ASSURANCE

- A. Reference Standards:
 - AWWA C800: Standard for Underground Service Line Valves and Fittings.
 - ASTM B88: Seamless Copper Water Tube.
- B. Submittals:
 - 1. Shop Drawings:

Shop drawings showing type of material and construction details for pipe, fittings, joints, corporation stops, hydrant stops, curb stops, curb boxes, valve boxes, and appurtenant items.
 - 2. Conformance Certificates:

Each shipment of corporation stops, hydrant stops, curb stops, curb boxes, and valve boxes shall be accompanied with the manufacturer's notarized certification that materials meet specification requirements.

1.3 PRODUCT, DELIVER, STORAGE AND HANDLING

- A. Do not deliver water service materials to the job site until ready for installation. Water service materials shall be stored in a clean dust free environment and shall be properly handled to prevent damage to materials and crimping of copper tubing.

1.4 MATERIALS

ALL BRASS GOODS ARE TO BE LEAD FREE.

- A. CORPORATION STOPS

Corporation stops for water service lines shall be bronze composition containing not less than 85 percent copper. All components of the corporation stop except for certain parts of the outlet connection, shall be manufactured in accordance with A.W.W.A. standard C-800 latest revision and shall be lead free.

All corporation stops for 1-inch copper water service lines shall be Ford F-1000-4-NL or approved equal (ball valve compression connection type, C.C. thread).

All corporation stops for 2-inch copper water service lines shall be Ford FB 1000-7-NL or approved equal (ball valve compression connection type, I.P. thread). All 2" Corporation installations shall be made using a stainless steel service saddle.

B. CURB STOPS

Curb stops shall be 2 1/4" diameter open left and manufactured of **lead free** brass, cast in conformance with A.W.W.A. standard C-800. 1" curb stops for copper water service lines shall be Ford B-44-444-NL or approved equal (ball valve compression connection type). 2" curb stops for copper water service lines shall be Ford B-44-777-NL or approved equal (ball valve compression connection type).

C. CURB BOXES

Curb boxes for curb stops shall be a rod type service box with a plug cover, 42-inch rod, and adjustable from 54" to 66", as manufactured by Mueller Model H-10334 (1"), Bibby Ste-Croix Model V313 or approved equal (2"). The covers for curb boxes shall be screwed to the top section and shall have a brass plug, and shall have the word "WATER" cast in them. Curb stops shall be placed on a bedding of sand.

D. FITTINGS

All necessary fittings and adapters shall provide for the complete and proper fitting and installation of all water service lines. Fittings and adapters for flared pipe ends, shall be I.P. threaded brass fittings, bearing the trademark of maker, and shall be tested for casting defects. Fittings and adapters shall be as manufactured by Ford Company, or approved equal. Where the type of fittings or adapters is not indicated they shall conform to the standards of the LWC, and they shall be of approved types.

E. WATER SERVICE PIPE

All new water service piping shall be ASTM 688, Type K, soft temper copper water tubing (or, if approved by the LWC, CTS-PE plastic service pipe). Copper

tubing shall be as manufactured by Halstead Metal Products, a Division of Halstead Industries, Inc. PE pipe shall be sized to match standard copper service pipes.

A new water service corporation shall be installed for each existing house service in the locations where the new water main is being installed, as shown on the drawings, or as otherwise directed by the Owner. Any non-copper water service line shall be replaced. The new water service line shall extend from the new ductile iron water main to the property line including the curb stop and box, as shown on the Detail Drawings. Connection of new service pipe to existing service pipe shall be made with an approved compression coupling. Service pipe shall be laid to the depth and configuration shown on the Drawings. After the new main has been placed in operation, service to the homes shall be transferred by connecting the new service to the existing service at the curb stop.

F. COMPRESSION COUPLINGS

Compression couplings, as required for connection of service connections on the new main to existing customer water service lines shall be as follows:

1. ¾" coupling pack joint copper or plastic tubing (C.T.S.) both ends shall be Ford Model # C-44-33 or approved equal.
2. 1" coupling pack joint copper or plastic tubing (C.T.S.) both ends shall be Ford Model # C-44-44 or approved equal
3. ¾" coupling pack joint copper or plastic tubing (C.T.S.) both ends shall be Ford Model # C-44-77 or approved equal

F. AIR RELEASE VALVES

Corporation and Curb stops for air release valves shall be 1-inch and shall be Ford F-400-4-NL corporation stop and Ford BC-11-444-SW-NL curb stop with drain, or approved equal, installed with all nipples and fittings as shown on the Contract Drawings.

Air release valves will be furnished with 1-inch brass pipe riser tubes to the lengths required, and 1-inch brass caps, corporation stops and close nipples, as shown on the Contract Drawings. Ductile iron pipe will be drilled and tapped to accept the approved 1-inch corporation stop.

Valve boxes for air release valves shall be of tough even-grained cast iron and of the adjustable, slip, heavy pattern type. The upper section of the box shall be provided with a flange having sufficient bearing area to prevent under settlement. The length of the top section shall be at least 26-inch and the length of the top section shall be at least 36-inch for a 5-foot box. The inside diameter of the box shall be at least 5- 1/4-inches. The lower section of the box shall be designed with a bell to enclose the nut and the air release valve assemblies as shown on the Contract Drawings. Covers shall be tight-fitting and essentially dirt-tight, shall be

flush with top of the box, and shall be marked as noted on the Contract Drawings "WATER". Valve boxes shall be suitable for the size valve on which they are used.

G. BLOW-OFF VALVES

Blow-Off valve assemblies shall be 2" brass as depicted in Commission Installation Specifications.

1.5 EXECUTION

A. 2" WATER SERVICE AND AIR RELEASE VALVE LOCATIONS

Taps for water service corporation stops shall be made where shown on the Drawings or as directed by the Owner. The tapping machine shall be of approved design and in good operating condition. Only a clean, sharp drill-tap tool of the proper size and thread shall be used. The machine shall be firmly clamped to the pipe at an angle of about 90 degrees as indicated on the plans. Threads shall be clean and sharp and deep enough so that no more than three threads show when the stop is inserted and tightened with the operating nut on top. The stop shall be tightened only enough to make a watertight joint and not over tightened.

Exact locations of corporation stops, service lines and curb stops and boxes will be as designated in the field by the Engineer. Air release valves will be installed at high points along the limits of the water main installation, as shown on the Drawings or designated in the field by the Owner to permit the future release of air which may become entrapped in the water mains.

1.6 INSPECTION

A. Examine the copper tubing and brass pipe, and fittings, corporation stops, hydrant stops, curb stops and boxes for cracks, flaws or other defects. Remove all defective materials from the job site.

1.7 INSTALLATION

A. Workmanship:

All copper service water pipe and brass pipe, and fittings, corporation stops, hydrants, curb stops, and curb and valve boxes shall be installed by skilled workmen in an approved manner, and shall conform to the requirements of the LWC. All services are to be installed perpendicular to the center line of street and as straight and bend free as possible.

B. Jointing:

Jointing of copper tubing, brass pipe and fittings, corporation stops, hydrant stops, curb stops and compression couplings shall be in strict accordance with the printed recommendations of the respective manufacturers and only utilized if approved by the LWC.

C. Corporation Stops:

For the purpose of installing corporation stops, the pipeline shall be tapped in strict accordance with the pipe manufacturer's printed recommendations and as approved. Corporation stops shall be tightened with a torsion wrench to the torque specified by the manufacturer and to ensure a watertight connection. Taps for corporation stops shall be made adjacent to the existing service lines or as directed by the Owner. The tapping machine shall be of approved design and in good operating condition. Only a clean, sharp drill-tap tool of the proper size and thread shall be used. The machine shall be firmly clamped to the pipe at an angle of about 45 degrees (at the two o'clock or 10 o'clock position). The drill-tap tool shall not be forced through the pipe wall. Threads shall be clean and sharp and deep enough so that no more than three threads show when the stop is inserted and tightened with the operating nut on top. The stop shall be tightened only enough to make a watertight joint and not over tightened.

Corporation stops 3/4" and larger shall be reused where the water main is not being replaced and the corporation is undamaged. All corporations to be reused as such shall be redrilled to remove any accumulated material within them. The drilling tool shall be one consistent with the design of water main drilling tools such as the Mueller E-5.

D. Curbstops and boxes:

The new curb stops and curb boxes shall be installed on the end of the new service line and shall be tested for leakage and disinfected along with the new main and service pipe. The curb stop shall be firmly bedded in the bottom of the service pipe trench with the key in the vertical position. All curbstops, where possible, are to be installed to the property line defined as not more than 10 feet off shoulder of road.

Before backfilling, curb boxes shall be centered over the curb stop on a firm foundation and shall be placed perfectly plumb so that the operating wrench can be placed in position easily. Special care shall be taken by the Contractor that no earth, stones or other obstructions enter the curb boxes during backfilling and that the earth is firmly tamped around the box so that it will remain centered and in a vertical position. The top section of the box shall be adjusted so that the cover is flush with the ground surface.

E. Permanent 2" Blow-Off Assembly:

Work under this section shall include, but not be limited to, excavation (regardless of surface and subsurface conditions), installing the connection to the main, blowoff lateral and valve, blowoff discharge pipeline, backfilling, installing the blowoff valve box and riser box along with lid and extensions, forming and pouring of valve and riser box pad, installing a valve operator extension shaft, placement of stone slope protection, restoration of the surface area around the Blowoff Valve Assembly, and installing a post and guide marker.

The minimum size blowoff valve assembly covered by this specification is 2-inches. Blowoff Valve Assemblies shall be designed to withstand a pressure of 150 psi.

Materials furnished for Blowoff Valve Assemblies shall include, but not be limited to, saddles, fittings or end caps with restraints used for the connection to the main, pipe and fittings used for the blowoff discharge line, blowoff valve, valve and riser boxes along with lid and extensions, drain rock, concrete for valve and riser box pads, valve operator extension shafts, slope protection, materials necessary for restoration of the area around the assemblies, and posts and guide markers. Blowoff discharge pipelines are constructed as either a riser pipe, or as a discharge pipe into a drainage structure or natural drainage course. Fittings shall be placed on the end of discharge pipe to direct the flow of water so as to minimize damage to surrounding areas. The LWC will make the final determination as to the direction of the discharge water, and the amount of slope protection to be placed around the end of the discharge pipe in order to dissipate the velocity of the water and prevent erosion.

For 2-inch blowoff valve assemblies, the pipe and fittings shall be brass. Brass pipe shall conform in all respects to Section 34 Brass Pipe and Fittings and shall be standard weight. Pipe ends shall be finished with male iron pipe threads.

F. Air Release or Blow-Off Valves:

For the purpose of installing corporation stops for air release or blow-off valves, the pipeline shall be tapped in strict accordance with the pipe manufacturer's printed recommendations and as specified above for corporation stops.

Hydrant or curb stops, and brass riser tubes and fittings for air release or blow-off valves will be installed as shown on the Contract Drawings and the complete assembly shall be tested for leakage and disinfected along with the new main. Before backfilling, air release or blow-off valve boxes shall be placed on a concrete foundation as shown on the Drawings, and arranged so that the tee handle can be opened and closed using a standard curb stop wrench. Special care shall be taken by the Contractor that no earth, stones, or other obstructions enter the air release or blow-off valve boxes during backfilling, and that the earth is

firmly tamped around the box so that it will remain in the vertical, proper position. The top section of the box shall be adjusted so that the cover is flush with the pavement or ground surface.

G. Testing Disinfection:

Hydrostatic and leakage tests and disinfection shall be performed in accordance with Section 02900 "TESTING AND DISINFECTING OF WATER MAINS". No separate payment will be made for testing and disinfection, and the cost thereof shall be deemed to be included in the work required herein, but an additional retention from progress payments due the Contractor shall be made as outlined below.

H. Remove and Dispose Existing Water Service:

Existing unused water services shall be shut off at the corporation stop and the existing water service pipe, curb stop and curb box shall be removed and disposed. Corporation stops shall be replaced with plugs.

I. Remove and Replace Existing Corporation Stop:

Existing corporation stops that are less than 3/4-inch in size or damaged and that are attached to water mains that will not be replaced shall be removed. Sizes and types of outlet threads on existing corporation stops shall be determined in the field by the Contractor. The existing under sized tap will then be redrilled and tapped for a 1-inch corporation stop to be installed as previously specified.

