

Town of Stonington, Connecticut

Department of Public Works
152 Elm Street
Stonington, Connecticut



Project Manual & Specifications For:

Bayview Avenue Drainage Improvements

Invitation to Bid

ITB: #2016-009

July 7, 2016

Prepared By:

CLA Engineers, Inc.

Consulting Engineers

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INVITATION TO BID

Town of Stonington
Bayview Avenue
Drainage Improvements

 **CLA Engineers, Inc.**
Civil • Structural • Survey

INVITATION TO BID
ITB: #2016-009

TOWN OF STONINGTON
BAYVIEW AVENUE DRAINAGE IMPROVEMENTS PROJECT

Sealed bids are invited by the Town of Stonington, CT, hereinafter called the Owner, for the Project: **Bayview Avenue Drainage Improvements**. The project consists of the replacement of an existing culvert and headwall and associated drainage structures within the Town of Stonington.

Bidding Documents have been prepared by CLA Engineers, Inc. (CLA), 317 Main Street, Norwich, CT 06360, hereinafter called the Engineer.

Bids shall be directed to James Sullivan, Director of Finance, Town of Stonington Finance Department, 3rd Floor, Stonington Town Hall, 152 Elm Street, Stonington, CT 06378 in a sealed envelope clearly marked "Bayview Avenue Drainage Project ITB:#2016-009", with the Bidder's name.

Bid submission deadline is 2:00 p.m., prevailing time on August 1, 2016 at the Town of Stonington Finance Department, 3rd Floor, Stonington Town Hall, 152 Elm Street, Stonington, CT 06378. Bids will be opened and read aloud soon after. Bids shall be submitted on the form included in the attached bid documents.

Project plans and specifications will be on file at the Stonington Town Hall, Department of Public Works, 3rd floor, 152 Elm Street, Stonington, CT 06378, and available to contractors for viewing **ONLY** as of July 8, 2016. Town Hall hours are Monday through Friday 8:30am – 4pm.

The bid documents will be available at noon on July 8, 2016 on the CT DAS Contracting Portal, under the Town of Stonington, as well as on the Town's website at www.stonington-ct.gov/bids-rfps.

Bid documents may also be purchased by each Bidder directly from Copy Cats, Inc., 458 Williams Street, New London, CT 06320 (Telephone (860) 442-8424; email orders@copycatsnl.com) during normal business hours (7 A.M. – 5 P.M.). Bid documents will be provided as a full set only. A non-refundable fee shall be set by Copy Cats, Inc.

A non-mandatory pre-bid conference to review the project will be held on July 22 2016, at 10:00 a.m. All prospective bidders are urged to attend.

Bid surety for 5% of the bid amount is required with each bid submitted. Bid surety shall be in the form of a certified check or bond. The successful bidder will be required to furnish Performance and Labor and Material Payment Bonds equal to 100% of the Contract amount.

No Bids may be withdrawn for a period of twenty (20) days from the date of Bid opening. The amount of bid security shall be forfeited to the Owner if the Bidder, after being notified of selection for the award of the contract for the work, fails to furnish the required bonds and enter into a contract for construction within ten (10) days after such notification.

The Town of Stonington reserves the right to accept or reject any or all bids; to waive any informality, or; to accept any bid deemed in the best interests of the Town of Stonington.

Subject to the rights reserved to the Owner in the Paragraphs below, the contract shall be awarded to the lowest responsible qualified bidder.

The lowest qualified responsible bidder shall furnish and pay for surety in the full amount of the contract. This bond shall provide 100% security for the faithful performance of the contract and the payment of all persons performing labor or furnishing materials in connection with the contract. Such surety shall be written by a surety company qualified to do business in the State of Connecticut and acceptable to the Town.

No rights shall accrue to any person submitting a bid until such bids have been accepted and contract awarded in writing by the duly authorized representative of the Town of Stonington. The Town reserves the right to reject any and all bids and to accept the lowest responsible qualified bidder, and to waive any informalities, omissions, excess verbiage, or technical defects in the Bidding, if, in the opinion of the Town, it would be in their best interest to do so.

All questions during bidding period must be **in writing** by email to the Engineer, emailed to:

ATTN: Robert DeLuca, c/o CLA Engineers at bdeluca@claengineers.com

Addendum and answers to RFIs shall be issued by the Engineer and will be posted on the CT DAS Contracting Portal as well as on the Town's website at www.stonington-ct.gov/bids-rfps.

If the bid submission date is **not** extended, the last addendum shall be issued no later than 3:00 PM prevailing time on July 27, 2016. The deadline for questions received by the Engineer shall be no later than 4:00 p.m. prevailing time on July 25, 2016.

The Town of Stonington is exempt from paying Connecticut sales tax. No sales tax shall be added to the construction cost for this project.

The successful Bidder who is awarded the Contract shall obtain all required permits.

The State of Connecticut has established that all municipal public works contracts in excess of \$50,000 financed in whole or in part by the State shall incorporate a 25% set-aside of contracting activity to small business enterprise(s); further, that 25% of said set-aside amount shall be set aside for minority business enterprise(s). Contractors are directed to the State of Connecticut Department of Administrative Services ("DAS") for information on set-aside provisions and/or registration as a set-aside business.

The Town of Stonington, or its agent may reject any bid or proposal from a bidder if that bidder, or its principals, are delinquent in the payment of any real estate, personal property, or motor vehicle tax, or sewer use charges or assessments, or are delinquent or obligated to the Town of Stonington for any other form of debt or obligation.

Proposers must inform the Town of information concerning any:

1. Listing on the State's Disbarment List or List of Parties Excluded from Federal Procurement.
2. Ineligibility, per Connecticut General Statute Section 31-57b to be awarded the contract because of occupational safety and health violations.
3. Ongoing arbitrations and/or litigation.
4. Criminal proceedings.
5. State or local ethics law, regulation, ordinance and /or policy violations.

The Owner reserves its right to request additional information from bidders, subsequent to the opening of bids.

The bidder is solely responsible for the costs of its proposal.

Submitted proposals are the Town's property and will not be returned.

Any and all information received from proposers is subject to the Freedom of Information Act (FOI) and may be disclosed to the general public. If any information is deemed to be proprietary and confidential by the proposer, it should be indicated at the time of proposal submission. The proposer should be prepared to defend not disclosing any such information pursuant to a FOI request.

The making of a preliminary award to a proposer does not constitute a contract and does not provide the proposer with any rights and does not impose upon the Town any obligations. A proposer has rights, and the Town has obligations, only if and when a contract is executed by the Town and the proposer.

THE TOWN OF STONINGTON IS AN AFFIRMATIVE ACTION/

EQUAL OPPORTUNITY EMPLOYER MBE/WBE AND SBE's are encouraged to bid

INFORMATION TO BIDDERS

ARTICLE 1 RECEIPT AND OPENING OF BIDS

Sealed bids (1 original & 1 copy) for the **Bayview Avenue Drainage Improvements** project will be received in accordance with instructions in the Invitation To Bid. The envelopes containing the bids must be sealed and designated as **Bayview Avenue Drainage Improvements.**

The Owner may consider informal any bid not prepared and submitted in accordance with the provisions hereof and may waive any informalities in or reject any and all bids. Conditional or qualified bids will not be accepted. Any bid received after the time and date specified shall not be considered. Should there be reasons why the contract cannot be awarded within the specified period the time may be extended by mutual agreement between the Owner and the bidder.

ARTICLE 2 PREPARATION OF BID

Each Bid must be submitted on the prescribed form. All blank spaces for bid prices must be filled in, in ink or typewritten, both in words and figures. All bids must be prepared in conformity with and shall be based on and submitted subject to all requirements of the Specifications and Drawings together with all Addenda thereto.

ARTICLE 3 TELEGRAPHIC MODIFICATION

Any bidder may modify his bid by telegraphic communication at any time prior to the scheduled closing time for receipt of bids, provided such telegraphic communication is received by the Owner prior to the closing time, and provided further, the Owner is satisfied that a written confirmation of the telegraphic modification over the signature of the bidder was mailed and postmarked prior to the closing time. The telegraphic communication should not reveal the bid price but should provide the addition or subtraction or other modifications so that the final prices or items will not be known by the Owner until the sealed bid is opened. If written confirmation is not received within two days from the closing time, no consideration will be given to the telegraphic modifications.

ARTICLE 4 CORRECTIONS

Erasures or other changes in the bid must be explained or noted over the signature of the bidder.

ARTICLE 5 WITHDRAWAL OF BIDS

Bids may be withdrawn personally or on written or telegraphic request dispatched by the bidder in time for delivery in the normal course of business prior to the time fixed for the opening, provided that written confirmation of any telegraphic withdrawal over the signature of the bidder is placed in the mail and postmarked prior to the time set for the opening of the bids. Negligence on the part of the bidder in preparing his bid confers no right of withdrawal or modification of his bid after such bid has been opened.

ARTICLE 6 QUALIFICATIONS OF THE BIDDER

The Owner may make such investigations as he deems necessary to determine the ability of the bidder to perform the work, and the bidder shall furnish to the Owner all such information and data for this purpose as the Owner may request. The Owner reserves the right to reject any bid if the evidence submitted by, or investigation of, such bidder fails to satisfy the Owner that such bidder is properly qualified to carry out the obligations of the Contract and to complete the work contemplated therein. Conditional bids will not be accepted.

ARTICLE 7 OBLIGATIONS OF THE BIDDER

Bidders must satisfy themselves by personal examination at the site of the proposed work, by review of the Drawings and Specifications including Addenda, and by additional means as they may prefer, as to the actual conditions, requirements, and limits of the proposed work, and as to the accuracy of the information and statements herein contained, and the submission of any bid will be accepted by the Owner as satisfactory proof that the bidder has satisfied himself in these respects. The bidder shall not at any time after the submission of a bid dispute or complain of such statements or information, nor, assert that there was any misunderstanding in regard to the nature, or amount of work to be done. The failure or omission of any bidder to examine any form, instrument or document shall in no way relieve the bidder of his obligation to furnish all materials except those materials furnished by the Owner and labor necessary to carry out the provisions of the Contract Documents and to complete the contemplated work for the considerations set forth in his bid, if his bid is accepted.

ARTICLE 8 CONDITIONS OF WORK

Insofar as possible, the Contractor, in carrying out his work, must employ such methods or means as will not cause any interruption of or interference with traffic, with the use of existing facilities and utilities, with the use of municipally or 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 the 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, or other similar conditions at the site, the character of equipment and facilities needed preliminary to and during the 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.

ARTICLE 9 INFORMATION SUPPLIED TO BIDDERS

The Owner shall provide to bidders prior to bidding, all information which is pertinent to, and delineates and describes, the land owned and rights-of-way acquired or to be acquired.

The Contract Documents contain the provisions required for the construction of the project. Information obtained from any officer, agent, or employee of the Owner or any other person shall not affect the risks or obligations assumed by the Contractor or relieve him from fulfilling any of the conditions of the Contract.

ARTICLE 10 BID SECURITY

Each bid must be accompanied by a certified check of the bidder, or a bid bond prepared on the form of bid bond attached hereto, duly executed by the bidder as principal and having as surety thereon a surety company approved by the Owner, in the amount of 5 percent of the bid. Such checks or bid bonds will be returned to all but the three lowest bidders within five days after the opening of bids, and the remaining checks or bid bonds will be returned promptly after the Owner and the accepted bidder have executed the contract; or if no award has been made within 60 days after the date of the opening of the bids, upon demand of the bidder at any time thereafter, so long as he has not been notified of the acceptance of his bid. The bid bond of the successful bidder will be retained until the payment bond and performance bond have been executed and approved, after which it will be returned.

ARTICLE 11 METHOD OF AWARD-LOWEST QUALIFIED BIDDER

If, at the time this Contract is to be 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 will be awarded on the lowest base bid by a responsible bidder, availability of bidder and bidder considered best suited to the Owner's needs in the Owner's opinion. 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 unit prices submitted by the bidder to bring the Contract within available funds; or the Owner may reject all bids. In determining the lowest qualified bidder the total price bid for the Basic Contract will be used.

The term "lowest responsible bidder" shall mean the bidder whose bid is the lowest of those bidders possessing the skill, ability and integrity necessary for the faithful performance of the work; who shall certify that he is able to furnish labor that can work in harmony with all other elements of labor employed or to be employed in the work.

The low bidder shall supply the names and addresses of major material suppliers and subcontractors when requested to do so by the Owner.

ARTICLE 12 EXECUTION OF THE AGREEMENT

A Contract in the form set forth hereinafter will be required to be executed by the successful bidder and the Owner. The attention of all bidders, therefore, is called to the form of the Agreement and the provisions thereof. The party to whom the Contract is awarded will be required to obtain the performance bond and payment bond and insurance certificates within five (5) calendar days from the date when the Notice of Award is delivered to the bidder. The Notice of Award shall be accompanied by the necessary Agreement and bond forms. The Contractor shall furnish a performance bond and a payment bond, each in the amount of 100 percent of the Contract Price, with a corporate surety approved by the Owner, as security for faithful performance of the Contract.

The Bidder, five (5) days after notification of award shall have three (3) copies of the Performance Bond, Payment bond, Insurance Certificates, Save harmless endorsement and Agreement ready for a contract signing with the Owner at the Owner's place of business, at which time a pre-construction conference shall be held.

ARTICLE 13 LIQUIDATED DAMAGES FOR FAILURE TO ENTER INTO CONTRACT

The successful bidder, upon his failure or refusal to execute and deliver the Contract and bonds required within 5 days after he has received notice of the acceptance of his bid, shall forfeit to the Owner, as liquidated damages for such failure or refusal the surety deposited with his bid.

ARTICLE 14 NOTICE TO PROCEED

The Notice to Proceed shall be issued within five (5) days of the execution of the Agreement by the Owner. Should there be reasons why the Notice to Proceed cannot be issued within such period; the time may be extended by mutual agreement between the Owner and Contractor.

ARTICLE 15 TIME OF COMPLETION AND LIQUIDATED DAMAGES

Time Completion

The bidder must agree to commence work on or before the date specified in the written Notice to Proceed of the Owner and to fully complete the total project within 90 consecutive calendar days thereafter.

Liquidated Damages

In addition to the above liquidated damages, the bidder must agree also to pay as liquidated damages, the sum of \$250.00 for each consecutive calendar day thereafter, as hereinafter provided in the Contract and General Conditions.

ARTICLE 16 POWER OF ATTORNEY

Attorneys-in-fact who sign bid bonds or contract bonds must file with each bond a certified and effectively dated copy of their power of attorney.

ARTICLE 17 ADDENDA AND INTERPRETATIONS

No interpretation of the meaning of the Drawings, Specifications, or other pre-bid documents will be made to any bidder orally. All questions during bidding period must be in writing by email to the Engineer, per the instructions in the Invitation to Bid. Any and all interpretations and any supplemental instructions will be in the form of written Addenda to the invitation to bid and/or specifications, which, if issued, will be posted on the CT DAS Contracting Portal as well as on the Town's website at www.stonington-ct.gov/bids-rfps.

All Addenda so issued shall become a part of the Contract Documents.

ARTICLE 18 UNCERTAINTY OF QUANTITIES

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 of the quantities of the work involved which cannot be predicted in advance. The work under certain items may be materially greater or less than that given in the bid, as may be necessary in the judgment of the Owner to complete the work contemplated in the Contract.

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.

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 19 ITEMS NOT LISTED IN THE BID

Appurtenant items of work shown on the Drawings or specified or required to complete the work but not listed separately under the list of items in the bid 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 items.

ARTICLE 20 BALANCED BIDDING

Minus bidding on any item or items of the Specifications is prohibited. 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 any item or items thereof are obviously unbalanced or appear to the Owner to be so unbalanced as to affect or to 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 21 PRICES

Bidders shall state the proposed price for the work by which the bids will be compared. This price is to cover all the expenses incidental to the completion of the work in full conformity with the Contract, the Specifications, and the Drawings. The price or prices proposed shall be stated both in words and in figures, and any bid not so stated shall be rejected.

In the event 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 unit prices written in words and the unit prices written in figures, the unit 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.

ARTICLE 22 NONDISCRIMINATION

The Contractor agrees and warrants that in the performance of this contract he will not discriminate or permit discrimination against any person or group of persons on the grounds of race, color, religious creed, age, marital status, national origin, sex, mental retardation or physical disability, including, but not limited to, blindness, unless it is shown by such contractor that such disability prevents performance of the work involved in any manner prohibited by the laws of the United States or of the State of Connecticut, and further agrees to provide the Commission on Human Rights and Opportunities with such information requested by the Commission concerning the employment practices and procedures of the Contractor as relate to the provisions of this section.

ARTICLE 23 EMPLOYMENT OF LABOR

The wages paid to mechanics, laborers or workmen employed upon the work herein contracted to be done shall be at a rate equal to the rate of wages prevailing for the same work in the same trade or occupation in the Stonington area as determined by the labor Commissioner of the State of Connecticut. See Section 31.53 of the General Statutes of the State of Connecticut, Revision of 195S, as amended.

Public Act 79-325 passed by the 1979 Legislature covers exemptions from Section 31.53 of the General Statutes. Under the new exemptions, effective October 1985, the regulations that the prevailing wage must be paid for work performed by contractors and subcontractors in connection with work on public facilities will not apply:

To public work alterations, repair, refinishing projects with total cost of less than \$100,000.

To public works new construction with a total cost of less than \$400,000.

All Bidders are informed that the project is considered as REPAIR work.

All Bidders are advised to inform themselves and to comply with the requirements of Federal, State and local laws governing the employment of labor.

The Contractor shall provide certified payroll sheets to the Owner which includes all employees involved with the project for each payroll period during the course of the project.

ARTICLE 24 LAWS AND REGULATIONS

The Bidder's attention is directed to the fact that all applicable federal and state laws and municipal ordinances for the construction, reconstruction, alteration, remodeling, repair or demolition of public works and the rules and regulations of all authorities having jurisdiction over construction of the project shall apply to the Contract throughout, and they will be deemed to be included in the Contract the same as though herein written out in full.

ARTICLE 25 PAYMENT FOR DRAWINGS AND SPECIFICATIONS

See Advertisement for Bids

ARTICLE 26 CONSTRUCTION SCHEDULE

Prior to start of work the Contractor will be required to submit a construction schedule showing the order in which he proposes to carry on the work, including dates at which he will start and finish various parts of the work conforming to major divisions of the specifications.

ARTICLE 27 TAXES

The Town of Stonington is considered exempt from the payment of Federal excise taxes, Connecticut Sales Taxes, etc. and such taxes shall be identified separately or excluded from the bid prices.

ARTICLE 28 NON-RESIDENT CONTRACTORS

Connecticut General Statute §12-430(7) requires that:

When a non-resident contractor enters into a contract they must post a 5% cash or guarantee bond for the total amount with the Commissioner of Revenue Services;

or

Any person dealing with a non-resident contractor without first obtaining a certificate of compliance must deduct 5% from the amount payable to the non-resident contractor and submit it to the state.

If the requirements are not met, the general contractor will be liable for all Connecticut taxes imposed.

All questions shall be directed to the State of Connecticut Department of Revenue Services Discovery Unit at 860-541-3280.

ARTICLE 29 OCCUPATIONAL SAFETY & HEALTH REGULATORY COMPLIANCE

Successful bidders must demonstrate compliance with the applicable safety and health acts including without limitation, 29CFR 1910.146 “Permit Required Confined Spaces”. “Sub-part P - Excavations” Part 1926 [Amended], Sections 1926.650, 651 and 652.

The contractor is responsible for ensuring OSHA compliance, and his responsibility includes supervising and monitoring work site conditions for OSHA compliance. If the contractor uses subcontractors the contractor is responsible for ensuring that the subcontractors fulfill their obligations with respect to employee safety, particularly including those which affect the entire site.

The Owner shall consider OSHA violations(s) over the past five years in determining the ability of the Contractor to comply with OSHA requirements and in determining whether contractor is a responsible bidder.

If there has been an OSHA violation within the past five (5) years (measured from the date of the bid), the contractor shall provide copies of the citation(s), all documents regarding final determination of such citations including settlement any explanation(s) of such violation(s).

ARTICLE 30 PROVISIONAL ITEMS

Provisional items are delineated in the bid form. Quantities for provisional items may or may not be used in whole or in part at the discretion of the Owner. This shall in no way affect the established contract unit prices. All bid unit prices for provisional items shall be added to establish the total bid amount.

ARTICLE 31 BORINGS AND SUBSURFACE DATA

No subsurface test boring information is available for this Contract.

Neither the OWNER nor the ENGINEER guarantees the accuracy of any subsurface information provided in the Contract Documents which the OWNER or others have obtained. The OWNER/ENGINEER do not make any representations as to the soil conditions, the kind or condition of the soil to be encountered in the prosecution of the work or the foundation materials to be encountered.

BID PROPOSAL FORMS

BID FORM

BAYVIEW AVENUE DRAINAGE IMPROVEMENTS
STONINGTON, CONNECTICUT

TO: Town of Stonington
Town Engineer
152 Elm Street
Stonington, Connecticut 06378

FROM: _____

The undersigned, having familiarized (himself, itself, themselves) with the existing conditions on the Project Site affecting the cost of the work, and with the Contract Documents for the **Bayview Avenue Drainage Improvements** hereby proposes to furnish all supervision, technical personnel, labor, materials, equipment, tools, appurtenances, services, materials not supplied by the Owner, and anything else necessary, including utility and transportation services required to perform and complete this Contract, all in accordance with the Contract Documents, at and for the unit prices for work in place for the following work items. Unit prices are to be written in both words and figures. In case of discrepancy, the unit price shown in words will govern.

The quantity of the units shown below is given for the purpose of determining the Award. The Owner reserves the right to increase or decrease these quantities. Payment to the Contractor will be based on completed measured quantities of these work items.

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>QUANTITY</u>	<u>UNIT</u>	<u>UNIT PRICE</u>	<u>AMOUNT</u>
1.	Maintenance and Protection of Traffic		L.S.	_____	_____

UNIT PRICE IN WORDS: _____

2.	Clearing and Grubbing		L.S.	_____	_____
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UNIT PRICE IN WORDS: _____

3. Sedimentation and Erosion Control L.S. _____

UNIT PRICE IN WORDS: _____

4. Rock Excavation and Disposal 20 C.Y. _____

UNIT PRICE IN WORDS: _____

5. Gravel Fill 20 C.Y. _____

UNIT PRICE IN WORDS: _____

6. Provisional Item:
Crushed Stone 50 C.Y. _____

UNIT PRICE IN WORDS: _____

7. Bituminous Concrete Driveways 1,550 S.F. _____

UNIT PRICE IN WORDS: _____

8. Two Course Bituminous Concrete Road Repair 175 S.Y. _____

UNIT PRICE IN WORDS: _____

9. Concrete Sidewalk,
Driveways and Ramps 375 S.F. _____

UNIT PRICE IN WORDS: _____

10. Granite Curb 60 L.F. _____

UNIT PRICE IN WORDS: _____

11. 15" HDPE Culvert 20 L.F. _____

UNIT PRICE IN WORDS: _____

12. 36" HDPE Culvert 391 L.F. _____

UNIT PRICE IN WORDS: _____

13. Double 18" HDPE Culvert 95 L.F. _____

UNIT PRICE IN WORDS: _____

14. Catch Basins
Type "C" or "CL" 4 Ea. _____

UNIT PRICE IN WORDS: _____

15A. Drainage Manhole- 5' dia. 1 Ea. _____

UNIT PRICE IN WORDS: _____

15B. Drainage Manhole- 6' dia. 1 Ea. _____

UNIT PRICE IN WORDS: _____

15C. Drainage Manhole- 7' dia. 1 Ea. _____

UNIT PRICE IN WORDS: _____

16. Concrete Headwall 1 Ea. _____

UNIT PRICE IN WORDS: _____

17. Topsoil, Seed, Fertilize & Mulch L.S. _____

UNIT PRICE IN WORDS: _____

18. Landscaping – Shrub Replacement L.S. _____

UNIT PRICE IN WORDS: _____

19. Fencing L.S. _____

UNIT PRICE IN WORDS: _____

20. Remove & Dispose of Existing Drainage System L.S. _____

UNIT PRICE IN WORDS: _____

TOTAL BID AMOUNT: _____

TOTAL BID AMOUNT IN WORDS: _____

This contract is to be awarded to that responsible Bidder whose total bid is the lowest number of dollars for the above items.