1.8 MEASUREMENT

A. FURNISH AND INSTALL SERVICE LINE PIPING
(BID ITEMS 8a, 8b and 9 AND 10a, 10b)

Copper or plastic tubing for water services including gooseneck and fittings, will be measured for payment by the unit linear foot (L.F.), complete in place, and measured as the actual number of linear feet of service pipe installed as ordered by the Engineer from the corporation to the connection coupling union in a straight line, parallel with the roadway surface.

Removal and Disposal of existing water services will be NOT be measured for payment but shall be included in the price for service pipe installation.

B. FURNISH AND INSTALL CORPORATION STOP
(BID ITEM 11 a and 11b and 11c)

Corporation stops will be measured for payment by the unit "Each" which shall include all corporation stops, tools, equipment, plugs, and all other related incidental items per each removed and replaced corporation stop.

Removal and disposal of existing corporation stops will NOT be measured for payment but shall be included in the price for installation of the new Corporation Stop.

**B. FURNISH AND INSTALL COMPRESSION COUPLING
(BID ITEM 12 a and 12b and 12c)**

Compression couplings will be measured for payment by the unit "Each" which shall include all couplings, tools, equipment, and all other related incidental items per each installed compression coupling.

**C. FURNISH AND INSTALL CURB STOP AND CURB BOX
(BID ITEMS 13a and 13b and 13c)**

Curb stops with curb boxes will be measured for payment by the unit "Each" which shall include all curb stops and boxes, tools, equipment, plugs, and all other related incidental items per each removed and replaced Curb Stop and Box. Removal and disposal of existing curb stops and curb will NOT be measured for payment but shall be included in the price for installation of the new Curb Stop and Box.

D. FURNISH AND INSTALL 2" BLOWOFF ASSEMBLY (BID ITEM 5c)

2" Blow-off Assemblies will be measured for payment by the unit "Each", which shall include the watermain end cap and restraint, brass riser tube and fittings, and valve box, and all other incidentals required for proper installation of the Blowoff.

Installation (and Removal) of Air Release Valves will NOT be measured for payment but shall be included in the Project Cost under related bid items.

1.9 PAYMENT

A. Water Service Pipe:

Payment for water service pipe, as specified above, will be made at the unit price bid for "FURNISH AND INSTALL SERVICE LINE PIPING", as listed in the Bid for the sizes required, which shall include full compensation for removing, if necessary, the old water service pipe, installing and connecting the water service pipe complete with gooseneck, fittings, adapters and couplings; and performing all incidental work necessary to complete the work in accordance with the Drawings and Specifications, and as directed by the Owner. An additional

retention from progress payment due the Contractor shall be made for testing and disinfecting, as outlined below.

B. Corporation Stops:

Payment for corporation stops as specified above will be made at the unit price bid for "FURNISH AND INSTALL CORPORATION STOP", as listed in the Bid, which shall include full compensation for all materials, tools, equipment and work necessary and required to install new corporation stops, including removal and disposal of the existing corporation stop.

C. Curb Stops and Curb Boxes:

Payment for curb stops and curb boxes as specified above will be made at the unit price bid for "FURNISH AND INSTALL CURB STOP", as listed in the Bid, which shall include full compensation for all materials, tools, equipment and work necessary and required to remove, if necessary the old curb stop and curb box, and to install new curb stops and curb boxes.

D. Air Release or Blow-Off Valves:

Payment for air release or blow-off valves as specified above, will not be paid separately. The cost shall be included in other Bid Items, as necessary, which shall include full compensation for all materials, tools, equipment and work necessary and required to install new hydrant stops, corporation stops, brass riser tubes and fittings, and valve boxes.

SECTION 02750 TEMPORARY BYPASS PIPING AND SERVICES

1.1 SCOPE OF WORK

- A. The Contractor shall stage his work to minimize disruption of water service to abutters. However the Contractor will not be permitted to temporarily interconnect the systems until all required procedures for chlorination, disinfection and testing of the new water mains, as specified in Section 02900 "TESTING AND DISINFECTING WATER MAINS" have been performed, and the procedures approved in writing by the Owner.
- B. Prior to installation, the Contractor shall prepare a plan (2 copies) showing all proposed bypass piping locations and shall submit this plan to the Owner and local Fire Chief for review. Upon receipt of written approval by the Owner and Fire Chief, the Contractor will proceed to install and be compensated for the temporary bypass piping and services, as outlined in this Section. Should it be determined at any time during the construction, that the proposed bypass piping cannot be installed as shown on the temporary bypass piping plan or in alternate locations approved by the Owner, without extensive disruption of service of the existing water system, the Contractor will immediately notify the Owner. The Engineer shall have the final approval on the layout and pipe sizes of the proposed bypass piping system.
- C. The work covered under this Section of the Specifications includes the furnishing of all labor, equipment, tools, appurtenances and materials, and performing all operations in connection with providing, maintaining, repairing, and removing all temporary bypass piping and service connections, as specified. Use of temporary bypass piping shall be limited as outlined above. Temporary bypass piping includes temporary building service piping and connections, valves, fittings, piping, hydrants, connections to other piping and facilities, disinfection of temporary bypass line and service piping, excavations and backfills, restoration or replacement of all disturbed existing work, crossings over traveled ways, and all other incidental and appurtenant work required to satisfactorily provide temporary water service to consumers, for domestic and fire protection uses, complete, in strict accordance with the Specifications and Drawings, and as directed.

Any and all temporary materials and work required to provide for the interconnection and disconnection of the systems will not be considered temporary bypass piping, but shall be considered incidental to the work, and compensation for such work shall be considered to be included in the prices bid for the applicable items for work under this contract

- D. Where fire hydrants are by-passed, a 4-inch bypass line shall be used and a 4-inch outlet complete with valve shall serve as a temporary hydrant. The temporary hydrant shall be on the same side of the street and within 25 feet of the existing fire hydrant.
- E. All temporary bypass piping and building service connections shall be provided in such a manner that all public health and safety requirements of the State and Owner shall be strictly adhered to at all times. It shall be the responsibility of the Contractor to familiarize himself with all State and LWC public health and safety requirements as they may affect the work under this contract. All temporary bypass service piping and building services shall be provided, kept in repair, and maintained in such a manner so as to prevent injury to persons, or damage to the work or public and private property and to maintain the public health.

1.2 PIPING, VALVES, HYDRANTS AND HOSES

- A. All pipe and appurtenances used in providing the temporary bypass service piping must be designated for potable/residential use and have NSF 61 certification for use in contact with potable water.

Piping shall be High Density Polyethelene (HDPE) SDR -11, NSF 61 Certified. The pipe shall be Drisco-Plex PE 3408 or approved equal HDPE, butt-fusion welded, each joint being restrained, or approved equal. Service hose/tubing shall be NSF 61 certified and shall be a high purity street to home potable water hose with a PVC tube and blue PVC compound cover.

All pipe and appurtenances shall be in good condition and adequate to withstand at least 1- 1/2 times the normal water working pressures and all other conditions of use. The pipe and other materials shall provide adequate watertightness and be constructed of a material acceptable to the Owner and proven to be approved for contact with drinking water by the NSF-61. Temporary hydrants shall meet the approval of the LWC and local Fire Department prior to installation. In general, any bypass piping including a temporary hydrant shall be 4-inch minimum.

All hoses shall be 1-inch minimum diameter and shall be capable of withstanding at least 1-1/2 times the normal water working pressures and all other conditions of use. All hoses that are to supply potable water to buildings are to be NSF-61 approved for contact with drinking water.

- B. EXECUTION

The Contractor shall provide temporary valved bypass piping and services as required and approved to satisfactorily provide adequate fire protection and serve all water customers serviced by the section of water main that is out of service during the performance of the work under this contract. In general, bypass pipe shall be 4-inch diameter. Road crossings with 1" hose will not be permitted. Dead-end bypass lines shall be provided with valves and piping for blowoffs and bleeding. The Contractor shall provide temporary building service connections to every building served by the section of water main taken out of service.

Temporary building service connections shall extend from the 4-inch bypass pipe and shall be of adequate size to satisfactorily provide adequate water to the building being serviced. No separate payment will be made for building service connections, but the cost thereof shall be deemed to be included in the unit price bid for furnishing and installing the 4-inch temporary bypass pipe and services.

In general, all temporary piping and services shall be provided in such a manner as to protect it from damage and to insure uninterrupted supply, and shall be located out of traveled ways where practicable, in locations where it will cause the least obstruction and inconvenience, and where it will be least subject to damage.

The bypass pipes shall be supplied from connections made to hydrants or existing water mains that are to remain in service. Wherever possible, each bypass piping section shall have a minimum of two (2) feeds. The Contractor shall furnish all work and fittings and make all necessary connections required to supply the bypass pipes (including services) with water from hydrants or existing water mains. Procedures for connecting bypass pipes to existing water mains that are to remain in service are specified elsewhere in this Section.

All temporary building service connections shall extend from the bypass pipe and terminate at the connection to the building plumbing. Temporary building services shall include all necessary hoses, pipes, valves, and fittings, of approved size, required to service consumers.

The Contractor shall make the actual connection and disconnection to the consumer's building plumbing, and shall coordinate his work with the owner of any building to be serviced so that there will be the least amount of inconvenience to the owners. In general, the Contractor may connect temporary service hose or piping to the consumer's plumbing by any means acceptable to the LWC and the property owner, including either inside or outside connections to temporarily disassembled water system components, or direct connections to hose bibs, standpipes or other acceptable connection points. The locations of connections and methods used must be acceptable to the LWC and the property owners. At the request of the property owner, outside connections to hose bibs shall include a "Y" type hose connection fitting at no additional cost to the LWC.

In the event that the contractor deems it necessary to "drop" meters in customer's homes for connection to the bypass, he shall make arrangements to have members of the LWC meter department present when the meters are reinstalled. Arrangements are to be made with the LWC meter department supervisor and require a minimum of 24 hour prior notice. All meters will be inspected and resealed by the LWC at this time. All existing meters are to be reinstalled with new leather gaskets provided by the LWC. At the discretion of the Engineer, meters are to be reinstalled with the presence of a LWC meter department official or "spot checked" for compliance. The contractor is responsible for all scheduling and notifications for the affected customers.

Once put in use, all temporary piping and services shall be maintained by the contractor until the new water main is placed in service. Any interruptions,

whether caused by frost, physical damage, or otherwise, shall be immediately corrected by the contractor, and the service restored or replaced without additional payment.

1.3 PIPING CROSSING TRAVELED WAYS

The Contractor shall layout temporary bypass piping in such a manner as to minimize the number of street crossings required. Where temporary bypass pipes and service lines are permitted to cross streets, driveways or sidewalks, the Contractor shall provide all necessary and required construction to protect and prevent injury to persons, property, vehicles and the pipelines. At street crossings, narrow trenches shall be excavated and the pipe shall be installed below the roadway surface with bituminous concrete placed around and above the pipe flush with the existing roadway surface. At driveways, provisions shall be made, as approved by the Owner, to permit vehicles to drive over the temporary pipe by the use of ramps constructed of bituminous concrete, wood or other acceptable material on each side of the pipe; by depressing the pipe as at street crossings; or by such other methods that may be acceptable and suitable for the purpose intended.

The Contractor shall provide watchmen, lights, barriers, signs and such other methods as may be necessary or required to maintain and direct traffic through the project and to prevent injury to persons and property and to comply with all State and Local safety codes, ordinances and regulations. Separate payment will not be made for the furnishing of watchmen, lights, barriers, signs, etc. for protection of traffic and to prevent injury to persons and property, as specified under Section 01650 "PROTECTION OF TRAFFIC, PERSONS AND PROPERTY".

All cutting of pavements shall be made using mechanical pavement cutters; trenches shall be straight and all cut edges shall be clean vertical faces. Temporary and permanent pavement required to restore pavement, sidewalks, and driveways damaged or displaced as a result of the work under the section, is specified under Section 02500 "PAVEMENT RESTORATION"; and payment will be made for such work, under the applicable items, as listed in the Bid.

1.4 DISINFECTION

All temporary bypass lines, services and connections shall be disinfected just before being placed into service. Disinfection of service lines shall be done as part of the work included under this section of the specifications and in accordance with the requirements specified under Section 02900 "TESTING AND DISINFECTING WATER MAINS". No separate payment will be made for such work, but the cost thereof shall be deemed to be included in the work required herein.