The undersigned agrees, if awarded the Contract, to execute and fully complete all work within 90 days in accordance with the Information To Bidders. The undersigned has checked carefully all the above figures and understands that the OWNER will not be responsible for any errors or omissions on the part of the undersigned in making up this bid.

The Contractor acknowledges the receipt of the following Addenda;

Addendum No. _____, dated _____
Addendum No. _____, dated _____
Addendum No. _____, dated _____

Enclosed is the Bidder's Bond, Certified Check or Cashier's Check No. _____ in the amount of five (5%) of the Bid.

Contractor understands that the Owner reserves the right to reject any or all bids and to waive any informalities in the bidding. The Contractor agrees that this bid shall be good and may not be withdrawn for a period of 60 calendar days after the scheduled closing time for receiving bids.

Respectfully submitted:

By _____
(Title)

(Business Address)

(Telephone Number)

(Email or Fax)

(SEAL - if bid is by a corporation)

BID BOND

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

_____, as PRINCIPAL, and _____
as SURETY are held and firmly bound unto the Town of Stonington hereinafter called the "OWNER", in the penal sum of Five Percent of Total Bid Dollars, (\$5% of Total Bid) lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these Presents.

THE CONDITION OF THIS OBLIGATION IS SUCH, that whereas the Principal has submitted the Accompanying Bid, dated _____, 20____, for

_____ BAYVIEW AVENUE _____

_____ DRAINAGE IMPROVEMENTS _____

NOW, THEREFORE, if the Principal shall not withdraw said Bid within the period specified therein after the opening of the same, or, if no period be specified, within ninety (90) days after the said opening, and shall within the period specified therefor, or if no period be specified, within ten (10) days after the prescribed forms are presented to him for signature, enter into a written Contract with the Owner in accordance with the Bid, as accepted, and give bond with good and sufficient surety or sureties, as may be required, for the faithful performance and proper fulfillment of such Contract; or in the event of the withdrawal of said Bid within the period specified, or the failure to enter into such Contract and give such bond within the time specified, the Principal shall pay the Owner the difference between the amount specified in said Bid and the Amount for which the Owner may procure the required work or supplies or both, if the latter be in excess of the former, then the above obligation shall be void and of no effect, otherwise to remain in full force and virtue.

IN WITNESS WHEREOF, the above-bounded parties have executed this instrument under their several seals this _____ day of _____, 20____, the name and corporate seal of each corporate party being hereto affixed and these presents duly signed by its undersigned representative, pursuant to authority of its governing body. In presence of:

(Individual Principal)

(SEAL)

(Partnership)

(Business Address)

(SEAL)

(Business Address)

Attest:

By: _____

(Corporate Principal)

(Business Address)

By: _____
Affix
Corporate
Seal

Attest:

(Corporate Surety)

By: _____
Affix
Corporate
Seal

Countersigned

by _____

Attorney-in-Fact, State of _____

(Power-of-Attorney for person signing for surety company must be attached to bond.)

PROPOSED SUBCONTRACTORS

THE BIDDER SHALL STATE THE NAMES OF ALL THE SUBCONTRACTORS THAT HE PROPOSES TO USE. ATTACH ADDITIONAL SHEETS IF NEEDED.

If none, write "None" _____

*Description of Work _____

Proposed Subcontractor, Name _____

Address _____

*Description of Work _____

Proposed Subcontractor, Name _____

Address _____

*Description of Work _____

Proposed Subcontractor, Name _____

Address _____

*Insert description of work and subcontractors' names as may be required.

This is to certify that all names of the above-mentioned subcontractors are submitted with full knowledge and consent of the respective parties.

The Bidder warrants that none of the proposed subcontractors have any conflict of interest as respects this contract.

Bidder _____
(Fill in Name)

By _____
(Signature and Title)

PROPOSED SUPPLIERS

THE BIDDER SHALL STATE THE NAMES OF PROPOSED MATERIAL SUPPLIERS FOR THE PROJECT. ATTACH ADDITIONAL SHEETS IF NEEDED.

If none, write "None" _____

*Description of Material _____

Proposed Supplier, Name _____

Address _____

*Description of Material _____

Proposed Supplier, Name _____

Address _____

*Description of Material _____

Proposed Supplier, Name _____

Address _____

*Insert description of work and suppliers names as may be required.

This is to certify that all names of the above-mentioned suppliers are submitted with full knowledge and consent of the respective parties.

The Bidder warrants that none of the proposed suppliers have any conflict of interest as respects this contract.

Bidder _____
(Fill in Name)

By _____
(Signature and Title)

STATEMENT OF BIDDER'S QUALIFICATIONS

All questions must be answered and the data given must be clear and comprehensive. This statement must be notarized. If necessary, questions may be answered on separate attached sheets. The Bidder may submit any additional information he desires.

1. Name of Bidder.
2. Permanent main office address.
3. When organized.
4. If a corporation, where incorporated.
5. How many years have you been engaged in the contracting business under Your present firm or trade name?
6. Contracts on hand: (Schedule these, showing amount of each contract and the appropriate dates of completion.
7. General character of work performed by your company.
8. Have you ever failed to complete any work awarded to you? If so, where and why?
9. Have you ever defaulted on a contract? If so, where and why?
10. List the more important projects recently completed by your company, stating the approximate cost for each, and the month and year completed.
11. List your major equipment available for this contract.
12. Experience in construction work similar in importance to this project.
13. Background and experience of the principal members of your organization including the officers.
14. Will you, upon request, fill out a confidential detailed financial statement and furnish any other information that may be required by the OWNER?

CERTIFICATE AS TO CORPORATE PRINCIPAL

I, _____, certify that I am the Secretary of the corporation named as Principal in the within bond; that _____, who signed the said bond on behalf of the Principal was then _____ of said corporation; that I know his signature, and his signature thereto is genuine; and that said bond was his duly signed, sealed, and attested to for and in behalf of said corporation by authority of this governing body.

(Corporate Seal)

Title: _____

AGREEMENT AND BOND FORMS

AGREEMENT

THIS AGREEMENT, made this _____, by and between the Town of Stonington acting herein through _____ hereinafter called "OWNER" and _____, an individual, a partnership, a corporation doing business at _____, hereinafter called the "CONTRACTOR".

WITNESSETH: That for and in consideration of the payments and agreements hereinafter mentioned;

1. The CONTRACTOR will commence and complete the **Bayview Avenue Drainage Improvements**
2. The CONTRACTOR will furnish all of the material not supplied by Owner, supplies, tools, equipment, labor and other services necessary for the construction and completion of the PROJECT described herein.
3. The CONTRACTOR will commence the work required by the CONTRACT DOCUMENTS WITHIN 10 calendar days after the date of the NOTICE TO PROCEED and will complete the same within 90 consecutive calendar days unless the period for completion is extended otherwise by the CONTRACT DOCUMENTS.
4. The CONTRACTOR agrees to perform all the work described in the CONTRACT DOCUMENTS and comply with the terms therein for the amount of \$ _____ as shown in the Bid schedule.
5. The CONTRACTOR agrees the sum of 5% of progress pay estimates will be retained until final acceptance of the PROJECT further the sum of 2% of the total PROJECT will be retained for a period of ninety days from final acceptance of the work.
6. The term "CONTRACT DOCUMENTS" means and includes the following:

- Invitation to Bid
- Information to Bidders
- Bid Proposal
- Bid Bond
- Proposed Subcontractors
- Statement of Experience
- Qualification Statement
- Contract Agreement
- Form of Payment Bond

Form of Performance Bond
General Conditions
Special Conditions
Technical Specifications
Prevailing Wage Rates & Requirements
Drawings prepared by CLA Engineers, Inc.
Specifications prepared by CLA Engineers, Inc.
Addenda:

No. _____, dated _____

No. _____, dated _____

7. The OWNER will pay the CONTRACTOR in the manner and at such times as set forth in the General Conditions such amounts as required by the CONTRACT DOCUMENTS.
8. This Agreement shall be binding upon all parties hereto and their respective heirs, executors, administrators, successors, and assigns. IN WITNESS WHEREOF, the parties hereto have executed, or caused to be executed by their duly authorized officials, this Agreement in (3 copies) each which shall be deemed an original on the date first above written.

OWNER: Town of Stonington

CORPORATE SEAL

BY _____

ATTEST _____

CONTRACTOR: _____

CORPORATE SEAL

BY _____

ATTEST _____

PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS: That we _____
(Name of Contractor)

_____ a _____
(Corporation, Partnership, or Individual)

hereinafter called "Principal" and _____
(Surety)

of, _____ State of _____ hereinafter called the

"Surety", are held and firmly bound unto The Town Of Stonington, hereinafter
(Owner)

called "Owner", in the penal sum of _____ Dollars
(\$_____) in lawful money of the United States, for the payment made, we
bind ourselves, and successors, jointly presents of which sum well and truly to be our heirs,
executors, administrators and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION is such that Whereas, the Principal entered
into a certain contract with the Owner, dated the _____ day of _____, 20____, a copy
of which is hereto attached and made a part hereof for the construction of:

BAYVIEW AVENUE

DRAINAGE IMPROVEMENTS

NOW, THEREFORE, if the Principal shall well, truly and faithfully perform its duties,
all the undertakings, covenants, terms, conditions, and agreements of said contract during the
original term thereof, and any extensions thereof which may be granted by the Owner, with or
without notice to the Surety, and if he shall satisfy all claims and demands incurred under such
contract, and shall fully indemnify and save harmless the Owner from all costs and damages
which it may suffer by reason of failure to do so, and shall reimburse and repay the Owner all
outlay and expense which the Owner may incur in making good any default, then this obligation
shall be void; otherwise to remain in full force and effect.

PROVIDED, FURTHER, that the said Surety, for value received hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the contract or to the work to be performed thereunder of the specifications accompanying the same shall in any wise affect its obligation on this bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the contract or to the work of to the specifications.

PROVIDED, FURTHER, that no final settlement between the Owner and the Contractor shall abridge the right of any beneficiary thereunder, whose claim may be unsatisfied.

IN WITNESS WHEREOF, this instrument is executed in six (6) counterparts, each one of which shall be deemed an original, this the ____ day of ____, 20__.

ATTEST:

(Principal) Secretary
(SEAL)

Witness as to Principal

(Address-Zip Code)

ATTEST:

(Surety) Secretary
(SEAL)

Witness as to Surety

(Address-Zip Code)

Principal
By _____ (s)

(Address-Zip Code)

Surety

By _____
Attorney-in-Fact

(Address-Zip Code)

NOTE: Date of Bond must not be prior to date of Contract. If Contractor is Partnership, all partners should execute bond.

PAYMENT BOND

KNOW ALL MEN BY THESE PRESENTS: That we _____
(Name of Contractor)

_____ a _____
(Corporation, Partnership, or Individual)

hereinafter called "Principal" and _____
(Surety)

of, _____ State of _____ hereinafter called

the "Surety", are held and firmly bound unto The Town of Stonington
(Owner)

hereinafter called "Owner", in the penal sum of _____ Dollars
(\$ _____) in lawful money of the United States, for the payment made, we
bind ourselves, and successors, jointly presents of which sum well and truly to be our heirs,
executors, administrators and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION is such that Whereas, the Principal entered
into a certain contract with the Owner, dated the _____ day of _____, 20_ , a copy
of which is hereto attached and made a part hereof for the construction of:

BAYVIEW AVENUE

DRAINAGE IMPROVEMENTS

NOW, THEREFORE, if the Principal shall well, truly and faithfully perform its duties,
all the undertakings, covenants, terms, conditions, and agreements of said contract during the
original term thereof, and any extensions thereof which may be granted by the Owner, with or
without notice to the Surety, and if he shall satisfy all claims and demands incurred under such
contract, and shall fully indemnify and save harmless the Owner from all costs and damages
which it may suffer by reason of failure to do so, and shall reimburse and repay the Owner all
outlay and expense which the Owner may incur in making good any default, then this obligation
shall be void; otherwise to remain in full force and effect.

PROVIDED, FURTHER, that the said Surety, for value received hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the contract or to the work to be performed thereunder of the specifications accompanying the same shall in any wise affect its obligation on this bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the contract or to the work of to the specifications.

PROVIDED, FURTHER, that no final settlement between the Owner and the Contractor shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

IN WITNESS WHEREOF, this instrument is executed in six (6) counterparts, each one of which shall be deemed an original, this the ____ day of _____, 20__.

ATTEST:

(Principal) Secretary
(SEAL)

Witness as to Principal

(Address-Zip Code)

ATTEST:

(Surety) Secretary
(SEAL)

Witness as to Surety

(Address-Zip Code)

Principal
By _____ (s)

(Address-Zip Code)

Surety

By _____
Attorney-in-Fact

(Address-Zip Code)

NOTE: Date of Bond must not be prior to date of Contract. If Contractor is Partnership, all partners should execute bond.

GENERAL CONDITIONS

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ARTICLE 1 CONTRACT AND CONTRACT DOCUMENTS

The drawings, plans, specifications, and addenda enumerated in Article 1 of the General Conditions, Special Conditions, the Advertisement for Bid, the Information for Bidders, and the Bid Proposal as accepted by the OWNER, shall be binding upon the parties to this Agreement as if fully set forth therein. Whenever the term Contract Documents is used it shall mean and include the drawings, specifications and addenda. The OWNER shall interpret his own requirements. In case of conflict or inconsistency between the provisions of the signed portions of the Contract Documents and those of the specifications, the provisions of the signed portions shall govern.

ARTICLE 2 DEFINITIONS

The following terms as used in this contract are defined as follows:

- A. Owner - The Owner of the project is the *Town of Stonington*.
- B. Contractor - The term "Contractor" as hereinafter used shall refer to the General Contractor for this job.
- C. Owner's Representative - The term "Owner's Representative" as hereinafter used shall refer to any engineer or inspector whom the Owner may designate to inspect, test or oversee the work herein specified.
- D. Contract - Wherever the term "contract" is used in the General Conditions, it shall mean the actual bid form, specifications, Plans, General Conditions, Special Conditions and formal purchase order issued to successful bidder.

The rights and obligations of the CONTRACTOR under this contract shall include, but not be limited to the following:

ARTICLE 3 REPRESENTATIONS OF THE CONTRACTOR

The Contractor represents and warrants:

- a. That he is financially solvent and that he is experienced and competent to perform the type of work required under this contract and that he is able to furnish the plant, materials, supplies, or equipment that may be necessary to perform the work as specified.
- b. That he is familiar with all Federal, State and municipal laws, ordinances, orders, and regulations which may in any way effect the project 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 a part.
- c. 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 was intended and that such construction will not injure any person or damage property.
 - d. That he has carefully examined the drawings, specifications, and 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 of equipment and other facilities needed for the performance of the work, the general and local conditions, and all other items that may effect the work.
 - e. 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.

ARTICLE 4 CONTRACT SECURITY

The Contractor shall furnish a Performance Bond and Payment Bond in amounts equal to at least one hundred percent (100%) of the contract price as security for the faithful performance of the Contract, and for the payment of all persons performing labor on the project under this contract and furnishing materials, equipment and all other incidentals in connection with this contract. The Surety on such a bond shall be a from securities listed on the most recent IRS Circular 570, satisfactory to the Owner and the cost of the same shall be paid by the Contractor. prior to the starting of any work, the bonds must be approved by the Owner and be in the Owner's hands. The bonds must be from a surety company licensed and approved to do business in the State of Connecticut.

ARTICLE 5 CONTRACTOR'S OBLIGATIONS

The Contractor shall perform all work in a good workmanlike manner, and in accordance with the plans and specifications and any supplements thereto, and according to any directions or orders given by the Owner unless otherwise stipulated. He shall furnish all supplies, materials, except those supplies and materials furnished by the Owner, facilities, equipment, tools and anything else necessary or proper to perform and complete the work required by this contract. He shall furnish, erect, maintain, and remove any construction plant or 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.

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 the Contractor.

The Contractor shall hold the Owner and Engineer, or their duly authorized agents, harmless and defend and indemnify them against damages or claims for damages due to injuries to persons or property arising out of the execution of the project work, and for damages to materials furnished for the work, for infringement of inventions, patents, and patent rights used in doing the work, and for any act, omission, or instance of neglect by the Contractor, his agents, employees, or subcontractors.

The Contractor 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 of the work, or all parts of the work, or because the nature of the conditions in or on the project site are different from what was estimated or indicted, or on account of the weather, elements, or other causes.

ARTICLE 6 SUPERINTENDENCE BY THE CONTRACTOR

The Contractor shall give the work the constant attention necessary to facilitate the progress thereof and shall cooperate with the Owner in every possible way.

At the site of the work, the Contractor shall, at all times, employ a suitably experienced construction superintendent who shall have full authority to act for the Contractor. It is understood that the employment of such representative shall be acceptable to the Owner and shall be such a person as can be continued in the capacity for the duration of the contract, unless he ceases to be on the Contractor's payroll.

ARTICLE 7 CONSTRUCTION SCHEDULE AND PERIODIC ESTIMATES

Within five (5) days after the date of "Notice to Proceed" the Contractor shall deliver to the Owner an estimated construction progress schedule in a 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 Contractor shall also furnish the Owner: 1. a detailed estimate, giving a complete breakdown of the contract price; and 2. periodic itemized estimates of the work done for the purpose of making partial payments thereon.

ARTICLE 8 USE OF PREMISES AND REMOVAL OF DEBRIS

The Contractor undertakes, at his own expense:

- a. To take every precaution against injuries to persons or damage to property.
- b. To store his apparatus, materials, equipment, and supplies in such orderly fashion at the site of the work as will not unduly interfere with the progress of his work or any others.
- c. To place upon the work or any part thereof, only such loads as are consistent with the safety of that portion of the work.
- d. To clean frequently all refuse, scrap, and debris caused by his operations, and to dispose of same away from the site, so that the work site is maintained in a neat, workmanlike appearance.
- e. 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.
- f. Before final payment, to remove all surplus materials false work, temporary structures, including foundations thereof, plants of any description, and debris of any nature resulting from his operations and to dispose of same away from the site, so that the site is left in a neat, orderly, and workmanlike condition.

ARTICLE 9 GENERAL WARRANTY

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 other work resulting therefrom, which shall appear within a period of one year (1) from the date of final acceptance of the work, unless a longer period is specified by the Owner. The Owner will give final notice of observed defects with reasonable promptness.

ARTICLE 10 PROTECTION OF WORK AND PROPERTY - EMERGENCY

- 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 at no additional expense to the Owner.

- 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.
- 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 11 WEATHER CONDITIONS

In the event of temporary suspension of the 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 materials are damaged or injured by reason of failure to protect them on the part of the Contractor, or any of his subcontractors, or otherwise damaged or injured by the Contractor's negligence, or are found to be defective, such materials or work shall be removed and replaced at the expense of the Contractor.

ARTICLE 12 THE OWNER'S AUTHORITY

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 by such questions. 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 to be obscure or be in dispute. Any differences or conflicts in regard to their work which may arise between the Contractor and other contractors performing work for the Owner, shall be adjusted and determined by the Owner.

ARTICLE 13 ALL WORK SUBJECT TO CONTROL BY THE 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 Owner shall determine the amounts, quality, acceptability, and fitness of all parts of the work. The Owner shall interpret the drawings, specifications, contract documents, all other documents, and the extra work orders. The Owner shall also decide all other questions in connection with the work. The Contractor shall employ no plant, equipment, materials, methods or men to which the Owner objects and shall remove no plant, materials, or equipment or other facilities from the work site 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 materials furnished. Such inspection may extend to all parts of the work and to the preparation or manufacture of the materials to be used. The presence or absence of an 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 in which the work is being executed, the inspector shall have the authority to reject material or suspend work until the question has been decided by the Owner. The inspector shall not be authorized to revoke, alter, enlarge, relax, or release any requirement of these specifications, nor to approve or accept any portion of the work, nor 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 the 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 Engineers in any way, nor releasing the Contractor from the fulfillment of the terms of the contract.

ARTICLE 14 THE OWNER'S CONTROL NOT LIMITED

The enumeration in this contract of particular instances in which the opinion, judgment, discretion, or determination of the Owner shall control or in which work shall be performed to his satisfaction or subject to his approval or inspection, shall not imply that only matters similar to those enumerated shall be so governed and performed, but without exception all the work shall be so governed and performed.

ARTICLE 15 RIGHT OF THE OWNER TO TERMINATE THE CONTRACT

In the event that any of the provisions of this contract are violated by the Contractor, or any of his subcontractors, the Owner may serve written notice upon the Contractor and the Surety of its intention to terminate the contract, such notice to contain the reasons for such intention to terminate the contract. If within ten days (10) such violation or delay shall not cease and satisfactory arrangement of correction made, the contract shall, at the expiration of the ten days,

cease and immediately serve notice thereof upon the Surety and the Contractor, and the Surety shall have the power to take over and perform the contract, provided, however, that if the Surety does not commence performing thereof within ten days (10) from the date of mailing to such Surety of Notice of termination, the Owner may take over the work and prosecute the same to completion by contract or force account at the expense of the Contractor, and the Contractor and his Surety shall be liable to the Owner for any excess cost occasioned the Owner thereby.

15.1 Termination by the Owner for Convenience

15.1.1 The Owner may, at any time, terminate the Contract in whole or in part for the Owner's convenience and without cause. Termination by the Owner under this Paragraph shall be by a notice of termination delivered to the Contractor specifying the extent of termination and the effective date.

In agreeing to this provision, Contractor agrees and acknowledges that a construction project requires a good working relationship and the highest communication between parties and that if in the sole discretion of the Owner this relationship is not working to its sole satisfaction the Owner may terminate this contract for its own convenience.

15.1.2 Upon receipt of a notice of termination for convenience, the Contractor shall immediately, in accordance with instructions from the Owner, proceed with performance of the following duties regardless of delay in determining or adjusting amounts due under the Paragraph:

1. Cease operations as specified in the notice;
2. Place no further orders and enter into no further Subcontracts for materials, labor, services or facilities except as necessary to complete continued portions of the Contract;
3. Terminate all Subcontracts and orders to the extent they relate to the Work terminated;
4. Proceed to complete the performance of Work not terminated;
5. Take actions that may be necessary, or that the Owner may direct, for the protection and preservation of the terminated Work;

15.1.3 Upon such termination, the Contractor shall recover as its sole remedy, payment for Work properly performed in connection with the terminated portion of the Work prior to the effective date of termination and for items properly and timely fabricated off the Project site, delivered and stored in accordance with the Owner's instructions. The Contractor hereby waives and forfeits all other claims for payment and damages, including, without limitation, anticipated profits.

15.1.4 The Owner shall be credited for (1) payment previously made to the Contractor for the terminated portion of the Work, (2) agreements between Owner and Contractor on claims which the Owner has against the Contractor under the contract and (3) the value of the materials, supplies, equipment or other items that are to be disposed of by the Contractor that are part of the Contract Sum. The Owner shall have the right to withhold out of any payment due for any outstanding claims which Owner may have against Contractor. Nothing in this paragraph constitutes a waiver of or release of Contractor's right to contest any action, evaluation assessment or payment that Owner may make pursuant to this paragraph.

15.1.5 The payment to the Contractor pursuant to this Paragraph may not exceed the total Contract Price as reduced by:

1. the amount of payments previously made and
2. the Contract price of Work not terminated.

ARTICLE 16 INTERPRETATION OF THE DRAWINGS AND SPECIFICATIONS

Except for the Contractor's executed set, all drawings and specifications are the property of the Owner. The Owner will furnish the Contractor, without charge, three (3) sets of the drawings and specifications. Additional sets will be furnished upon request, at actual cost of reproduction. Such drawings and specifications are not to be used on other work and those sets in usable condition shall be returned to the Owner upon request at the completion or cessation of the work or termination of the contract.

The Contractor shall keep one (1) copy of the drawings and specifications at the work site at all times and shall give the Owner and their representatives access thereto. Anything on the drawings and not mentioned in the specifications, or anything in the specifications that is not shown on the drawings shall have the same force and effect as if mentioned in both. In case of conflict or inconsistency between the drawings and the specifications, the specifications shall take precedence. Any discrepancy in the figures and the drawings shall be immediately submitted to the Owner for decision and the decision of the Owner shall be final. In case of differences between small and large scale drawings, the larger scale drawings shall take precedence .