1.5 DISCONNECTION AND REMOVAL OF TEMPORARY PIPING

After the new water main is accepted and placed in service, and permanent service to consumers has been restored, and when approved, the Contractor shall remove all

temporary bypass piping and building service connections, and all other temporary work, as directed; place temporary paving as required; restore to their original condition all walks, drives, curbs, grassed areas and such other parts which have been disturbed as a result of the Contractor's operations; and do all other work as necessary and directed to leave all work and property in a clean and acceptable condition, at no additional expense to the Owner. Where bypass is to be retained for service to adjacent sections or streets, the work shall be so scheduled to minimize the overall "in-place" time.

1.6 PROTECTION

The Contractor shall be responsible for taking and providing all necessary and required precautionary measures at all times during the installation and removal of the temporary bypass service piping and building service connections, to prevent any contamination of the water supply, LWC mains and service piping, and for the protection of public health and safety.

1.7 TEMPORARY CONNECTIONS TO EXISTING WATER MAINS

At some locations, as directed or approved by the Owner, it may be necessary to install tees or corporation stops in existing water mains in order to supply the temporary bypass piping with water service. The types of connections made shall be determined by the water service requirements and shall be as approved or directed by the Owner.

At locations, as approved or directed by the Owner, where connections for temporary bypass piping are to be made underground to the existing water mains with corporation stops, the Contractor shall make the necessary excavations at the locations and to the limits as necessary to uncover the existing underground water lines and permit the installation of corporation stops thereto. The Contractor shall furnish and install a 2" corporation stop, a pipe nipple or gooseneck and a shutoff valve at the connection to the existing water line; utilizing a meter and RPZ connect the temporary bypass piping to the shutoff valve and, where directed by the Owner, backfill the excavation and install temporary bituminous pavement. When the need for the service piping has ceased, the Contractor shall re-excavate, where necessary, remove the corporation stop; install a threaded plug, disconnect and remove the service piping, shutoff valve, and pipe nipple or gooseneck; backfill the excavations; and provide the gravel base course and temporary and permanent pavements over the excavated and disturbed areas in accordance with the requirements specified and as directed. Payment for corporation stops and accessories, and all labor for connecting the temporary bypass pipe to the existing water main will NOT be paid for separately but shall be included in the unit price bid for FURNISHING AND INSTALLING TEMPORARY BYPASS PIPING as listed in the Bid.

1.8 TEMPORARY FIRE HYDRANTS

Where fire hydrants are by-passed, the Contractor shall furnish, install, maintain and remove temporary hydrants. The temporary hydrant shall be placed within 25 ft and on

the same side of the street of the hydrant to be out of service. A 4-inch bypass line shall be used and a 4-inch outlet complete with valve shall serve as a temporary hydrant.

Temporary hydrants shall meet the approval of the Owner and the Fire Department, and shall be set in such a manner that the Fire Department will have no difficulty making a connection with a fire hose, and where they will cause the least obstruction to vehicular and pedestrian traffic, and will be least likely to be damaged. Nozzles shall be threaded for cap and grooved for fire hose attachment, using National Standard Thread. Before permanently shutting off the water main that is to be replaced, the Contractor shall test all temporary hydrants and valves to be sure that they are in proper working order. Once put into use, the temporary hydrants shall be maintained until the existing hydrants and/or new hydrants are restored to service. Any existing hydrants that are out of service shall be "bagged" by the contractor and reported to the fire department as being out of service. No separate payment will be made for temporary hydrants, but the cost thereof shall be deemed to be included in the unit price bid for furnishing and installing temporary bypass piping and services.

1.9 EARTHWORK

All earthwork including excavation, refill, backfill and appurtenant work required in connection with providing, installing, maintaining, repairing and removing temporary bypass service piping shall be performed in accordance with these Specifications, and to additional requirements specified herein. No separate payment will be made for such work, but the cost thereof shall be deemed to be included in the work required under this section of the Specifications.

1.10 MEASUREMENT AND PAYMENT

A. MEASUREMENT

FURNISH AND INSTALL TEMPORARY HDPE WATER BYPASS PIPING (BID ITEM 7b)

"TEMPORARY HDPE WATER BYPASS PIPING" shall be measured for payment at the unit linear foot (L.F.), as the actual laid length of bypass piping. No separate payment will be made for piping for building services of any size. Any temporary bypass piping smaller than 2-inches in diameter will not be paid for. The unit price bid shall include full compensation for furnishing, installing, maintaining and removing, all temporary bypass piping and building service connections in complete conformance with these Specifications and accepted by the Owner.

Corporation Stops and connections to existing mains, where necessary, will not be measured separately for payment.

Temporary hydrants will not be measured separately for payment.

Temporary and permanent pavement required in connection with the repair of bypass piping trenches will be measured for payment in square yards (S.Y.) under the appropriate items. Measurement will be the actual length of trench and a maximum payment width of one (1) foot.

B. PAYMENT

"TEMPORARY HDPE WATER BYPASS PIPING" will be paid for as specified above, at the unit prices bid, which shall constitute full compensation for the furnishing of all labor, equipment, tools, supplies, appurtenances, materials and all work incidental and necessary for satisfactorily installing, maintaining, repairing and removing all temporary service piping, temporary hydrants, building service connections and connections to other piping and facilities; performing all earthwork including excavations, backfilling and borrow; compacting; restoring or replacing of all disturbed existing work; restoring disturbed curbing, sidewalks, drives, lawns and such other parts; providing all protective and safety measures; and performing all incidental work necessary to complete the items in accordance with the Drawings and Specifications, and as directed.

Temporary and permanent pavement required in connection with the providing of temporary by-pass piping and services will be paid for under the applicable items, as listed in the Bid.

Separate payment will not be made for furnishing and installing Corporation Stops and any other accessories for connection of temporary bypass piping to existing water mains or feed points on existing water mains for purposes of providing adequate water supply.

Separate payment will not be made for temporary service connections to buildings, extending from the temporary bypass pipe and terminating at the connection to the building plumbing or connection to building underground service piping, or for temporary building service connections which run from building to building; all costs in connection with furnishing, installing, maintaining and removing temporary building service connections will be included in the unit price bid for TEMPORARY BYPASS PIPING as listed in the Bid.

Separate payment will not be made for pipe, fittings, valves or such other accessories and appurtenances incorporated in the temporary bypass piping and services, unless otherwise directed, and all costs thereof shall be included under the unit price bid for TEMPORARY HDPE BYPASS PIPING as listed in the BID.

SECTION 2800 SITE RESTORATION

1.1 WORK INCLUDED

Except for items of work for which payment is specifically provided in the Bid Form, all work, labor, materials, tools, equipment, etc., specified, or referred to, in this Section or in other sections of the Contract Documents, shall be provided by the Contractor at no additional cost to Owner.

- A. Furnish all labor, materials, equipment and incidentals required to do the miscellaneous work described herein, which may not be specified in other sections of the Contract Documents, but necessary for the proper completion of the Project.
- B. The Contractor shall perform the work described here in accordance with the applicable section or sections of the Contract Documents. When no applicable specification exists the Contractor shall perform the work in accordance with the best
- C. The work of this Section includes, but is not necessarily limited to, the following:
 - 1. Incidental work.
 - 2. Clean up and restoring concrete, bituminous or gravel sidewalks and driveways, concrete, granite or bituminous curbing, fences, walls, guardrails and other physical features.
 - 3. Connections to existing water systems.
 - 4. Removal of hydrants, gate boxes and covers, and curb boxes. Restoration of pavement, sidewalk, curbing, and other material, disturbed by such removals, to conditions equal to existing.
 - 5. Cleaning up.
 - 6. Protection and/or removal and reinstallation of signs, lampposts, and mailboxes.
 - 7. Protection and bracing of utility poles.
 - 8. Restoring easement and right-of-ways.
 - 9. Crossing existing structures and utilities.

1.2 PRODUCTS

- A. Materials shall be the same quality of materials that are to be restored. Where possible, as approved by the Engineer, the Contractor may re-use existing materials that are removed.

1.3 CLEANING UP

- A. The Contractor shall remove all construction material, excess excavations, buildings, equipment and other debris remaining on the job as a result of

construction operations and shall restore the site of the work to a neat and orderly condition.

1.4 CROSSING AND RELOCATING EXISTING UTILITIES

- A. Included is work required in crossing sewers, including sewer service connections, culverts, water courses, brooks and drainage ditches, storm drains, gas mains, water mains, electric, telephone, gas and water services and other utilities. This work shall include but is not limited to the following: bracing, hand excavation, backfilling, and any other work required for crossing the utility or obstruction; and notification of utility companies.
- B. At pipe crossings, and where designated by the Engineer, the Contractor shall furnish and place screened gravel bedding so that the existing utility or pipe is firmly supported for its entire exposed length. The bedding shall extend to the mid-diameter of the pipe crossed.

1.5 RESTORING OF SIDEWALKS, DRIVEWAYS, CURBING, FENCES, AND GUARD RAILS

- A. Existing public and private sidewalks and driveways disturbed by the construction shall be replaced. Paved sidewalks and drives shall be repaved to the limits and thicknesses existing prior to construction. Gravel sidewalks and drives shall be replaced and regraded.
- B. Existing curbing shall be protected. If necessary, curbing shall be removed and replaced after backfilling. Curbing which is damaged during construction shall be replaced with curbing of equal quality and dimension as existing prior to construction.
- C. Existing walls and hedges in the vicinity of the work shall be protected from damage. If damaged, they shall be replaced or restored to a condition equal to or better than existed prior to construction.
- D. At locations as determined by the Engineer, it may be necessary for the Contractor to remove, store and replace existing fences and guard rails during construction of the water mains. Only the sections directed by the Engineer shall be removed. If any section of fence is damaged due to the Contractor's negligence, it shall be replaced with fencing equal to that damaged, and the work shall be satisfactory to the Engineer.
- E. Guard rails in the vicinity of the work shall be protected from damage. If damaged, guard rails shall be replaced in condition equal to that existing before construction began.

1.6 RESTORATION AND REPLACEMENT OF SIGNS, LAMPPOSTS AND MAILBOXES

- A. Existing signs, lampposts and mailboxes which may be damaged by the Contractor or removed by the Contractor during the course of installing the new pipelines shall be reinstalled in a vertical position at the same location from which they were removed. Damaged items shall be replaced with an item equal to or better than the damaged items. A concrete anchor shall be provided as necessary to ensure a rigid alignment. Care shall be exercised in the reinstallation of all items to prevent damage to the newly installed pipelines.

1.7 PROTECTION AND BRACING OF UTILITY POLES

- A. The Contractor shall be responsible for making all arrangement with the proper utility companies for the bracing and protection of all utility poles that may be damaged or endangered by the Contractors operations. This work shall include the related removal and reinstallation of guy wires, or support poles whether shown on the Drawings or not.

1.8 RESTORING EASEMENTS AND RIGHT-OF-WAYS

- A. The Contractor shall be responsible for all damage to private and public property due to his operations. He shall protect from injury all walls, fences, cultivated shrubbery and vegetables, fruit trees, pavement, underground facilities, which may be encountered along the route. If removal and replacement are required, it shall be done in a workmanlike manner so that replacement is equivalent to that which existed prior to construction.
- B. Existing trees, plants and bushes outside of easements shall be fully protected.
- C. Any plant, shrub, or bush that is missing, or dead, as determined by the Engineer, shall be replaced. All replacements shall be plants of the same kind and size. The cost of replacement shall be borne by the Contractor except where it can be definitely shown that loss resulted from vandalism. At the end of the guarantee period, inspection will be made by the Engineer upon written submitted by the Contractor at least ten (10) days before the anticipated date. After all necessary corrective work has been completed and tree staking has been removed, the Engineer will certify in writing the final acceptance of the planting.

1.9 MEASUREMENT

- A. Daily sweeping and cleaning will not be measured separately for payment, but shall be deemed to be included in the cost of other items.

1.10 PAYMENT

- A. No separate payment will be made for normal daily sweeping and cleaning. Compensation for such work shall be considered to be included in the prices bid for other items of the proposal.