ARTICLE 17 INSPECTION

The authorized representatives and agents of the Owner shall be permitted to inspect all work materials, payrolls, records of personnel, invoices for materials, and other relevant data and records.

ARTICLE 18 REPORTS, RECORDS AND DATA

The Contractor and each of his subcontractors, shall submit to the Owner such schedules of quantities, and costs, progress schedules, payrolls, reports, estimates, records, and other data as the Owner may request concerning the work Performed or to be performed under this contract.

ARTICLE 19 RIGHTS-OF-WAY AND SUSPENSION OF WORK

Land and rights-of-way for the purpose of this contract shall be furnished by the Owner to the extent shown on the drawings; the Owner will use due diligence in acquiring said lands and rights-of-way as speedily as possible.

If however, lands or rights-of-way cannot be obtained before work on the project begins, the Contractor shall begin his work upon such land or rights-of-way as have been previously acquired by the Owner, and no claims for damages whatsoever will be allowed by reason of the delay in obtaining the remaining land 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 litigation, or by reason of its inability to procure the lands or rights-of-way for the said work, the Contractor shall not be entitled to make or assert a claim for damages by reason of the said delay, or to withdraw from the contract except by consent of the Owner. Time for completion of 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 20 SUBCONTRACTORS

The Contractors may utilize the services of specialty subcontractors on those parts of the work which, under normal contracting practices, are performed by specialty subcontractors.

The Contractor shall not award work to any subcontractor other than those listed in his bid, without the prior written approval of the Owner, which approval will not be given until the Contractor submits a written statement concerning the proposed award to the subcontractor, which statement shall contain such information as the Owner may require.

The Contractor shall cause appropriate provisions to be inserted in all subcontracts relative to the work, to bind the subcontractors to the contract documents insofar as applicable to the subcontract work and to give the Contractor under any provisions of the contract documents.

Nothing contained in this contract shall create any contractual relationship between the Owner and any subcontractor.

ARTICLE 21 ASSIGNMENTS

The Contractor shall not assign the whole or any part of this contract or any monies due or to become due hereunder without the written consent of the Owner. In case the Contractor assigns all or 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 22 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 to the work, the Contractor agrees to settle with such other contractor or subcontractor by agreement or arbitration. 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 23 SEPARATE CONTRACTS

The Owner reserves the right to let other contracts in connection with the construction of the contemplated work of the project, or contiguous projects of the Owner. The Contractor, therefore, will afford to any such other contractors reasonable opportunity for the introduction and storage of their materials and the execution of their work, will properly connect and coordinate his work with theirs, and will not commit or permit any act which will interfere with the performance of their work.

The Contractor shall coordinate his operations with those of other contractors. Cooperation will be required in the arrangement for storage of materials and in the detailed execution of the work. Failure by the Contractor to keep informed on the progress of the work, or failure to give notice of the lack of progress or defective workmanship by others, shall be construed as acceptance by him of the status of the work as being satisfactory for proper coordination with and performance of his own work.

ARTICLE 24 SAFETY AND HEALTH REGULATIONS

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

1. Williams-Steiger Occupational Safety and Health Act, 1970, Public Law 92-596;
2. Part 1910 of the Occupational Safety and Health Standards, Chapter XVII of Title 29, Code of Federal Regulations.

3. This project is subject to all of the Safety and Health Regulations (CFR 29, Part 1926 and all subsequent amendments) as promulgated by the U.S. Department of Labor on June 24, 1974.

In the event of any inconsistencies between the above laws and regulations and the provisions of these contract documents, the laws and regulations shall prevail.

ARTICLE 25 SHOP OR SETTING DRAWINGS

- a. The Contractor shall submit promptly to the Owner six (6) copies of each shop or setting drawing prepared in accordance with a schedule predetermined by the Contractor. After examination of such drawings by the Owner, and the return thereof, if resubmission is required the Contractor shall make such corrections to the drawings as have been indicated and shall furnish the Owner with six (6) corrected 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 the drawings.
- b. 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 by the Owner.
- c. The Contractor shall submit all shop and setting drawings on dates sufficiently in advance of requirements to enable the Owner ample time for reviewing the same, including time for correcting, resubmission and reviewing if necessary, and no claim for delay will be granted the Contractor by reason of his failure in this respect.
- d. All shop drawings submitted must bear the stamp of the Contractor as evidence that the drawings have been checked by him. Any drawings submitted without this stamp of approval will not be considered and will be returned to the Contractor for resubmissions. If the shop drawings show deviations 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 to the Owner, 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 the shop drawings have been approved.
- e. 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:

"The modification shown on the attached drawings is approved in the interest of the Owner to effect an improvement for the project and is ordered with the understanding that it does not involve any change in the contract price or an extension of time; that it is subject generally to all contract stipulations and covenants; and that it is without prejudice to any rights of the Owner under the contract and bond or bonds."

- f. The approval of the 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.
- g. The Contractor agrees to hold the Engineer and the Owner harmless and defend them against damages or 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 they have been approved by the Engineer and/or the Owner.

ARTICLE 26 ADDITIONAL INSTRUCTIONS AND DETAIL DRAWINGS

The Contractor will be furnished additional instructions and detail drawings as necessary to carry out the work included in the contract. The additional drawings and instructions thus supplied to the Contractor will coordinate with the contract documents and will be so prepared that they can be reasonably interpreted as part thereof. The Contractor shall carry out the work in accordance with the additional detail drawings and instructions. The Contractor and the Owner will prepare jointly a schedule fixing the respective dates for the submission of shop drawings, the beginning of manufacture, testing, and installation of materials, supplies, and equipment, and the completion of the various parts of the work; each schedule to be subject to change from time to time in accordance with the progress of the work.

ARTICLE 27 MATERIALS, SERVICES AND FACILITIES

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, water, light, power, transportation, superintendence, temporary construction of every nature, and all other services and facilities of every nature whatsoever, necessary to protect, execute, complete, and deliver the work within the specified time.

It is necessary for some work to be performed after regular hours, on Saturdays, Sundays, or legal holidays as designated by the Owner. Any work necessary to be performed after regular hours, on Saturdays, Sundays, or legal holidays shall be performed by the Contractor without additional expense to the Owner.

ARTICLE 28 CONTRACTOR'S TITLE TO MATERIALS

No material, supplies, or equipment for the work shall be purchased by the Contractor or 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 the right to a lien upon the premises or any improvement or appurtenance thereon.

ARTICLE 29 INSPECTION AND TESTING OF MATERIALS

All materials and equipment used in the construction of the project shall be new and of current manufacture. Testing will be done in accordance with accepted standards and as directed by the Owner; the laboratory or inspection agency shall be selected by the Owner. Except as specified elsewhere in these specifications, the Owner will pay for laboratory inspection.

All materials and workmanship shall be subject to inspection, examination, and testing 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 is 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 other such tests based on the Standards and Tentative Standards of the American Society for Testing Materials as required by the Owner.

ARTICLE 30 BRAND OR EQUAL CLAUSE

Recipients must incorporate in their specifications a clear and accurate description of the technical requirements for the material, product or service to be procured. Such description shall not, in competitive procurements, contain features which unduly restrict competition. The description shall include a statement of the qualitative nature of the material, product or service to be procured and, when necessary, shall set forth those minimum essential characteristics and standards to which it must conform if it is to satisfy its intended use. Detailed product specifications shall be avoided if at all possible when it is impractical or uneconomical to make a clear and accurate description of the technical requirements, a "brand name or equal" description approved by the Owner may be used as a means to define the performance or other salient requirements of a procurement. The specific features of the named brand which must be met by offerors shall be clearly stated.

ARTICLE 31 PATENTS

- a. The Contractor shall hold and save the Owner 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- contract, including its use by the Owner.
- b. License and/or royalty fees for the use of a process which is authorized by the Owner must be reasonable, and paid to the holder of the patent, or his authorized agent, directly by the Contractor.
- c. If the Contractor uses any design, device, or material covered by letters, patent, or copyright, he shall provide for such use by suitable agreement with the owner of such patent or copyrighted design, device, or material.
- d. It is mutually agreed and understood that, without exception, the contract prices shall include all royalties, license fees or costs arising out of the use of such process, design, device or materials in any way involved in the work. The Contractor and/or his Surety shall indemnify and save the Engineer and the Owner harmless from all claims for infringement by reason of use of such patented material, device or design, in connection with the work under this contract, and shall indemnify the Engineer and the Owner for any cost, expense or damage which it may be obligated to pay for reason of such infringement at any time during the prosecution of the work.

ARTICLE 32 CONTRACTOR'S BOND AND INSURANCE

Each Bidder must be able to enter into contract, covering the work, within 10 days from the acceptance of his proposal.

The successful bidder' must, within 10 days from the date of acceptance of his proposal, furnish and file with the Owner, a corporate performance bond and payment bond or equivalent security, guaranteeing, completion of the job in accordance with the proposal. This bond or equivalent security shall be for 100% of the amount of the contract. The cost of a bond is to be figured as part of the cost of the job. The Surety Company must be one licensed to do business in the State of Connecticut, from securities listed on the most recent IRS Circular 570 and must be satisfactory to the Owner.

The successful bidder must, within 10 days from the date of acceptance of his proposal, file with the Owner, Workmen's Compensation, Comprehensive General Liability, Comprehensive Auto Liability, Certificates of Insurance satisfactory to the Owner, in compliance with the law, and in the following form and amount:

Liability Insurance shall include all major divisions of coverage and be on a comprehensive basis including:

1. Premises Operations, including X, C and U coverages as applicable.
2. Independent Contractor' Protective.
3. Products and Completed Operations.
4. Personal Injury Liability with Employment Exclusion deleted.
5. Contractual.
6. Owned, non-owned and hired motor vehicles.
7. Broad Form Property Damage including Completed Operations.

Workers' Compensation

State:	Statutory
Voluntary Compensation (by any exempt entities) Employer's Liability	Same as State Workers' Compensation \$1,000,000 Each Accident \$1,000,000 Disease, Policy Limit \$1,000,000 Disease, Each Employee

General Liability (Including Premises-Operations; Independent Contractors' Protective; Products and Completed Operations; Broad Form Property Damage):

(a) Bodily Injury:

\$1,000,000 Each Occurrence
\$3,000,000 Aggregate

(b) Property Damage:

\$1,000,000 Each Occurrence
\$3,000,000 Aggregate

(c) Property Damage Liability Insurance shall include coverage for the following hazards:

 X X (Explosion), X C (Collapse), X U (Underground)

(d) Contractual Liability (Hold Harmless Coverage) or included in Commercial General Liability Coverage:

(1) Bodily Injury:
\$1,000,000 Each Occurrence

(2) Property Damage:
\$1,000,000 Each Occurrence
\$3,000,000 Aggregate

(e) Personal Injury, (with Employment Exclusion deleted if applicable):
\$1,000,000 Aggregate

(f) If General Liability policy includes a General Aggregate, such General Aggregate shall not be less than \$3,000,000. Policy shall be endorsed to have General Aggregate apply to this Project only.

3. Umbrella Excess Liability or \$5,000,000 excess which would not require a retention.
\$5,000,000 Over Primary Insurance
\$10,000 Retention

4. Comprehensive Automobile Liability (owned, non-owned, hired):
(a) Bodily Injury: \$1,000,000 combined single limit.

Fire and Special Extended Coverage in Builder's Risk policy in the amount of 100% of insurable completed value.

The Contractor shall purchase and maintain a separate Owner's Protective Liability policy, issued to Owner at the expense of Contractor, including Owner and Engineer as named insured. This insurance shall provide coverage for not less than the following amounts:

(1) Bodily Injury	\$1,000,000 Each Occurrence \$1,000,000 Annual Aggregate
(2) Property Damage including Explosion Collapse and Under- ground coverage.	\$1,000,000 Each Occurrence \$1,000,000 Annual Aggregate

The Contractor shall purchase and maintain, until final payment, property insurance upon the Work at the site in an amount equal to the total bid price for the completed construction. This

insurance shall include the interests of Owner, Contractor, Subcontractors, Engineer and Engineer's consultants in the Work, shall insure against the perils of fire and extended coverage, shall include "all risk" insurance for physical loss and damage including theft, vandalism, and malicious mischief, collapse and water damage, and shall include damages, losses and expenses rising out of or resulting from any insured loss or incurred in the repair or replacement of any insured property (including but not limited to fees and charges of engineers, architects, attorneys and other professionals). This insurance shall be provided on the completed value form. If not covered under the "all risk" insurance or otherwise provided in these General Conditions, Contractor shall purchase and maintain similar property insurance on portion of the Work stored on and off the site or in transit when such portions of the Work are to be included in an Application for Payment.

The Town of Stonington (Owner) and CLA Engineers, Inc. (Engineer) shall be named as additional insured on the above coverages.

If subcontractors are employed, same limits as named above shall apply and the certificate of insurance must be filed with the Owner.

No contract shall be binding upon the Owner until such bond shall have been given and until Comprehensive General Liability, Comprehensive General Auto Liability and Workmen's Compensation policy certificates indicated-above have been filed with the Owner and approved as to form and sufficiency by the Owner. The insurance policy certificate provided by the successful bidder and all subcontractors shall carry a statement by the insurance company that the Owner will receive at least ten (10) days notice prior to cancellation of any portion of the policies or any modifications in the insurance coverage that may affect the Owner's interest. The cost of all insurance coverage shall be included in the price of the contract cost.

The insurance company must be licensed to do business in the State of Connecticut and must be satisfactory to the Owner. THE OWNER MUST BE NAMED AS ADDITIONAL INSURED.

ARTICLE 33 REPRESENTATIONS OF CONTRACTOR

The Contractor represents and warrants that he is financially solvent and that he is experienced and competent to perform the type of work outlined in the specifications and drawings and that he has carefully examined the drawings and specifications along with 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 sub-surface 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 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. He further warrants that

any injury to persons or property resulting from the work shall be the sole responsibility of the Contractor.

ARTICLE 34 INDEMNITY OF OWNER BY CONTRACTOR

The Contractor shall indemnify and save harmless the Owner against any and all damages to property or injuries to or death of any person or persons, including property and employees or agents of the Owner, and shall defend, indemnify and save harmless the Owner from any and all claims, demands, suits, actions or proceedings of any kind or nature including workmen's compensation claims, of or by anyone whomsoever, in any way resulting from or arising out of the operations in connection herewith, including operations of subcontractors and acts or omissions of employees or agents of Contractor or his subcontractors. Insurance coverage specified herein and in any special conditions constitutes the minimum requirements and said requirements shall in no way lessen or limit the liability of Contractor under the terms of the contract. The Contractor shall procure and maintain, at his own cost and expense, any additional kinds and amounts of insurance which, in his own judgment, may be necessary for his proper protection in the prosecution of the work. The Contractor agrees to well and truly save and indemnify and keep harmless, the Owner against all liability, judgments, costs and expenses which may in any wise come against the Owner or which may in any wise result from carelessness, omission or neglect of the Contractor or his agents, employees or workmen in any way arising or resulting from the operation in connection herewith, including all liability to the Owner resulting from the failure to erect or maintain sufficient railing or fence as required by Section 13a111, Connecticut General Statutes, and against all liability from defects claimed to be in violation of Section 13a-149, Connecticut General Statutes. Any additional cost of this save harmless insurance coverage shall be included in the price of the contract.

ARTICLE 35 TERMINATION FOR CONVENIENCE

The Owner hereby reserves the right to terminate the performance of this contract for any reason the Owner deems appropriate. The Owner will pay all actual costs to date of termination, however, the Contractor shall not be entitled to any profit on furnished or unearned work.

ARTICLE 36 COMPETENT HELP TO BE EMPLOYED

The Contractor shall employ experienced foreman, 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 37 SPIRITUOUS LIQUORS AND DRUGS

The Contractor shall neither permit nor suffer the introduction or use of -spirituous liquors upon the work embraced in this contract. Dope or drugs of any kind unless ordered by a physician are prohibited. Any employee found using spirituous liquors, dope or drugs of any kind unless ordered by a physician shall be immediately discharged.

ARTICLE 38 PROHIBITING EMPLOYEE DISCRIMINATION BY CONTRACTOR

The Contractor agrees and warrants that in the performance of this contract he will not discriminate or permit discrimination against any person or group of persons on the grounds of race, color, religion, national origin, sex, or physical disability, including, but not limited to, blindness, unless it is shown by such Contractor that such disability prevents performance of the work involved in any manner prohibited by the laws of the United States or of the State of Connecticut, and further agrees to provide the commission on human rights and opportunities with such information requested by the commission concerning the employment practices and procedures of the Contractor as relate to the provisions of this section.

ARTICLE 39 CLAIMS FOR EXTRA WORK

After the contract has been signed, no claims for extra work will be honored. unless authorized in writing by the Owner.

ARTICLE 40 WORK CHANGES

The Owner may make changes in the scope of the work required to be performed by the Contractor under the Contract by making additions thereto, or by omitting work therefrom, without invalidating the Contract, and without relieving or releasing the Contractor from any of his obligations under the Contract or any guarantee given by him pursuant to the Contract provisions, and without affecting the validity of the guaranty bonds, and without relieving or releasing the surety or sureties of said bonds. All such work shall be executed under the terms of the original Contract unless it is expressly provided otherwise.

Except for the purpose of affording protection against any emergency endangering life or property, the Contractor shall make no change in the materials used or in the specified manner of constructing and/or installing the improvements or supply additional labor, services or materials beyond that actually required for the execution of the Contract, unless in pursuance of a written order from the owner authorizing the Contractor to proceed with the change. No claim for an adjustment of the Contract price will be valid unless so ordered. Upon request the Contractor shall supply the Owner with a detailed proposal for the changes showing quantities of, and unit prices for his work and that of any subcontractor involved. No such change order shall be considered, however, unless approved by the Owner and their duly authorized representatives prior to its issuance. Upon receipt of the written order the Contractor shall proceed with the work as and when directed. The amount of compensation to be paid to the Contract for extra or additional work so ordered shall be determined as follows:

- (1) By such applicable Unit Price, if any, as set forth in the Agreement, or
- (2) If no such Unit Prices are so set forth, or if the total net change increases or decreases the total Contract price more than 25 percent (25%) then by a Lump Sum mutually agreed upon by the Owner and the Contractor, and establish as follows:

For work to be performed under a Lump Sum agreement the Contractor may apply a 15% 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 on any change involving more than one subcontractor, their net costs and/or net omission shall be combined as one before consideration is given to the application of the 5% for the Contractor's overhead and profit, and, in the event the Contractor shows a net omission for the changes 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 15% 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 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 purposes of applying the provisions of the article, the Owner will not recognize other than a direct subcontractor of the Contractor nor permit the aggregate allowance to exceed 20% as applied above, to the net cost of work performed by any subcontractor.

- (3) If no such unit prices are set forth and if the parties cannot agree upon a lump sum, then the Owner may at his option either: 1) order the work to be done and compensated for in the following manner: by the actual net cost in money to the Contractor of the materials, the wages of applied labor, insurance, taxes imposed by law on labor employed on the work, plus such rental for equipment (other than tools) required and approved for such additional work. After excluding taxes imposed by law upon labor employed on the work, the Contractor shall receive 15% of the actual net cost outlined above as compensation for all other items of profit and costs or expenses including administration, overhead, superintendent, materials used in

temporary structures, allowances (including provision for overhead and profit) made by the Contractor to subcontractors, additional premiums upon performance bond of the Contractor and the use of small tools; or (2) the Owner may order that item or portion of work omitted without invalidating any of the terms thereof, and there shall be deducted from the contract price the value as estimated by the Engineer of the labor and material omitted from the contract, if any be omitted.

ARTICLE 41 OWNER'S RIGHT TO DO WORK

If the Contractor should neglect to prosecute the work properly or fail to perform any provision of this contract, the Owner, after five (5) days written notice to the Contractor may, without prejudice to any other remedy he may have, make good such deficiencies and may deduct the cost thereof from the payment, then or thereafter due the Contractor.

ARTICLE 42 PAYMENTS

Payment for the work will be made when the work outlined in the specifications is completed or in accordance with the terms stated herein. Invoices shall be prepared in prescribed form by the Contractor and shall be submitted to the Owner's Superintendent in triplicate for checking and certifications.

No payment or compensation of any kind shall be made to the Contractor for damages because of hindrance or delay from any cause in the progress of work whether such hindrance or delays be avoidable or unavoidable.

ARTICLE 43 PAYMENT TO SUB-CONTRACTOR

The Owner assumes no obligation to pay to or to see to the payment of any sum to any sub-contractor.

ARTICLE 44 WORK IN INCLEMENT WEATHER

The Owner or the Owner's Superintendent will determine when conditions are unfavorable for work and may order the work or any portion 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. However, the Contractor shall, and shall cause his subcontractors to protect carefully his and their work against damage or injury from the weather. If this is not done to the Owner's satisfaction and any damage to the work occurs, the work shall be removed and replaced at the expense of the Contractor.

ARTICLE 45 ARCHEOLOGICAL FINDS

The Contractor, for the life of this contract, is herewith required to immediately notify the following organizations in the event that any articles such as "Charcoal", "bone", "shell", "cultural objects, fire cracked stones or stone flaking material" or any other such related items of historical significance are discovered:

David Pourier
Connecticut Historic Preservation Commission
59 South Prospect Street
Hartford, Connecticut 06106 (Tel. 566-3116)

and the resident engineer or inspector for the project.

ARTICLE 46 POWER AND WATER

Should the Contractor require electric power and/or water, he shall make necessary arrangements with the Owner for securing it and bear any expense involved, unless expressly provided for otherwise in the specifications.

ARTICLE 47 TOILET ACCOMMODATIONS

The Contractor shall provide necessary sanitary toilet accommodations for the workmen.

ARTICLE 48 LIENS

The final payment for the work will not be made until the Owner is satisfied that no liens have, or can be placed for material or labor on this work. If required by the Owner, waivers of liens may be required. If the Contractor, or any subcontractor refuses to furnish a release or waiver of liens, they may furnish a bond satisfactory to the Owner to indemnify the Owner against any liens.

ARTICLE 49 PROGRESS PAYMENTS

The CONTRACTOR may submit periodically, but not more than once each month, a Request for Payment for work done. The CONTRACTOR shall furnish the OWNER all reasonable facilities required for obtaining the necessary information relative to the progress and execution of the work.

Within fifteen (15) days of submission of any Request for Payment by the CONTRACTOR, the OWNER shall:

- a. Approve the Request for Payment as submitted, or

- b. Approve such other amount as he shall decide is due the CONTRACTOR, informing and CONTRACTOR in writing of his reasons for approving the amended amount, or
- c. Withhold the Request for Payment, informing the CONTRACTOR in writing of his reasons for withholding it.

Within thirty (30) days from the date of approval of the Request for Payment the OWNER will:

- a. Pay the Request for Payment as approved less a five percent (5%) retainage, until substantial completion of the project, at which time the retainage will be reduced to two percent (2%) until final completion.
- b. Withhold payment in whole or in part on an approved Request for Payment to the extent necessary to protect himself from loss on account of any of the following causes discovered provided he informs the CONTRACTOR in writing of his reasons for withholding payment in whole or in part:
 - 1. Defective work.
 - 2. Evidence indicating the probable filing of claims by other parties against the CONTRACTOR.
 - 3. Failure of the CONTRACTOR to make payments to Subcontractors, material suppliers or labor.
 - 4. Damage to another Contractor.

ARTICLE 50 GENERAL GUARANTEE

The Contractor shall guarantee his work for a period of one (1) year after the date of the Owner's Superintendent's final inspection and acceptance as evidenced by final payment. he shall during that period repair promptly, at his own cost and expense all breaks, failures or defects which develop in his work as a result of faulty material or workmanship. The performance bond shall remain in effect through the guarantee period.

ARTICLE 51 FINAL INSPECTION AND ACCEPTANCE

Upon receipt of written notice from the Contractor that his work is complete, the Owner's Superintendent will make a final inspection and will notify the Contractor of all instances in which the work fails to comply with the specifications as well as any defects which he may discover. The Contractor shall thereupon immediately rebuild, alter and restore the work so that it will comply with the specifications and he shall remedy any defects at his own cost and expense and to the satisfaction of the Owner's Superintendent. Upon the completion of such

alterations or repairs the Owner's Superintendent will issue his certificate of final acceptance of work. The issuance of such certificate of final acceptance by the Owner's Superintendent shall not prevent the Owner from recovering damages at any subsequent time for work found to be actually defective.