SECTION 02900 TESTING AND DISINFECTING WATER MAINS

1.1 DESCRIPTION

- A. Scope of the Work: The work covered under this section of the Specifications includes furnishing all labor, equipment, appurtenances, and materials, and performing all operations in connection with leakage testing and disinfecting all completed water pipelines, service connections and hydrant assemblies, and appurtenances, in accordance with this section of the Specifications and as directed by the Owner.
- B. At no time is there to be a physical connection between the existing distribution system and the newly installed main, until final approval is given by the LWC Engineer. The complete Pressure Testing, Flushing, and Disinfecting Procedures must be completed before the final approval is given, and the Contractor is allowed to make any connections to the existing distribution system. The Contractor shall utilize a separate, temporary piping system, conforming to the requirements of Section 02750 "TEMPORARY BYPASS PIPING", for flushing, filling, testing and chlorination of various sized water mains. The temporary piping system shall consist of corporation stops or valves on the supply line and the main to be filled. A reduced pressure zone device (relief valve between two check valves) shall be installed in the temporary piping system to insure that no water is allowed to return to the supply line. Fire hydrants may not be used for sampling points but may be utilized as a feed source if properly flushed and the above temporary piping system installed. Main line valves SHALL NOT be utilized to fill, flush, test or chlorinate water mains unless authorized and supervised by the Engineer.

1.2 MATERIALS

- A. Chlorine for disinfection shall be provided and used by the Contractor, and shall conform to AWWA Specification B300 and C651, latest revisions and be NSF-61 approved for contact with drinking water. The Contractor shall furnish the Owner a certificate of compliance that the disinfectant specified above conforms to the AWWA standards. NSF-61 approval shall be affixed to the container of chlorine.

1.3 HYDROSTATIC TESTING

- A. Tests for leakage shall be conducted on all portions of completed water pipelines and appurtenances, and all methods and procedures for performing the testing of

water mains shall be subject to the approval of the Owner. Interiors of all pipes shall be cleaned of all dirt and foreign materials prior to testing.

After the pipe has been laid and the trench has been backfilled, and before the work is accepted, each section of pipe shall be flushed, tested and disinfected. Water for testing and disinfection will be furnished by the Owner at no expense to the Contractor. The Contractor shall do all work and shall furnish all means and apparatus necessary for admitting water to the mains for disinfection and testing, including pumps, calibrated gages and metering devices.

The Contractor shall furnish all necessary equipment and labor for carrying out pressure test and leakage test on the pipelines. The procedures and methods shall be in accordance with AWWA C600, latest revision, and as specified herein.

Before applying the specified test pressure, all air shall be expelled from the pipe. If permanent air vents are not located at all high points, the Contractor shall install corporation cocks at such points so the air can be expelled as the line is filled with water. After all the air has been expelled, the corporation cocks shall be closed and the test pressure applied.

The Contractor shall furnish all necessary caps, plugs, etc., as required in conjunction with testing portions of the pipe between valves; furnish test pumps, gauges, and any other equipment required in conjunction with carrying out the hydrostatic tests.

The pressure and leakage tests shall be conducted concurrently at a pressure equal to 1.5 times the normal pressure but not less than 200 psi (pounds per square inch) for a minimum duration of 1 hour without loss as per LWC installation specifications. The leakage test shall be conducted at the time of the pressure test. Hydrant branch gate valves shall remain open during this test. If the leakage measured is more than that specified, the Contractor shall at once locate the leak or leaks and make the necessary repairs (at his own expenses) so that the leakage shall not exceed the amount specified. The Contractor shall employ throughout the test procedure qualified personnel experienced in the work. All records and charts are to become the property of the LWC.

The maximum length of pipe to be tested in one section shall be approved by the LWC prior to setting up the test.

In general, testing shall be carried out with as few permanently made-up connections to the existing water system as possible; with as many joints as practical uncovered and exposed; and in an approved manner. Pressure testing shall consist of completely filling each section from valve to valve with water from the water distribution system and maintaining a hydrostatic test pressure of 200 psi, measured at the highest point in the section, and shall be required to hold the pressure for at least 1 hour without loss. Testing of water mains shall be

performed by the Contractor at his expense and in the presence of the Engineer. The Engineer shall witness every test and rule on its acceptance. If the specified pressure cannot be held for the required period, the Contractor shall locate and repair the leaks and the pipelines shall be retested, repeatedly if necessary, by the Contractor, until the pressure test requirements are met, at no additional expense to the Owner.

1.4 DISINFECTING WATERMAINS AND APPURTENANCES

- A. All portions of completed watermains and appurtenances are to be disinfected before acceptance for operation by the Owner. The entire Testing and Disinfection procedure requires that the Contractor work closely under the direction of the Engineer who will coordinate the entire procedure with the LWC, the testing Laboratory and the Contractor. The length of pipe to be tested in one section shall be approved by the LWC prior to setting up the testing equipment..
- B. Water mains shall be disinfected by the Contractor in conformance with AWWA Specifications for Disinfecting Water Mains, and shall be witnessed and approved by the Engineer.
- C. To prevent possible back flow or siphonage of contaminants into the water distribution system which is in service, the Contractor shall be required to provide a reduced pressure zone device (relief valve between two check valves) installed from the distribution system to the water main being treated and to provide such other safety and control measures as directed by the Engineer. **Extreme care shall be taken to have all gate valves on the existing system closed against the flow of chlorinated water.**
- D. Before disinfection, water mains and services shall be thoroughly flushed. Flushing shall be at a rate sufficient to create a water velocity of at least 3.0 feet per second through the pipe.

If during the course of construction or during the test period, dirt or other foreign substances have been introduced into the pipeline, the mains shall be flushed at such a velocity to remove all such matter prior to injecting the hypochlorite solution.

- E. A corporation stop(s) shall be provided at a location(s) for feeding of the liquid chlorine solution within five (5) feet of one end, and at locations designated by the LWC for sampling points. All sampling points shall be within 10 feet of the end points of the new main to be tested and chlorinated, all as determined by the Engineer. Copper tubing shall be used for all chlorination and sampling pipe. Chlorine shall be continuously fed in a liquid solution, made from crystalline sodium hypochlorite. All samples shall be taken at the same sampling points (copper tubing) for the entire procedure and shall follow the same flow pattern throughout the testing procedure (point A to point B).

The Contractor shall install blow-off assemblies as directed by the Engineer.

Unless otherwise specified by the LWC, the hypochlorite solution shall be pumped into the mains by means of a small pumping unit or proportionate feeder controlled in such a manner that the solution will be applied at a uniform rate in proportion to the flow from the effluent hydrant, or blow-off line. The Contractor shall check the advance of the chlorinated water in the mains at hydrants along the line of work to ensure that the water contained therein has a minimum residual strength as specified in the AWWA C651 latest revision. If the strength is below that required, adjustments in the rate of flow and injection of the solution shall be made.

Unless otherwise specified by qualified LWC personnel, the injection of the chlorine solution into the mains must not be stopped until such time when the desired residual is noted at the end of the pipeline. The Contractor shall closely coordinate closing the effluent hydrant and the controlling gate valve, so as not to lose chlorinated water from the mains or to cause a backup into the existing system.

- F. The initial chlorine concentration in the pipe shall be at least 25 mg/L when tested by the LWC. The treated water will remain in the water main for at least twenty-four (24) hours. After the twenty-four hour retention period the chlorine concentration in the pipe shall be no less than 10 mg/L when tested by the LWC. If, after the applicable retention period, the chlorine concentration is at least 10 mg/L the heavily chlorinated water shall be flushed from the main until the chlorine concentration in the water leaving the main when tested is no higher than 1 mg/L, and the turbidity is less than 1.0. If the chlorine concentration when tested is less than 10 mg/L, this procedure shall be repeated.

After proper disinfection, the chlorinated water shall be de-chlorinated using a de-chlorinating agent. **Great care shall be exercised in the selection of the rate of flow and the discharge points, in order to minimize complaints and avoid any damage to public or private property. Under no circumstances is chlorinated water allowed to be discharged to the ground, storm drains or sewer.** The section of water main to be tested shall be filled with water from the distribution system and held for a minimum of 24 hours before water quality samples are taken.

- G. According to the AWWA C651 latest revision, Section 5.1.1, after final flushing and before the new water main is connected to the distribution system, two (2) consecutive sets of acceptable samples taken at least 24 hours apart for total coliform, shall be collected from the new main. Also in addition to testing for coliform organisms, as outlined in the AWWA C651 latest revision, Section 5.1, two (2) consecutive sets of samples taken at least 24 hours apart, shall be analyzed for heterotrophic plate count (HPC). All sampling procedures will be conducted by qualified LWC personnel. In the event that positive reports of contamination are received (either from samples taken by the contractor or the LWC), the Contractor shall flush and re-chlorinate the mains (at no additional

cost to the Commission) as many times as necessary until satisfactory results and approval by qualified LWC personnel are obtained.

- H. Under certain conditions, an emergency type chlorination may be conducted with the written approval of the Chief Engineer.
- I. Chlorination of valves, fittings and short lengths of main (less than 50 ft) that will not be included in the normal chlorination procedure shall be thoroughly disinfected by contact swabbing and/or brushing with a high strength sodium or calcium hypochlorite solution in the concentration of 500 milligrams of available chlorine per liter of water.
- J. The Contractor shall be responsible for satisfactory disposal of all flushing water and chlorinated water at no additional expense to the Owner.

The Contractor shall give thorough consideration to the impact of highly chlorinated water flushed to the receiving environment and therefore a de-chlorinating agent must be applied to all chlorinated water being disposed of, in order to neutralize thoroughly the chlorine residual remaining in said water.

- K. The Contractor shall submit, to the Owner for prior approval, the type of chlorine to be used, the disinfection experience of the workers, and the procedures and equipment to be used by the Contractor.
- L. The Contractor is hereby warned that water main disinfection shall only be accomplished by specially trained personnel, and that the project's water mains are vital to the safety and wellbeing of the municipality.

The Contractor's workers who are responsible for the water main work should be aware of the potential health hazards with chlorine and should be trained to observe carefully the prescribed construction practices and disinfection procedures. The effectiveness of disinfection depends in large measure on maintaining clean pipes and avoiding major contamination during construction.

1.5 MEASUREMENT AND PAYMENT

- A. The work and materials required by this section of the Specifications including the temporary corporation stops, blowoffs and temporary piping systems, will not be measured separately for payment.
- B. No separate payment will be made under this section of the Specifications for testing and disinfection of water mains and related work. Compensation for such work as required, shall be considered to be included in the prices bid for other applicable items of work under this contract.

There shall be no additional time granted for delays caused by failed pressure and/or disinfection testing. The TIME FOR SUBSTANTIAL COMPLETION shall not be extended due to time lost from failed acceptance testing.

DIVISION 3
MISCELLANEOUS CONCRETE WORK

NEW DUCTILE IRON WATER MAIN INSTALLATION

SECTION 03000 MISCELLANEOUS CONCRETE WORK

1.1 SCOPE OF WORK

The work covered under this section of the specifications consists of furnishing all labor, equipment, appurtenances and materials, and performing all operations in connection with providing the construction of all Class B concrete work for pipe cradles, encasements, and thrust blocks, and all Class A concrete work for walks, curbs, driveways and pavement, and all appurtenant, complete, in-place and accepted, in accordance with the Drawings and Specifications, and as directed by the Owner.

1.2 QUALITY ASSURANCE

- A. Class A concrete and Class B concrete shall have a compressive strength at the end of 28 days of not less than 3,500 and 3,000 pounds per square inch, respectively.
- B. Tests of Portland cement-concrete test specimens may be made by Owner. When required by the Owner, 6-inch by 12-inch test cylinders shall be made in accordance with the requirements of ASTM Designation: C 192, latest revision. Test cylinders will be tested in accordance with the requirements of ASTM Designation: C 39, latest revision. The cost of making laboratory tests for concrete work will be at the expense of the Owner, but the Contractor shall furnish the Owner the necessary labor, assistance and facilities for making, protecting, caring for and transporting the test specimens.

The Owner shall have free access at all times to the batching and mixing plant for sampling of all material and inspection of work performed for this project.

1.3 STORAGE OF MATERIALS

- A. Cement shall be stored immediately upon receipt at the site of the work. Cements in sacks shall be stored in a suitable weatherproof structure which shall be as airtight as practicable; floors shall be elevated above the ground a distance sufficient to prevent the absorption of moisture. Sacks shall be stacked close together to reduce circulation of air, but shall not be stacked against outside walls; the manner of storage shall permit easy access for inspection and identification of each shipment. Bulk cement shall be transferred to elevated airtight and weatherproof bins. At the time of use, all cement shall be freeflowing and free from lumps. Cement that has hardened or partially set shall be removed from the site and not used in the work.
- B. Aggregates shall be stored on areas covered with tightly laid wood planks, sheet metal or other hard and clean surface, and in a manner that will preclude the inclusion of foreign material. Aggregate of different sizes shall be stored in separate piles. Stockpiles of coarse aggregate shall be built in horizontal layers not exceeding 4 feet in depth to avoid segregation. Should the coarse aggregate become segregated, it shall be remixed to conform to the grading requirements given herein.

1.4 MATERIALS

- A. Cement shall conform to the standard specifications for Portland cement of ASTM Designation: C 150 latest revision, Type 1, unless otherwise directed. Whenever directed by the Owner, a quick-setting cement shall be used for any purpose, at no additional expense to the Owner.

Fine aggregate shall consist of washed sand having clean, hard, durable, uncoated grains free from deleterious substances and shall range in size from coarse to fine within the following percentages by weight:

Passing No. 4 Sieve	Passing No. 16 Sieve	Passing No 50 Sieve	Passing No. 100 Sieve
95-100%	45-70%	15-30%	3-8%

Volume removed by sedimentation not more than 3%.

- B. Fine aggregate shall conform in all other respects to ASTM Designation: C 33, latest revision.
- C. Coarse aggregate shall consist of crushed traprock, gravel or hard ledge stone, having clean, hard, durable, uncoated particles free from deleterious matter. The grading shall be within the following percentages by weight:

Passing 1-1/2" Sieve	Passing 1" Sieve	Passing 1/2" Sieve	Passing 0-10 Sieve
100%	95-100%	25-60%	0-10%

Coarse aggregate shall comply in all other respects to standards of ASTM Designation: C 33, latest revision.

- D. Mixing water for concrete shall be clean and shall be obtained from the municipal supply.

1.5 MIXES

- A. The proportioning of concrete materials shall be based on the requirements for a plastic and workable mix. Not less than six sacks (94 pounds per sack) of Portland cement per cubic yard, and not more than 6 gallons of water per sack of cement for Class A concrete and 6- 1/2 gallons of water per sack of cement for Class B concrete shall be used in the mix. The surface water contained in the aggregates shall be included in the total water used. Slump shall not exceed 3 inches. Class A and Class B concrete shall attain a 28-day compressive strength of not less than 3,500 and 3,000 pounds per square inch, respectively, as determined by the "Standard Method of Making Compression Tests of Concrete", ASTM Designation:

C39, latest revision. The design of the concrete mix to be used in the work shall be subject to the approval of the Owner.

1.6 FABRICATION

- A. Concrete shall be mixed until there is a uniform distribution of the materials, and shall be discharged completely before the mixer is recharged. It shall be transported in water-tight containers which will prevent segregation of the material. When placing the concrete, it shall be uniform throughout the mass. Concrete mixing shall conform to all requirements of ASTM Designation: C 94, latest revision, except as modified herein.
- B. The batching plant and mixing equipment shall have a capacity as required to perform the work within the specified time. Either a manual or semi-automatic plant may be used, subject to the approval of the Owner. A manual plant is defined as one in which batch weights are set manually and materials are batched manually. A semi-automatic plant is defined as one in which batching weights are set manually, mixes are charged manually and materials are batched automatically. All concrete shall be mixed in a control mixing plant unless the Owner specifically authorizes in writing job mixed or truck mixed concrete.
- C. Job-mixed concrete shall be mixed in a batch mixer for not less than one minute after all the material is in the mixer drum and until there is a uniform distribution of the material and the mass is uniform in color and is homogeneous. The mixer shall rotate at a peripheral speed of about 2000 feet per minute and shall not be loaded above its rated capacity.

1.7 METHOD OF CONSTRUCTION

- A. No concrete shall be placed until forms and method of placement have been approved by the Commission's Inspector.

Before placement, all equipment for mixing and transporting the concrete shall be cleaned, and all debris and ice shall be removed from the place to be occupied by the concrete. Forms shall be treated with oil.

- B. Forms shall conform to shapes, lines, and dimensions as called for (see Drawings), and shall be sufficiently tight to prevent leakage of mortar. They shall be properly braced or tied together so as to maintain position and shape.

Prior to placing the concrete, the Contractor shall be responsible for checking and maintaining the proper position of all parts to be embedded in Portland cement concrete.

The placing of concrete shall be such that the concrete for each structure shall be placed in one continuous operation, except that where construction joints are indicated the concrete shall be placed in one continuous operation between construction joints. Construction joints in addition to those indicated or changes in

location of construction joints indicated will not be permitted except upon written permission of the Owner.

- C. Joints shall be protected by felt roofing paper prior to placing concrete. The backs of thrust blocks shall be placed against undisturbed material and shall not cover joints, hydrant drain holes, bolts or nuts or interface with the removal of any joints or pipe appurtenances. The sides of thrust blocks shall be formed. Minimum bearing areas of the thrust blocks shall be in accordance with the table of values specified in the Drawings.
- D. Water shall be removed from excavations before concrete is deposited. Any flow of water shall be diverted through proper side drains and shall be removed without washing over the freshly deposited concrete. Hardened concrete, debris and foreign materials shall be removed from the interior of forms and from inner surfaces of mixing and conveying equipment. The subgrade for concrete work placed on gravel bedding shall be maintained in an approved, smooth and thoroughly compacted condition in conformity with the required section and grade until the concrete is in place. The subgrade shall be thoroughly moistened, but not muddy, at the time the concrete is deposited. No concrete shall be placed until forms and all work to be built into concrete have been satisfactorily installed and inspected.
- E. Concrete deposited in hot weather shall not have a placing temperature that will cause difficulty, loss of slump, or cold joints. Concrete temperature shall be less than 90 degrees F., unless higher temperatures are permitted by the Inspector. Concrete shall not be placed when the ambient temperature is below 35°F nor when the concrete without special protection is likely to be subjected to freezing temperature before the expiration of the specified curing period. If it is necessary to place concrete under conditions of low temperature, placement shall be approved by the Owner. The temperature of the concrete, when placed, shall be not less than 50°F nor more than 70°F. Heating of the mixing and/or aggregates will be required, as necessary, to maintain the minimum temperature of 50°F, and all methods and equipment for heating shall be satisfactory to the Owner. Materials shall be free from ice, snow and frozen lumps before entering the mixer. Suitable covering and other means shall be provided for maintaining the concrete to prevent freezing. Any concrete damaged by freezing shall be removed and replaced by the Contractor at no additional expense to the Owner.
- F. The gravel bedding on which concrete is placed shall be clean, damp, free from frost, ice and standing or running water and shall be thoroughly compacted in a satisfactory manner.
- G. Concrete shall be deposited as nearly as practicable in its final position to avoid segregation due to re-handling or flowing.

All concrete shall be thoroughly consolidated by suitable means during placement. It shall be thoroughly worked around embedded fixtures and into the corners of the forms.

Concrete shall be transferred from mixer to transport vehicle to place of final deposit in a continuous manner, as rapidly as practicable, and without segregation or loss of ingredients until the unit of construction is completed. Concrete that has attained its initial set or has contained its mixing water for more than 30 minutes shall not be placed in the work. Placing will not be permitted when, in the opinion of the Owner, the sun, heat, wind, temperature or limitations of facilities furnished by the Contractor prevent proper finishing and curing of the concrete. Forms shall not be splashed with concrete in advance of pouring. When placing concrete for encasements, precautionary measures shall be taken to prevent the displacement of piping or disturbing of joints of the piping; displaced or disturbed joints shall be corrected by the Contractor in a manner satisfactory to the Owner, at no additional expense to the Owner. Concrete shall be placed in the forms in uniform layers as nearly as practicable in final position.

- H. Forms shall be removed in such a manner as to ensure the complete safety of the structure. In no case shall supporting forms or shoring be removed before the concrete members have acquired sufficient strength to safely support their weight and imposed loads.
- I. Immediately after removal of the forms, all fine and loose material shall be removed; honeycomb, aggregate pockets, voids and holes over 1/2 inch in diameter shall be cut out to solid concrete, thoroughly wetted, brush-coated with neat cement-grout and filled with cement-mortar composed of one part cement to two parts of fine aggregate. Patching of any surface irregularities, especially those resulting from honeycombing, shall be done only after inspection by the Owner for his determination as to whether or not the work is satisfactory enough to remain in the same plane as adjacent surfaces. Patchwork shall be damp-cured for 72 hours.
- J. Unformed exposed surfaces to receive masonry or mortar setting beds shall be finished by tamping the concrete with special tools to force aggregate away from the surface, then screening and floating to bring surfaces to the required finished levels and form, wood-floated to true even surfaces and then given a broom finish for the proper bonding of masonry or mortar. Other unformed surfaces shall be finished as directed. Formed surfaces to receive masonry shall be free from loose material, laitance or any other conditions which would impair the bonding of the masonry to the concrete.
- K. Curing shall be accomplished by preventing loss of moisture, rapid temperature change and mechanical injury or injury from rain or flowing water, and kept moist for a period of at least 7 days after placing. During this period, concrete shall be maintained at 70°F for at least 4 days or above 50°F for at least 7 days, unless otherwise directed. All concrete shall be damp-cured in a suitable and approved manner and curing shall be started as soon after placing and finishing as practicable.

1.8 PRE-FORMED THRUST BLOCKS

- A. The Contractor may use pre-formed thrust blocks with approval of the Engineer. Thrust blocks shall be of the size and dimensions as shown on the Plan Detail. Said

concrete shall meet all strength requirements outlined in this Section for Class B Concrete.

1.9 PATCHING

- A. When patching non-bituminous concrete sidewalks, the edges of the pavement replacement area shall be cut to a neat and even line. The entire concrete sidewalk panel which is disturbed shall be replaced. Limits of the new sidewalk replacement shall be at the existing control joint or as directed by the Engineer. All temporary pavement and remaining concrete to the edge line shall be removed. The gravel base shall be leveled and compacted. Forms, as needed, shall be placed to conform to the lines required. Thickness of the concrete shall conform to the local and state permitting agency requirements, but in no case shall it be less than four inches (4"). Concrete shall be placed in one continuous operation. Concrete shall not be deposited during freezing weather; when air temperature is below 40 degrees F, the water, sand and gravel shall be heated, so that the temperature of the concrete will be at least 50 degrees F. This temperature shall be maintained for 72 hours after concrete placement. No concrete shall be placed on frozen ground. The surface shall be finished with a wooden float. All outside edges shall be finished with an appropriate edging tool to conform with the lines of the abutting existing sidewalk. Concrete shall be cured for at least 72 hours, and during the time all traffic shall be excluded.
- B. Any concrete which is not formed to the details as shown on the drawings or for any reason is out of alignment or level or shows a defective surface shall be considered as not conforming with the intent of these specifications and shall be removed from the job by the Contractor at no additional expense to the Owner, unless the Owner grants permission to patch the defective area. Careful attention shall be given by the Contractor to provide proper protection to newly placed sidewalks in order to guard against vandalism or any other acts that may result in damage to the finished concrete surface. The Contractor shall furnish and maintain this protection until the concrete is in a hardened state.
- C. Permission to patch defective work will not be considered a waiver of the right of the Owner to require complete removal of the defective work, if, in the opinion of the Owner, the patching does not satisfactorily restore the quality and appearance of the surface.

1.10 MEASUREMENT

CLASS A AND B CONCRETE COMPLETE AND IN PLACE (BID ITEM 22) CONCRETE THRUST BLOCKS (IN PLACE) (BID ITEM 6)

- A. Class A concrete for sidewalks, curbs, driveways and pavement work will be measured for payment by the cubic yard (C.Y.) in-place, under the item "CLASS A AND B CONCRETE COMPLETE AND IN PLACE", as listed in the BID. Concrete for sidewalks shall be measured based on the square foot dimensions of

the work installed times 4 inches of thickness to determine the Cubic Yard measurement.

- B. Class B concrete for pipe encasements, pipe cradles, and appurtenant work will be measured for payment by the cubic yard (C.Y.), in-place, under the item "CLASS A AND B CONCRETE COMPLETE AND IN PLACE", as listed in the BID.
- C. CONCRETE THRUST BLOCKS

Measurement for thrust block concrete furnished and installed in accordance with the Specifications, in place in the completed work, and accepted by the Engineer, will be made per cubic yards. Measurement will be made by average dimensions in each of three planes. Slip measurement shall not be allowed.

1.11 PAYMENT

- A. The quantity of Class A and Class B concrete, determined as provided in the preceding paragraphs shall constitute full compensation for all equipment, tools, materials forms, bracing, mixing, delivering, placing compacting, furnishing, curing and protecting, installing miscellaneous materials to be embedded in concrete, and for all labor, and incidentals necessary to complete the items in accordance with the Specifications and Drawings, and as directed by the Owner.