ARTICLE 52 FINAL PAYMENT

The acceptance by the Contractor of payment for the final invoice, made after the Owner's Superintendent's certification of final acceptance as provided for in these General Conditions, shall release the Owner and every agent of the Owner from all further claims or liabilities to the Contractor of whatever nature, except for the remaining sum or sums of money withheld under the provisions of the contract.

ARTICLE 53 CORRECTION OF FAULTY WORK AFTER FINAL PAYMENT

The approval of the final Request for Payment by the Owner and the making of the final payment by the Owner to the Contractor shall NOT relieve and Contractor of the responsibility for faulty materials or workmanship. The Owner shall promptly give notice to faulty materials or workmanship and the Contractor shall promptly replace any such defects discovered within two years from the date of written acceptance of the work. The Owner shall decide all questions arising under this paragraph.

ARTICLE 54 USE OF "HE", "HIS" OR "HIM"

Whenever in these specifications the masculine words, "he", "his", or "him" are used pertaining to the Contractor, Owner, Engineer or any other entity or person it shall be for brevity, and in no way is any sexual discrimination intended.

ARTICLE 55 DISPUTE RESOLUTION

In mutual recognition of the negative consequences associated with disputes both in terms of lost time and expense to all parties, the Owner and Contractor agree to settle their disputes by good-faith mediation as a condition precedent to the institution of legal proceedings by either party. If mediation would jeopardize the substantive rights of either party due to the application of any applicable statute of limitations, then mediation will be required during the dispute resolution process to the extent it may be used without jeopardizing the substantive rights of either party. The parties shall share the mediator's fee. Should the dispute remain unresolved after mediation, either party may pursue their legal remedies in the Supreme Court of the State of Connecticut, New London County, for all purposes in connection with any action or proceeding which arises from or relates to this Agreement. Neither party shall be liable to the other for, and each party hereby waives any and all rights to claim against the other, any special, indirect, incidental, consequential, punitive or exemplary damages in connection with this Agreement, including, but not limited to, lost profits, even if the party has knowledge of the possibility of such damages. **BOTH PARTIES HEREBY EXPRESSLY WAIVES ANY AND ALL RIGHTS THEY MAY HAVE TO TRIAL BY JURY OF ANY CLAIM, DEMAND, ACTION OR CAUSE OF ACTION (1) ARISING UNDER THIS AGREEMENT OR ANY OTHER INSTRUMENT, DOCUMENT OR AGREEMENT EXECUTED OR DELIVERED IN CONNECTION HERewith, OR (2) IN ANY WAY CONNECTED WITH OR RELATED OR INCIDENTAL TO THE DEALINGS OF THE PARTIES HERETO OR ANY OF THEN WITH RESPECT TO**

THIS AGREEMENT OR ANY OTHER INSTRUMENT, DOCUMENT OR AGREEMENT EXECUTED OR DELIVERED IN CONNECTION HERewith, OR THE TRANSACTIONS RELATED HERETO OR THERETO, IN EACH CASE WHETHER NOW EXISTING OR HEREAFTER ARISING, AND WHETHER SOUNDING IN CONTRACT OR TORT OR OTHERWISE; AND BOTH PARTIES HEREBY AGREES AND CONSENTS THAT ANY SUCH CLAIM, DEMAND, ACTION OR CAUSE OF ACTION SHALL BE DECIDED BY COURT TRIAL WITHOUT A JURY, AND EITHER PARTY MAY FILE AN ORIGINAL COUNTERPART OR A COPY OF THIS SECTION WITH ANY COURT AS WRITTEN EVIDENCE OF EACH PARTIES' CONSENT TO THE WAIVER OF ITS RIGHT TO TRIAL BY JURY. Contractor (a) certifies that neither the owner nor any representative, agent or attorney of the owner has represented, expressly or otherwise, that the owner would not, in the event of litigation, seek to enforce the foregoing waivers, and (b) acknowledges that, in entering into the Agreement, the owner is relying upon, among other things, the waivers and certifications contained in this Section 55.

SPECIAL CONDITIONS

INDEX TO SPECIAL CONDITIONS

ARTICLE	TITLE
1.	GENERAL
2.	CONTRACTOR TO CHECK DIMENSIONS AND SCHEDULES
3.	PROTECTION OF TREES
4.	SEQUENCE OF WORK
5.	STREETS AND SIDEWALKS TO BE KEPT OPEN
6.	LIGHTS, BARRIERS, WATCHMEN AND INDEMNITY
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8.	BUS LINE INTERFERENCE
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29.	BLASTING
30.	EMERGENCY TELEPHONE NUMBERS
31.	CT DEEP & ARMY CORP. REQUIREMENTS

ARTICLE 1 GENERAL

- (a) The Owner and the Contractor agree that the following special conditions shall apply to the work to be performed under this Contract and that such provisions shall supersede any conflicting provisions of this Contract.

- (b) The rights and remedies of the Owner provided for in these clauses are in addition to any other rights and remedies provided by law and under this Contract.

ARTICLE 2 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 omissions in these specifications, drawings, or schedules. The Owner will furnish all instructions should such error or omissions be discovered, and the Contractor shall carry out such instructions as if originally specified.

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 SEQUENCE OF THE WORK

The Contractor shall be required to prosecute his work in accordance with a schedule prepared by him in advance, in accordance with additional requirements specified herein and approved by the Owner. This scheduling shall state the methods and shall forecast the times of 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 necessary preparation.

ARTICLE 5 STREETS AND SIDEWALKS TO BE KEPT OPEN

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

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

ARTICLE 6 LIGHTS, BARRIERS, WATCHMEN, AND INDEMNITY

The Contractor shall erect and maintain such barriers, lighting, warning lights, danger warning signals, and signs that will prevent accidents during the construction work and protect the work and insure the safety of personnel and the public at all times and places; the Contractor shall indemnify and protect the Owner and the Engineer in every respect from injury or damage whatsoever caused by any act of neglect by the contractor or his subcontractors, or their servants or agents, including any claims arising out of failure to erect and maintain sufficient railing or fence as required by Section 13A-111 Connecticut General Statutes from claims or defect in violation of 12A-14q Connecticut General Statutes.

The fact that the Department of Public Works 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.

In addition to the above, when and as necessary, or when required by the Owner, the Contractor shall post sign and employ watchmen or flagmen for the direction of traffic at the site and for excluding at all times unauthorized persons from the work site.

The Contractor shall be responsible for excluding at all times from the land within the easement areas, all persons not directly connected with the work.

ARTICLE 7 NIGHTWORK

Nightwork, or work on Saturdays, Sundays, or legal holidays requiring the presence of an engineer or inspector, will not be permitted except as designated by the Owner in case of an emergency. Should it be necessary for the Owner to operate an organization for continuous nightwork or for emergency nightwork, the lighting, safety and other facilities which are deemed necessary shall be provided by the Contractor. Compensation for this work shall be considered as having been included in the prices stipulated for the appropriate items of work as listed in the bid, and no extra compensation will be paid by the Owner.

ARTICLE 8 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 will be given to said corporation to arrange the schedule for operation of the bus line, as it may be necessary.

ARTICLE 9 DIFFERING SITE CONDITIONS

- (a) The Contractor shall promptly and before such conditions are disturbed, notify the Owner in writing of: (1) sub-surface or latent physical conditions at the site differing materially from those indicated in this contract, or (2) unknown physical conditions at the site, of an unusual nature, differing materially from those ordinarily encountered

and generally recognized as inhering in work of the character provided for in this contract. The Owner shall promptly investigate the conditions, and if he finds that such conditions do materially so differ and cause an increase or decrease in the Contractor's cost of, or the time required for, performance of any part of the work under this contract, whether or not changed as a result of such conditions, an equitable adjustment shall be made and the contract modified in writing accordingly.

(b) No claim of the Contractor under this clause shall be allowed unless the Contractor has given the notice required in (a) above; provided, however, the time prescribed therefore may be extended by the Owner.

(c) No claim by the Contractor for an equitable adjustment hereunder shall be allowed if asserted after final payment under this contract.

ARTICLE 10 DISPOSAL OF MATERIALS

The materials used in the construction of the work, shall be disposed away from the site in such manner so that 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 that as little inconvenience as possible to the public or adjoining tenants is caused.

ARTICLE 11 LENGTH OF TRENCH TO BE OPENED

The length of trench opened at any time from the point where ground is being broken to complete backfill and also the amount of space in the streets or public and private lands occupied by equipment or supplies, shall not exceed the length or space considered reasonably necessary and expedient by the Owner. In determining the length of the open trench or spaces for equipment, material, and 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 private parties, possible dangers and other matters. All work must be constructed with a minimum of inconvenience and danger to all parties concerned.

Whenever the trench obstructs pedestrians and vehicular traffic, or any public or private property, the Contractor shall take such means as is necessary to maintain such traffic and access. Until such time as the work may have attained sufficient strength to support backfill, or if for any reason it is not expedient to backfill the trench immediately, the Contractor shall construct and maintain suitable plank crossings and bridge crossings to carry essential traffic in or to the street or property in question, as specified or directed.

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

The Contractor shall keep streets free from obstructions, debris, and all other materials. The Owner may, at any time, order the removal of any such material from the work area - and should the Contractor fail to do so within 24 hours after such notice of removal of the same, the Owner may cause the material, debris, or other matter to be removed by some other such persons as he may employ, at the Contractor's expense. The cost thereof may be deducted from any payments due the Contractor under this contract. In special cases where public safety demands, the Owner may remove such materials without prior notice.

ARTICLE 12 INTERFERENCE WITH EXISTING STRUCTURES

Whenever it may be necessary to cross or interfere with existing culverts, drains, sewers, water pipes, fixtures, 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 structure shall be changed to meet the requirements of the new work.

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

ARTICLE 13 FINISHING AND CLEANING UP

In completing his operations, the Contractor shall immediately remove all surplus material, tools, and other property belonging to him, leaving the entire street or surroundings free and clean and in good order, at no additional expense to the Owner. The Contractor shall exercise special care in keeping the rights-of-way and private lands upon which work is performed free and clean of all debris, and shall remove all tools and other property when they are not in use.

ARTICLE 14 CLEAN UP AT THE CONTRACTOR'S EXPENSE

In case the Contractor fails or neglects to promptly remove all surplus materials, tools, and incidentals after backfilling, leaving the street or surrounding area clean and free of debris, and do the required repaving when ordered, the Owner may, after 24 hours notice, cause the work to be done and the cost thereof deducted from any payment due to the Contractor.

ARTICLE 15 RIGHTS OF ACCESS

Nothing herein contained or shown on the drawings shall be construed as giving the Contractor exclusive occupancy of the work area. The Owner or any other contractors employed by him, the various utility companies, - contractors or subcontractors employed by State or Federal agencies, or any other 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 the area as is directed or necessary. When the territory of one contract is the convenient means of access to the other, the Contractor shall arrange his work in such a manner as to permit such access to the other and prevent unnecessary delay to the work as a whole.

ARTICLE 16 EXISTING UTILITIES OR CONNECTIONS

The location of existing underground pipes, conduits, and structures as shown has been collected from the best available sources and the Owner together with his agents, does not imply or guarantee the data and information in connection with underground pipes, 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 enroute, 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.

Before proceeding with construction operations, the Contractor 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 those 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 existing utilities and structures.

ARTICLE 17 PLANK CROSSINGS

As required or directed by the Owner, the Contractor shall install in selected locations suitable plank crossings, substantially built and reinforced to sustain vehicular traffic across excavations. No separate payment will be made for this work, the cost of which shall be included in the prices stipulated for the appropriate items in the work as listed in the bid.

ARTICLE 18 CLEANING FINISHED WORK

After the work is completed, the pipes, manholes, and structures shall be carefully cleaned free of debris and dirt, broken masonry, and mortar, and left in first class condition, ready to use. All temporary or excess materials shall be disposed of off-site and the work left broom clean, to the satisfaction of the Owner.