No payment will be made for concrete until it has been satisfactorily cured and approved by the Engineer.

Concrete for sidewalks shall be paid under the Bid Item for Class A and B Concrete. Price and payment shall constitute full compensation for all labor involved, all materials, equipment and form work, for furnishing and placing the concrete, for cutting, preparing and cleaning the site, for the removal and disposal of debris and form work, for furnishing, placing and compacting processed gravel as needed, and all incidentals thereto for which payment is not provided under other items. There will be no separate payment for jackhammer cutting and/or the removal of temporary pavement and concrete to straight and even edges.

- B. Payment for concrete thrust blocks shall be made for the quantity determined above at the price bid for Item 6 in the Bid Form. Price and payment shall constitute full compensation for all work required, for furnishing and placing the concrete including form work, reinforcing and other materials required, and for all incidentals for which payment is not provided under other items of the Bid Form.

MUNICIPAL CONTRACT ADDENDUM

RHODE ISLAND DEPARTMENT OF LABOR AND TRAINING

PREVAILING WAGE REQUIREMENTS (37-13-1 ET SEQ.)

The prevailing wage requirements are generally set forth in RIGL 37-13-1 et seq. These requirements refer to the prevailing rate of pay for regular, holiday, and overtime wages to be paid to each craftsmen, mechanic, teamster, laborer, or other type of worker performing work on public works projects when state or municipal funds exceed one thousand dollars (\$1,000).

All Prevailing Wage Contractors and Subcontractors are required to:

1. Submit to the Awarding Authority a list of the contractor's subcontractors for any part or all of the prevailing wage work in accordance with RIGL § 37-13-4;
2. Pay all prevailing wage employees at least once per week and in accordance with RIGL §37-13-7 (see Appendix B attached);
3. Post the prevailing wage rate scale and the Department of Labor and Training's prevailing wage poster in a prominent and easily accessible place on the work site in accordance with RIGL §37-13-11; posters may be downloaded at www.dlt.ri.gov/pw/Posters.htm or obtained from the Department of Labor and Training, Center General Complex, 1511 Pontiac Avenue, Cranston, Rhode Island;
4. Access the Department of Labor and Training website, at www.dlt.ri.gov on or before July 1st of each year, until such time as the contract is completed, to ascertain the current prevailing wage rates and the amount of payment or contributions for each covered prevailing wage employee and make any necessary adjustments to the covered employee's prevailing wage rates effective July 1st of each year in compliance with RIGL §37-13-8;
5. Attach a copy of this CONTRACT ADDENDUM and its attachments as a binding obligation to any and all contracts between the contractor and any subcontractors and their assignees for prevailing wage work performed pursuant to this contract;
6. Provide for the payment of overtime for prevailing wage employees who work in excess of eight (8) hours in any one day or forty (40) hours in any one week as provided by RIGL §37-13-10;
7. Maintain accurate prevailing wage employee payroll records on a Rhode Island Certified Weekly Payroll form available for download at www.dlt.ri.gov/pw.fornns/htm, as required by RIGL §37-13-12, and make those records available to the Department of Labor and Training upon request;

8. Assure that all covered prevailing wage employees on construction projects with a total project cost of one hundred thousand dollars (\$100,000) or more has a OSHA ten (10) hour construction safety certification in compliance with RIGL § 37-23-1;
9. Assure that all prevailing wage employees who perform work which requires a Rhode Island trade license possess the appropriate Rhode Island trade license in compliance with Rhode Island law; and
10. Comply with all applicable provisions of RIGL §37-13-1, et. seq;

Any questions or concerns regarding this CONTRACT ADDENDUM should be addressed to the contractor or subcontractor's attorney. Additional information may be obtained from the Department of Labor and Training at www.dlt.ri.gov/pw.

CERTIFICATION

I hereby certify that I have reviewed this CONTRACT ADDENDUM and understand my obligations as stated above.

By: _____

Title: _____

Subscribed and sworn before me this ____ day of , _____20__.

Notary Public
My commission expires: _____

APPENDIX A

TITLE 37

Public Property and Works

CHAPTER 37-13

Labor and Payment of Debts by Contractors

SECTION 37-13-5

§ 37-13-5 Payment for trucking or materials furnished – Withholding of sums due. – A contractor or subcontractor on public works authorized by a proper authority shall pay any obligation or charge for trucking and material which have been furnished for the use of the contractor or subcontractor, in connection with the public works being performed by him or her, within ninety (90) days after the obligation or charge is incurred or the trucking service has been performed or the material has been delivered to the site of the work, whichever is later. When it is brought to the notice of the proper authority in a city or town, or the proper authority in the state having supervision of the contract, that the obligation or charge has not been paid by the contractor or subcontractor, the proper authority may deduct and hold for a period not exceeding sixty (60) days, from sums of money due to the contractor or subcontractor, the equivalent amount of such sums certified by a trucker or materialman creditor as due him or her, as provided in this section, and which the proper authority determines is reasonable for trucking performed or materials furnished for the public works.

APPENDIX B

TITLE 37

Public Property and Works

CHAPTER 37-13

Labor and Payment of Debts by Contractors

SECTION 37-13-7

§ 37-13-7 Specification in contract of amount and frequency of payment of wages.

– (a) Every call for bids for every contract in excess of one thousand dollars (\$1,000), to which the state of Rhode Island or any political subdivision thereof or any public agency or quasi-public agency is a party, for construction, alteration, and/or repair, including painting and decorating, of public buildings or public works of the state of Rhode Island or any political subdivision thereof, or any public agency or quasi-public agency and which requires or involves the employment of employees, shall contain a provision stating the minimum wages to be paid various types of employees which shall be based upon the wages that will be determined by the director of labor and training to be prevailing for the corresponding types of employees employed on projects of a character similar to the contract work in the city, town, village, or other appropriate political subdivision of the state of Rhode Island in which the work is to be performed. Every contract shall contain a stipulation that the contractor or his or her subcontractor shall pay all the employees employed directly upon the site of the work, unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account, the full amounts accrued at time of payment computed at wage rates not less than those stated in the call for bids, regardless of any contractual relationships which may be alleged to exist between the contractor or subcontractor and the employees, and that the scale of wages to be paid shall be posted by the contractor in a prominent and easily accessible place at the site of the work; and the further stipulation that there may be withheld from the contractor so much of the accrued payments as may be considered necessary to pay to the employees employed by the contractor, or any subcontractor on the work, the difference between the rates of wages required by the contract to be paid the employees on the work and the rates of wages received by the employees and not refunded to the contractor, subcontractors, or their agents.

b. The terms "wages", "scale of wages", "wage rates", "minimum wages", and "prevailing wages" shall include:

- (1) The basic hourly rate of pay; and
- (2) The amount of:

(A) The rate of contribution made by a contractor or subcontractor to a trustee or to a third person pursuant to a fund, plan, or program; and

(B) The rate of costs to the contractor or subcontractor which may be reasonably anticipated in providing benefits to employees pursuant to an enforceable commitment to carry out

a financially responsible plan or program which was communicated in writing to the employees affected, for medical or hospital care, pensions on retirement or death, compensation for injuries or illness resulting from occupational activity, or insurance to provide any of the foregoing, for unemployment benefits, life insurance, disability and sickness insurance, or accident insurance, for vacation and holiday pay, for defraying costs of apprenticeship or other similar programs, or for other bona fide fringe benefits, but only where the contractor or subcontractor is not required by other federal, state, or local law to provide any of the benefits; provided, that the obligation of a contractor or subcontractor to make payment in accordance with the prevailing wage determinations of the director of labor and training insofar as this chapter of this title and other acts incorporating this chapter of this title by reference are concerned may be discharged by the making of payments in cash, by the making of contributions of a type referred to in subsection (b)(2), or by the assumption of an enforceable commitment to bear the costs of a plan or program of a type referred to in this subdivision, or any combination thereof, where the aggregate of any payments, contributions, and costs is not less than the rate of pay described in subsection (b)(1) plus the amount referred to in subsection (b)(2).

(c) The term "employees", as used in this section, shall include employees of contractors or subcontractors performing jobs on various types of public works including mechanics, apprentices, teamsters, chauffeurs, and laborers engaged in the transportation of gravel or fill to the site of public works, the removal and/or delivery of gravel or fill or ready-mix concrete, sand, bituminous stone, or asphalt flowable fill from the site of public works, or the transportation or removal of gravel or fill from one location to another on the site of public works, and the employment of the employees shall be subject to the provisions of subsections (a) and (b).

(d) The terms "public agency" and "quasi-public agency" shall include, but not be limited to, the Rhode Island industrial recreational building authority, the Rhode Island economic development corporation, the Rhode Island airport corporation, the Rhode Island industrial facilities corporation, the Rhode Island refunding bond authority, the Rhode Island housing and mortgage finance corporation, the Rhode Island resource recovery corporation, the Rhode Island public transit authority, the Rhode Island student loan authority, the water resources board corporate, the Rhode Island health and education building corporation, the Rhode Island higher education assistance authority, the Rhode Island turnpike and bridge authority, the Narragansett Bay water quality management district commission, Rhode Island telecommunications authority, the convention center authority, the board of governors for higher education, the board of regents for elementary and secondary education, the capital center commission, the housing resources commission, the Quonset Point-Davisville management corporation, the Rhode Island children's crusade for higher education, the Rhode Island depositors economic protection corporation, the Rhode Island lottery commission, the Rhode Island partnership for science and technology, the Rhode Island public building authority, and the Rhode Island underground storage tank board.

**STATE OF RHODE ISLAND AND PROVIDENCE
PLANTATIONS DIVISION OF PROFESSIONAL
REGULATIONS**

RULES AND REGULATIONS RELATING TO PREVAILING WAGES

- 1) Any contractor who has been awarded a contract for a public works project in excess of One Thousand Dollars (\$1,000), or any subcontractor performing work on said project, shall be liable for the payment of the applicable Prevailing Wage amount listed in the General Wage Decisions (Davis-Bacon Wage Determinations) regardless of whether or not the prevailing wages were listed in the contract between the contractor and the awarding authority of the state or political sub-division, as required by law. The Fringe Benefit Credit amount listed in the applicable General Wage Decisions (Davis-Bacon Wage Determinations) must always be paid in full as either a bona fide Fringe Benefit Credit or cash equivalent or both.
- 2) Any contractor who has been awarded a contract for a public works project in excess of One Thousand Dollars (\$1,000), shall be liable for the payment of prevailing wages regardless of whether or not a subcontractor may be the primary obligor. The contractor shall ensure that a subcontractor pays the prevailing wage to its employees and otherwise complies with the provisions of **R. I. Gen. Laws §§ 37-13-1, et seq.**
- 3) Pursuant to R.I. Gen. Laws § 37-13-4, all public works projects shall be done by contract. Before awarding a contract for a public works project, an awarding authority shall first determine from the Department of Labor and Training's website, Debarment List, whether the proposed contractor has been debarred under R. I. Gen. Laws § 37-13-14.1 and shall then disqualify all such debarred contractors. In addition, the awarding authority shall notify all bidders that the Prevailing Wage is required as a condition of the contract.
- 4) All alleged violations of noncompliance with Chapter 13 of Title 37 of the General Laws of Rhode Island shall be made in writing, and on forms issued by the Department of Labor and Training. The written complaints must be filed with the Department of Labor and Training on the Department's written complaint form within twenty-four (24) months of the completion of the project.
- 5) For apprentices registered pursuant to R. I. Gen. Laws § 28-45-1 , *et seq.*, a percentage of the Base Hourly Rate of Pay must be taken in accordance with the scale listed in the apprentice's apprenticeship agreement. If the employee is not registered as an apprentice pursuant to R. I. Gen. Laws § 28-45-1, *et seq.*, then the employee must be paid the full Prevailing Wage according to the General Wage Decisions (Davis-Bacon Wage Determinations) for the classification of the work actually performed. Moreover, all general contractors and subcontractors who perform work on any public works contract awarded by the state and valued at One Million Dollars (\$1,000,000) or more shall employ apprentices required for the performance of the awarded contract. The number of apprentices shall comply with the apprentice to journey person ratio for each trade approved by the Department of Labor and Training. State awarding authorities may determine from the Department of Labor and Training's website, whether contractors and subcontractors have a registered apprenticeship program. Apprentices found to be working outside of the applicable journey person to apprentice job site ratios shall be paid at the full applicable journey person Prevailing Wage. See Appendix A, Job Site Ratios for Licensed and Unlicensed Trades, Rules and Regulations Relating to Labor Standards for the Registration of Apprenticeship Programs Under Title 28, Chapter 45, Apprentice Programs in Trade & Industry.

6) Any proceeding to debar a contractor from bidding on a public works project under the provisions of R. I. Gen. Laws § 37-13-14.1, may be brought against the principals, officers, or successors in interest of such contractor, where such principals, officers or successors in interest are responsible for the violation of the prevailing wage requirements .

7) The Department of Labor and Training will be guided by the General Wage Decisions (Davis-Bacon wage determinations) in accordance with R. I. Gen. Laws § 37-13-8.

8) In order to comply with R. I. Gen. Laws § 37-13-13, contractors and subcontractors shall execute a fully completed RI Certified Weekly Payroll Form, Appendix A, for each week of work performed on the project and shall furnish the fully executed RI Certified Weekly Payroll Form to the awarding authority on a monthly basis for all work completed in the preceding month. However, federal forms may be submitted to the Rhode Island Department of Transportation. If the Department of Labor and Training investigates any contractor awarded a contract from the Rhode Island Department of Transportation, the contractor shall furnish the Department of Labor and Training a fully executed certified payroll on the RI Certified Weekly Payroll Form, Appendix A, within ten (10) days of request. All awarding authorities shall furnish the Department of Labor and Training any requested certified payroll within ten days of request. The Department of Labor and Training may impose a penalty of up to Five Hundred Dollars (\$500) for each calendar day of noncompliance with this section.

9) In compliance with R. I. Gen. Laws § 37-13-13, when the general or primary contract is One Million Dollars (\$1,000,000) or more, each contractor or subcontractor shall maintain on the work site a fully executed RI Certified Prevailing Wage Daily Log, Appendix B, listing the contractor's employees employed each day on the public works site; the RI Certified Prevailing Wage Daily Log shall be available for inspection on the public works site at all times; this rule shall not apply to road, highway, or bridge public works projects. Where applicable, contractors must furnish both the Rhode Island Certified Prevailing Wage Daily Log, Appendix B, together with the Rhode Island Weekly Certified Payroll, Appendix A, to the appropriate awarding authority. The Department of Labor and Training may impose a penalty of up to Five Hundred Dollars (\$500) for each calendar day of noncompliance with this section; mere errors or omissions in the RI Certified Prevailing Wage Daily Log shall not be grounds for imposing a penalty under this section.

10) The Director of Labor and Training may enter into consent agreements with contractors and/or subcontractors to resolve all issues under R. I. Gen. Laws §§ 37-13-1, *et seq.*

11) In enforcing the provisions of Chapter 13 of Title 37, when any contractor or subcontractor fails to comply with R. I. Gen. Laws § 37-13-13(a) and (b), the Director of Labor and Training may order an awarding authority to withhold all future payments until such time as the contractor or subcontractor has fully complied. The amount withheld from any subcontractor shall be proportionate to the amount attributed or due the offending subcontractor as determined by the awarding authority.

12) All service and maintenance contracts with the State of Rhode Island or political subdivision therefore shall comply with the provisions of Chapter 13 of Title 37 where the contract price exceeds One Thousand Dollars (\$1,000) and the work includes alterations, installation, repairs or construction. *See* "Definitions" herein for exceptions.

13) Each contractor awarded a contract with a contract price in excess of One Thousand Dollars (\$1000) for public works, each subcontractor who performs work on public works and each awarding authority awarding any such contract, shall keep those certified weekly payroll records required by R. I. Gen. Laws § 37-13-13 and on the forms set forth in Regulation 8 above, in a safe and secure location for a period of five (5) years from the date such work was performed. Certified weekly payroll records shall be made available to the

Director of the Department of Labor and Training within ten (10) days of request to any contractor, subcontractor, or awarding authority.

14) The prevailing rate of wages and payments made to or on behalf of employees, as set forth in Chapter 13 of Title 37, for general contractors and subcontractors, shall be determined as of the date of the awarding of the contract for public works to the general contractor and shall remain effective until such time as those rates are modified pursuant to R. I. Gen. Laws §37-13-8.

15) The Department of Labor and Training, in making its investigation and determination of prevailing wages pursuant to R. I. Gen. Laws § 37-13-8, shall not determine or address jurisdictional disputes between trade or trades.

16) All alleged violations of non-compliance with Chapter 13 of Title 37 filed with the Department of Labor and Training shall include information sufficient to establish a prima facie claim, and the Department may reject any complaint that does not establish such claim. This information shall include, but shall not be limited to: evidence of the actual work performed by the employee(s) involved in the complaint; the location(s) and the exact date(s) the work in question was performed; verification of the funding source; and evidence that the correct prevailing wage was not in fact received.

17) The Director of Labor and Training hereby adopts the United States Department of Labor's definition of bona fide fringe benefit credits. These benefits may include medical or hospital coverage, life insurance, disability insurance (not workers' compensation), pension, 401k, apprentice costs (books, tuition) or holiday, sick, vacation/personal time. State mandated unemployment insurance, travel, gas reimbursement, company vehicle, uniforms and discretionary bonuses are not bona-fide fringe benefits. In addition, in order for the plan to be acceptable, the following stipulations must be met:

- Contributions must be irrevocable and for the employee's benefit;
- Contributions must be made regularly and at least on a quarterly basis;
- Contributions must not be required by law (i.e.: taxes, workers' compensation, social security, etc.);
- Contributions made for fringe benefit plans for prevailing wage work may not be used to fund the plan for periods of non-prevailing wage work;
- The amount of contributions for fringe benefits must be paid irrevocably to a trustee or third party.

If the fringe benefits are anticipated to be paid from general assets of the contractor (ex. holidays, sick and vacation days, profit sharing, etc.), the contractor must set aside, in an escrow account the amount of money the contractor plans to claim as a fringe benefit credit for the prevailing wage project. For example, if a contractor wants to claim credit for 10 paid holidays per year, the contractor must calculate the amount that will be paid (10 holidays x 8 hours x \$10/hour = \$800) and place those funds in an escrow account. In the event that an employee leaves the company before the end of the calendar year and prior to the completion of the project, any remaining escrowed funds must be paid to the employee. The allowable hourly credit must be determined separately and documented for each employee since the credit is based on figures that will usually vary for each individual, depending on their benefit contribution amount, type of benefits, hours worked, etc. In addition, only the employer's contribution toward a benefit may be used to calculate the allowable hourly credit.

18) Owners, supervisors, or foremen performing manual work on the public works site must be documented as employees on the contractor's RI Certified Weekly Payroll Form, Appendix A, which must show payment of the applicable prevailing wage rate.

19) Pursuant to R. I. Gen. Laws § 37-13-10, overtime shall be calculated on the Base Hourly Rate of Pay listed in the General Wage Decisions (Davis-Bacon Wage Determinations) and not the Fringe Benefit Credit amount. The full Fringe Benefit Credit amount listed in the General Wage Decisions (Davis-Bacon Wage Determinations) must be added to the adjusted Base Hourly Rate of Pay.

20) Pursuant to R.I. Gen. Laws §§ 37-13-2 and 37-13-3.1, all general contractors and subcontractors who bid and/or perform work on state public works projects valued at One Million Dollars (\$1,000,000) or more shall employ apprentices and shall be subject to the following provisions:

A) Bidding

- i. Pursuant to R.I. Gen. Laws § 37-13-2, any person, firm, or corporation bidding on a state public works contract ("general contractor") valued at One Million Dollars (\$1,000,000) or more shall certify their ability to perform the contract by meeting the apprenticeship requirements set forth in R.I. Gen. Laws § 37-13-3.1.
- ii. If the general contractor employs apprentices, then the apprentices must be subject to an apprenticeship agreement as defined by R. I. Gen. Laws § 28-45-10 in order for the general contractor to qualify for payment of the applicable apprentice wage rate set forth on the wage schedule pursuant to Rule 5 herein.
- iii. Prior to bidding on a state public works contract valued at One Million Dollars (\$1,000,000) or more, the general contractor shall certify compliance with apprenticeship requirements by fully executing a General Contractor Apprenticeship Certification Form. The general contractor shall meet one of the qualifications identified on said form. The general contractor shall attach said form to his/her application to bid and submit to the awarding authority.
- iv. No contract award for a state public works contract valued at One Million Dollars (\$1,000,000) or more shall be made to any general contractor who fails to submit a fully executed and truthful General Contractor Apprenticeship Certification Form.

B) Awarding

- i. Pursuant to R. I. Gen. Laws § 37-13-3.1, all general contractors who perform work on any public works contract awarded by the state and valued at One Million Dollars (\$ 1,000,000) or more shall certify their ability to perform the contract by meeting the apprenticeship requirements set forth in R. I. Gen. Laws § 37-13-3.1.
- ii. If the general contractor employs apprentices, then the apprentices must be subject to an apprenticeship agreement as defined by R. I. Gen. Laws § 28-45-10 in order for the general contractor to qualify for payment of the applicable apprentice wage rate set forth on the wage schedule pursuant to Rule 5 herein.
- iii. Prior to the award of a state public works contract valued at One Million Dollars (\$1,000,000) or more, the general contractor who will perform the work shall re-certify compliance with apprenticeship requirements by fully executing a General Contractor Apprenticeship Re-Certification and Certification Form. The general contractor shall meet one of the qualifications identified in Part A of said form.

- iv. The general contractor who will perform work on the state public works project only through the use of subcontractors shall certify compliance with the apprenticeship requirements by completing the "non-performance" qualification of Part A of said form. Whether the general contractor or its subcontractors are performing work on the project, the general contractor shall certify that the subcontractors performing work on the project are in compliance with the apprenticeship requirements set forth in R. I. Gen. Laws § 37-13-3.1 by completing Part B of said form. General contractors shall submit said form to the awarding authority.
- v. No contract award shall be made to any general contractor who fails to submit a fully executed and truthful General Contractor Apprenticeship Re-Certification and Certification Form.

C) Awarding & Subcontractors

- i. Pursuant to R. I. Gen. Laws § 37-13-3.1, any subcontractor who performs work on any public works contract awarded by the state and valued at One Million Dollars (\$1,000,000) or more shall certify its ability to perform the contract by meeting the apprenticeship requirements set forth in R. I. Gen. Laws § 37-13-3.1.
- ii. If subcontractors employ apprentices, then the apprentices must be subject to an apprenticeship agreement as defined by R.I.Gen. Laws § 28-45-10 in order for subcontractors to qualify for payment of the applicable apprentice wage rate set forth on the wage schedule pursuant to Regulation 5 herein.
- iii. Prior to the award of a state public works contract valued at One Million Dollars (\$1,000,000) or more, all subcontractors who wiU perform work on the project shall certify compliance with the apprenticeship requirements by fully executing a Subcontractor Apprenticeship Certification Form. The subcontractor shall meet one of the qualifications identified in Part A of said form.
- iv. The subcontractor who will perform work on the state public works project only through the use of subcontractors shall certify compliance with the apprenticeship requirements by completing the "non- performance" qualification of Part A of said form. Whether the subcontractor or its subcontractors are performing work on the project, the subcontractor shall certify that the subcontractors performing work on the project are in compliance with the apprenticeship requirements set forth in R. I. Gen. Laws § 37-13-3.1 by completing Part B of said form. Subcontractors shall submit said form to the general contractor and/or hiring subcontractor for submission to the awarding authority.
- v. For state public works contracts valued at One Million Dollars (\$1,000,000) or more, no general contractor and/or subcontractor shall hire any subcontractor who fails to submit a fully executed and truthful Subcontractor Apprenticeship Certification Form.
- vi. For subcontractors hired after contract award of a state public works contract valued at One Million Dollars (\$1,000,000) or more, said subcontractors shall submit said apprenticeship certification form to the general contractor and/or hiring subcontractor prior to or at the time of hiring.

D) Cancellation of Award; Penalties and Enforcement Proceedings

i. Pursuant to R. I. Gen. Laws § 37-13-16, an awarding authority may cancel an award if apprentice wages are paid to apprentices who are not subject to an apprenticeship agreement as defined by R I. Gen. Laws § 28-45-10.

ii. Pursuant to R I. Gen. Laws § 37-13-12.4, general contractors and subcontractors determined to be in violation of these regulations shall be subject to fines and penalties.

iii. Pursuant to R. I. Geo. Laws §§ 37-13-14.1 (a) and (d) and (f), general contractors and subcontractors determined to be in violation of these regulations shall be subject to enforcement proceedings.

DEFINITIONS

- A) "Base Hourly Rate of Pay" means the rate of pay identified for the trade as "Rates" on the General Wage Decisions (Davis-Bacon Wage determinations).
- B) "Construction"
- h) "construction" means construction activity, as distinguished from manufacturing, furnishing of materials or servicing and maintenance work and includes, without limitation, the construction of buildings, structures, improvements of all types and heavy construction work;
 - i) construction work includes altering, remodeling, demolishing existing structures, installation of items fabricated offsite, painting and decorating, the transporting of materials and supplies to or from the public works site by the employee of the public works contractor or subcontractor consistent with R I. Gen. Laws § 37-13-7(c).
- C) "Employee" means any person employed by an employer. This definition shall be interpreted consistent with the definition of "employee" under 29 U.S.C. 203(e) and the Fair Labor Standards Act, including any exemptions thereto under said Act applicable to employment in Rhode Island.
- D) "Employer" means any person acting directly or indirectly in the interest of an employer in relation to an employee. This definition shall be interpreted consistent with the definition of "employee" herein and the definition of "employer" under 29 U.S.C. 203(d) of the Fair Labor Standards Act, including any exemptions thereto under said act applicable to employment in Rhode Island.
- E) "Fringe Benefit" means a benefit that is granted by an employer to an employee by company policy that involves a monetary cost such as holiday pay, vacation pay, health insurance, bona fide pension plans, etc. Benefits required by law such as workers compensation, unemployment premiums and matching social security are not considered "fringe benefits" and cannot be used as a credit against the fringe benefit portion of the rate. Authorized fringe benefit credits may be deducted from prevailing wages owed pursuant to Regulation 17.
- F) "Fringe Benefit Credit" means the amount identified as "Fringes" for the trade on the General Wage Decisions (Davis-Bacon Wage determinations).
- G) "Heavy Construction"
- 1. "heavy construction" means those construction projects that are not properly classified as either "building", "highway", or "residential". Projects within the heavy classification are distinguished on the basis of their particular project characteristics, like complex engineering and industrial nature, and separate wage determinations;
 - 2. Examples of heavy construction include, but are not limited to power plants, pipelines, mass transit lines, marine and port facilities, sewage and solid waste facilities, landfills wastewater treatment facilities, sanitary, storm and sewer facilities, water supply facilities, transmission lines, aqueducts, water treatment facilities, desalination plant facilities, dams and reservoirs and the laying of fiber optic cable.
- H) "Independent Contractor" means any natural person, business, corporation or entity of any kind that provides goods or services to another and that does not qualify as an "employee" as provided for herein.
- I) "Prevailing Wage" means the Base Hourly Rate of Pay plus the Fringe Benefit Credit which are listed on the General Wage Decisions (Davis-Bacon Wage Determinations) developed by the U.S. Department of Labor and adopted by the Rhode Island Department of Labor and Training.

J) "Prevailing Wage Law" means R I. Gen. Laws § 37-13-1, *et seq.*

K) "Principal" is a person who has a majority of the ownership of a business, firm or corporation.

L) "Public Agency" means the State of Rhode Island, any awarding agency or authority of the State of Rhode Island, those agencies listed at R I. Gen. Laws § 37-13-?(d), any Rhode Island city, town or village or any division of same, or any person or other entity acting on behalf of any public agency as defined herein.

M) "Public Work"

1) "public work" means grading, clearing, demolition, improvement, completion, repair, alteration or construction on any public site;

2) "public work" does not include:

i) grading, clearing, demolition, improvement, completion, repair, alteration or construction on any public site for which no salary or wages or in kind payments are paid or owed;

ii) ordinary maintenance work performed on a regularly scheduled basis (e.g., daily, weekly, monthly, seasonally, semiannually or annually) or on a routine basis to service, check, or replace items or parts that are not broken.

N) "Public Works Contract"

1) "public works contract" means any contract, purchase order, or any other legal agreement, in writing, for any public work or heavy construction on a public site to be performed by a public contractor on behalf of a public agency for a fixed or determinable amount of One Thousand Dollars or more (\$1,000);

2) payments made through contracts with third parties on behalf of a public agency shall be deemed public works contracts if public funds are utilized.

O) "Public Works Contractor" means the prime contractor, and each and every subcontractor, performing public work or heavy construction on any public works project site.

P) "Public Works Project" means public work or heavy construction work at any public works site for a public purpose for which the prevailing wage law applies.

Q) "Public Works Site"

1) "public works site" means the physical place or places, but not a privately owned residence where the heavy construction or public work called for in the public works contract takes place or will remain and is owned or will be owned by the public agency;

2) the physical place(s) where the public work or heavy construction is to occur also means other adjacent or nearby property used by the public works contractor or subcontractor which can reasonably be said to be included in the public works site;

3) physical place(s) which are not owned by a public agency but which are developed under contract and in anticipation of being owned by a public agency shall be considered a public works site.

R) "residential Construction" means projects consisting of single family homes and apartments up to and including four (4) stories.

S) "Successor in interest" is one who continues to retain the same right, control or interest in a new business, firm, or corporation which purchased or merged with a former business, firm or corporation.

Instructions for Preparing RI Certified Weekly Payroll Forms

Certified Payroll Heading:

Employer name & address: Enter name, address, phone number and e-mail of General Contractor and Sub-contractor (if applicable).

Week Ending: Enter Week ending date.

Project: Enter the name and location of the Prevailing Wage project.

Wage Decision Number: Enter the applicable Wage Decision number. This number is found on the top of the first page of the Davis Bacon Prevailing Wage Rate schedule that applies to the project.

Date of Decision: Enter the date of the Wage Decision that applies to the project. This date is found on the top of the first page of the Davis Bacon Prevailing Wage Rate schedule that applies to the project.

Payroll Information by column:

1. **Employee Name, Address & Phone Number:** Enter the name, address & phone number of all employees working on the project.
2. **Work Classification:** Enter the specific work classification from the Davis Bacon Prevailing Wage Rate schedule that applies to the specific type of work each employee is performing on the project. If an employee performs more than one trade, each classification and corresponding hours worked and rates must be listed separately. For indentured apprentices, indicate the percentage they are being paid at in accordance with the rate scale of their specific apprenticeship agreement.
3. **Date:** List dates under corresponding day of week that work is performed.
4. **Hours Worked:** List hours worked for each day. **All** hours (both prevailing wage and non-prevailing wage) must be listed. Prevailing Wage standard hours must be listed under P.S., Prevailing Wage overtime hours must be listed under P.O., Regular hours (non- prevailing wage) must be listed under R.H. and Regular (non- prevailing wage) overtime hours must be listed under R.O.
5. **Total Hours:** List on each line total number of hours worked for entire week for each type (P.S., P.O., *RH.*, R.O.) of hours worked. For companies working multiple Prevailing Wage jobs in one week; Additional Prevailing Wage standard hours for all other prevailing wage projects may be listed as A.P.S.; Additional Prevailing Wage overtime hours for all other prevailing wage projects may be listed as A.P.O.; Additional Prevailing Wage standard hours & overtime hours for all other projects may be merged and listed under A.P.S. or A.P.O. ***Note:** The RI Weekly Certified Payroll form is available in Microsoft Excel for download. This form will allow you to add two rows under P.S. & P.O. and label those two rows as A.P.S. & A.P.O.
6. **Hourly Pay Rate:** List amount of pay per hour paid to each worker. This is the hourly rate actually paid in each individual's paycheck.
7. **Hourly Fringe Rate:** List the hourly fringe benefit credit the employer is taking for each employee. ***Note:** The type of bona fide fringe benefits must be specifically listed on the RI Statement of Compliance form.
8. **Gross Wages:** The gross amount of wages paid to each employee must be listed.
9. **Deductions:** List deductions in applicable areas. ***Note:** Any amounts indicated in the "other" column must be specifically listed.
10. **Net Wages:** The net amount of wages paid to each employee must be listed.



**RI Department of Labor and Training - Division of Workforce Regulation & Safety
Professional Regulation Unit/Prevailing Wage Section
1511 Pontiac Avenue Building 70, P.O. Box 20247 Cranston, RI 02920-0943**

Rhode Island Certified Weekly Payroll

Contractor: _____ Subcontractor: _____
 Address: _____ Address: _____
 City/Town: _____ State: _____ Zip: _____ State: _____ Zip: _____
 Phone #: _____ Email: _____ Email: _____
 For Week Ending: _____ Project/ Location: _____ Wage Decision #: _____
 _____ Date: _____ Decision Date: _____

Name, Address and Phone Number of Employee	Work Classification	Date:	Hours Worked Each Day							Total Hrs	Hourly Rate	Hourly Fringe Benefit	Gross	Deductions			Net		
			S	M	T	W	T	F	S					Social Security	Medi-care	RI TDI		*Other	
		P.S.																	
		P.O.																	
		R.H.																	
		R.O.																	
		P.S.																	
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		P.S.																	
		P.O.																	
		R.H.																	
		R.O.																	

Legend: P.S.=Prevailing Wage Standard Hours P.O.=Prevailing Wage Overtime Hours R.H.=Regular Hours R.O.=Regular Overtime Hours
 *Note: Deductions reported in the "other" column must be listed.
 DLT is an equal opportunity employer/program. Auxiliary aids and services available upon request. TTY via RI Relay: 711

STATEMENT OF COMPLIANCE

I, _____ do hereby state:
 (print name and title of signatory party)

(1) That I pay or supervise the payment of the persons employed by: _____
 (contractor or subcontractor)
 on the _____, that during the payroll period commencing on
 _____ (project)
 _____ day of _____, 20 _____ and ending on the
 _____ (day) _____ (month) _____ (year)
 _____ day of _____, 20 _____
 _____ (day) _____ (month) _____ (year)

all persons employed on said project have been paid the full weekly wages earned, that no rebates have been or will be made either directly or indirectly to or on behalf of said

 (contractor or subcontractor)

from the full weekly wages earned by any person and that no deductions have been made either directly or indirectly from the full wages earned by any person, other than permissible deductions as defined in Rhode Island General Law Chapter 28-14.

(2) That any payrolls otherwise under this contract required to be submitted for the above period are correct and complete; that the wage rates for laborers or mechanics contained therein are not less than the applicable wage rates contained in the appropriate wage determination for the project; that the classifications set forth therein for each laborer or mechanic conform with the work they performed.

(3) That the apprentices employed in the above period are duly registered in a bona fide apprenticeship program registered with the Rhode Island State Apprenticeship Council.

(4) That: (a) WHERE FRINGE BENEFITS ARE PAID TO APPROVED PLANS, FUNDS OR PROGRAMS

In addition to the basic hourly wage rates paid to each laborer or mechanic listed in the above referenced payroll, payments of fringe benefits as listed in the contract have been or will be made when due, to appropriate programs for the benefit of such employees.

Fringe Benefits Explanation: Bona fide fringe benefits are those paid to approved plans, funds or programs except those required by Federal or State Law. Please specify the type of benefits provided:

- | | |
|-------------------------------------|------------------------------------|
| 1.) Medical or hospital care: _____ | 4.) Disability: _____ |
| 2.) Pension or Retirement: _____ | 5.) Vacation, sick, holiday: _____ |
| 3.) Life Insurance: _____ | 6.) Other (please specify): _____ |

(b) WHERE FRINGE BENEFITS ARE PAID IN CASH

Each laborer or mechanic listed in the above referenced payroll has been paid as indicated on the payroll, an amount not less than the sum of the applicable basic hourly wage rate plus the amount of the required fringe benefits as listed in the rate schedule.

(5) In accordance with Chapter 37-13-13, it is mandatory that contractors use these forms for all Rhode Island Department of Labor requests for certified copies of payroll. Failure to submit information on these forms will constitute non-compliance by the responding contractor. These forms must be signed by the owner or an officer of the corporation, certifying that this is a true and exact copy of their payroll records.

SIGNATURE OF OWNER OR OFFICER OF CORPORATION	PRINT NAME & TITLE	DATE
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My signature hereon constitutes my affirmation that the information contained herein is true and accurate regarding the number of employees participating in the prevailing wage program, the prevailing wage standard hours each employee worked, prevailing wage overtime hours, regular hours and overtime hours for each employee as well as the gross wages for each employee. I have confirmed and attest that all the information contained in this document is correct and I understand and acknowledge by my signature that if I provide any inaccurate information on this form, I may be subject to civil penalties and/or referral to the Rhode Island Attorney General for criminal prosecution.