ARTICLE 19 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 trench shall be kept' broomed off and washed clean of excess materials wherever and whenever directed. Repeated daily dust control treatment shall be provided to satisfactorily prevent the spread of dust until permanent pavement repairs are made and until earth stockpiles have been removed, and all construction operations that might cause dust have been completed. No extra payment will be made for dust control measures, compensation shall be considered to be included in the prices stipulated for the appropriate items as listed in the bid.

ARTICLE 20 FIRE PREVENTION AND PROTECTION

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 therefor 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 site whenever work is in progress, and at such other times as may be necessary for the safety of the public and the work.

ARTICLE 21 WORK BY OTHERS

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

ARTICLE 22 FIRE AND POLICE NOTIFICATION

If it becomes necessary at any time to temporarily barricade a street or cause detours to be put up, or rerouting of traffic, the Fire and Police Departments, SEAT, Board of Education, and American Ambulance shall be notified by the Contractor, and their consent obtained before any such action is initiated.

ARTICLE 23 TEMPORARY POWER

The Contractor shall make all the necessary arrangements with the power company for providing temporary electric power for his use. All unauthorized sources of power, such as from neighboring homes, shall be prohibited.

ARTICLE 24 FAILURE TO REPAIR

Any emergency arising from the interruption of electric, gas, water, telephone, sewer and cable service due to the activities of the Contractor, shall be repaired by the Contractor as quickly as is possible.

If and when, in the opinion of the Owner, the Contractor is not initiating repair work as expeditiously as possible upon notification to do so, the Owner may, at his own option, make the necessary repairs using his own forces or those of others. The cost of such repairs shall be subtracted from the payments due to the Contractor.

ARTICLE 25 TRAFFIC CONTROL

- A. The Contractor shall schedule and perform his work so as to cause minimum interference to traffic and to safeguard all highways and traffic therein, and to cause absolutely no interference to fire and emergency vehicles. Construction equipment and materials shall be located as to not endanger the work or obstruct traffic.
- B. Every reasonable means shall be made to reduce, to a minimum, interference with and inconvenience to business concerns on account of the construction work.
- C. The Contractor shall provide and maintain all signs, barricades, and traffic control equipment that may be required for the satisfactory performance of providing traffic control.

ARTICLE 26 CONTRACTOR TO LAY OUT HIS OWN WORK

The Owner will establish such general reference points as in his judgment will enable the Contractor to proceed with the work. The Contractor, at his own expense, shall provide all materials and equipment and such qualified helpers as the Owner may require for setting the general reference points and shall protect and preserve all stakes, benches, and other markers used to identify the reference points. The Contractor shall lay out all the Contract work from the above and shall be responsible for the accuracy of all lines, grades, and measurements. He will be required to employ at no extra expense to the Owner, a Connecticut registered land surveyor or registered professional engineer who shall perform all layout work for the construction of the Contract work, including all lines, grades, and measurements.

ARTICLE 27 - COOPERATION WITH UTILITIES

The Contractor shall coordinate his operations with the Owners of all underground or overhead utility lines within the project area.

The Contractor shall be liable for all damages or claims received or sustained by any persons, corporations or property in consequence of damage to the existing utilities, their appurtenances, or other facilities caused directly or indirectly by the operations of the Contractor.

ARTICLE 28 - WORK IN STATE HIGHWAY

Not applicable

ARTICLE 29 - BLASTING

The approval of the Owner shall first be obtained before blasting is permitted. Before any explosive, such as dynamite or detonator caps are stored or used, the Contractor shall contact the Fire Department of the Town of Stonington for instructions relative to the regulations for possession and use of explosives in the Town of Stonington, Connecticut. The Contractor shall obtain all required permits, or licenses for possession and use of explosives to be used on the site or sites of construction.

The Contractor shall also be responsible for the explosive materials at all times; for the keeping of records regarding the explosives open at all times to inspection by the Police and Fire Departments of the Town of Stonington, Connecticut; for the storage of explosive materials in a secure manner away from all tools, overnight or for any length of time at the site or sites of construction; for the keeping of only such quantity of explosive material as may be needed for the work underway; for the immediate reporting to the Police and Fire Departments of the Town of Stonington, Connecticut of all unaccounted for explosive materials; for completely, adequately and carefully covering all blasts with suitable blasting mats in such a manner to prevent damage to landscape features, structures, facilities, privately owned and all other properties and surrounding objects and in a manner that will prevent injury to persons.

Unless specifically permitted, no blasting shall be done between the hours of sunset and sunrise on any day and no blasting will be allowed on Sundays or legal holidays.

Receptacles especially constructed for use in the storage of explosives shall be provided for the storage of explosives and they shall be proof against bullets, fire or other conditions which might cause explosions of the contents. When the need for explosives is ended, all such materials remaining on the job shall be promptly removed from the premises.

ARTICLE 30 - EMERGENCY TELEPHONE NUMBER

The CONTRACTOR is required to provide the OWNER with a telephone number which can be used during emergencies, 24 hours per day, seven days per week, to reach the CONTRACTOR.

ARTICLE 31 – CT DEEP & ARMY CORP. REQUIREMENTS

The Contractor is responsible for reviewing the attached CT DEEP and Army Corp. requirements related to the construction of this project and shall adhere to said requirements.



May 28, 2015

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Scot Deledda
Town of Stonington
152 Elm Street
Stonington, CT 06378

SUBJECT: Permit #201407219-MG
End of Summit Street, Stonington

Dear Mr. Deledda:

Enclosed is the signed permit which constitutes the approval of your application to conduct regulated activities. Your attention is directed to the conditions of the enclosed permit. Construction or work must conform to that which is authorized.

Please note that Appendix B of the permit has been enclosed for your convenience to comply with Connecticut General Statutes Section 22a-363g. Also, please note that the Permit Notice, found at the back of your authorization, must be posted at the work area while the work is being undertaken. Please refer to the SPECIAL TERMS AND CONDITIONS of your permit for further details.

If you have not already done so, you should contact your local Planning and Zoning Office to determine local permit requirements on your project, if any. Also, your activity may be eligible for General Permit authorization from the U.S. Army Corps of Engineers ("Corps"). The State of Connecticut forwarded a copy of its tentative determination for this activity to the Corps for its determination of General Permit eligibility. You do not need to apply directly to the Corps unless they notify you to do so. For more information regarding this federal process, you may write to the Corps New England Division, Regulatory Branch, 696 Virginia Road, Concord, Massachusetts 01742-2751 or call (978) 318-8335.

If you have any questions concerning your permit, please contact me at 860-424-3674 or micheal.grzywinski@ct.gov.

Sincerely,



Micheal Grzywinski, Environmental Analyst III
Office of Long Island Sound Programs
Bureau of Water Protection & Land Reuse

Enc. – Permit #201407219-MG (original cover letter, Appendix B and Permit Notice;
Permit copy)

cc: File #201407219-MG (original permit; copy cover letter, Appendix B, Permit Notice)
Certified to: Owners of franchised oyster ground/lessee of leased oyster ground;
First Class to: Adjacent Property Owners;
E-mail to:
Bob Russo, CLA Engineers, brusso@claengineers.com
US ACOE, Commissioner of DOT and Bureau of Waterways; Municipal CEO;
Conservation, Planning, Zoning Commissions; Dept. of Agriculture/Aquaculture
Division; Harbormaster



PERMIT

Permit No: 201407219-MG

Municipality: Stonington

Work Area: Un-named tributary to Little Narragansett Bay off property located at the east end of Summit Street

Permittee: Town of Stonington
c/o Scot Deledda
152 Elm Street
Stonington, CT 06378

Pursuant to sections 22a-359 through 22a-363g of the Connecticut General Statutes (“CGS”) and in accordance with CGS section 22a-98 and the Connecticut Water Quality Standards, effective February 25, 2011, a permit is hereby granted by the Commissioner of Energy and Environmental Protection (“Commissioner”) to install a stormwater discharge pipe for stormwater control as is more specifically described below in the SCOPE OF AUTHORIZATION, off property identified as the “work area” above.

*******NOTICE TO PERMITTEES AND CONTRACTORS*******

UPON INITIATION OF ANY WORK AUTHORIZED HEREIN, THE PERMITTEE ACCEPTS AND AGREES TO COMPLY WITH ALL TERMS AND CONDITIONS OF THIS PERMIT. FAILURE TO CONFORM TO THE TERMS AND CONDITIONS OF THIS PERMIT MAY SUBJECT THE PERMITTEE AND ANY CONTRACTOR TO ENFORCEMENT ACTIONS, INCLUDING INJUNCTIONS AS PROVIDED BY LAW AND PENALTIES UP TO \$1,000.00 PER DAY PURSUANT TO THE ADMINISTRATIVE CIVIL PENALTY POLICY DESCRIBED IN SECTIONS 22a-6b-1 THROUGH 22a-6b-15 OF THE REGULATIONS OF CONNECTICUT STATE AGENCIES.

SCOPE OF AUTHORIZATION

The Permittee is hereby authorized to conduct the following work as described in application #201407219-MG, including three (3) sheets of plans dated November 24, 2014, revised March 18, 2015, submitted by the Permittee to the Commissioner and attached hereto, as follows:

1. clear and grub existing vegetation from the project limits;
2. install sedimentation and erosion controls;
3. excavate approximately 37 cubic yards of sediments and stockpile on the upland;
4. place bedding stone and install two (2) new 18" diameter HDPE pipes with an invert elevation of +0.1' NAVD 88, pre-cast concrete headwall and manhole;
5. place sediment on top of the new stormwater pipe identified above; and
6. remove the sedimentation and erosion controls.

SPECIAL TERMS AND CONDITIONS

1. The Permittee shall file Appendix B on the land records of the municipality in which the subject property is located not later than thirty (30) days after permit issuance pursuant to CGS Section 22a-363g. A copy of Appendix B with a stamp or other such proof of filing with the municipality shall be submitted to the Commissioner no later than sixty (60) days after permit issuance.
2. Not later than two (2) weeks prior to the commencement of any work authorized herein, the Permittee shall submit to the Commissioner, on the form attached hereto as Appendix A, the name(s) and address(es) of all contractor(s) employed to conduct such work and the expected date for commencement and completion of such work, if any.
3. The Permittee shall give a copy of this permit to the contractor(s) who will be carrying out the activities authorized herein prior to the start of construction and shall receive a written receipt for such copy, signed and dated by such contractor(s). The Permittee's contractor(s) shall conduct all operations at the site in full compliance with this permit and, to the extent provided by law, may be held liable for any violation of the terms and conditions of this permit. At the work area the contractor(s) shall, whenever work is being performed, make available for inspection a copy of this permit and the final plans for the work authorized herein.
4. The Permittee shall install the twin 18" diameter stormwater outfall pipes authorized herein with an invert elevation of +0.1' NAVD88.
5. The Permittee shall post the attached Permit Notice in a conspicuous place at the work area while the work authorized herein is undertaken.
6. Except as specifically authorized by this permit, no equipment or material, including but not limited to, fill, construction materials, excavated material or debris, shall be deposited, placed or stored in any wetland or watercourse on or off-site, or within any delineated setback area, nor shall any wetland, watercourse or delineated setback area be used as a staging area or access way other than as provided herein.
7. All waste material generated by the performance of the work authorized herein shall be disposed of by the Permittee at an upland site approved for the disposal of such waste material, as applicable.

8. On or before ninety (90) days after completion of the work authorized herein, the Permittee shall submit to the Commissioner "as-built" plans of the work area showing all tidal datums and structures, including any proposed elevation views and cross sections included in the permit. Such plans shall be the original ones and be signed and sealed by an engineer, surveyor or architect, as applicable, who is licensed in the State of Connecticut.

GENERAL TERMS AND CONDITIONS

1. All work authorized by this permit shall be completed within five (5) years from date of issuance of this permit ("work completion date") in accordance with all conditions of this permit and any other applicable law.
 - a. The Permittee may request a one-year extension of the work completion date. Such request shall be in writing and shall be submitted to the Commissioner at least thirty (30) days prior to said work completion date. Such request shall describe the work done to date, what work still needs to be completed, and the reason for such extension. It shall be the Commissioner's sole discretion to grant or deny such request.
 - b. Any work authorized herein conducted after said work completion date or any authorized one year extension thereof is a violation of this permit and may subject the Permittee to enforcement action, including penalties, as provided by law.
2. In conducting the work authorized herein, the Permittee shall not deviate from the attached plans, as may be modified by this permit. The Permittee shall not make de minimis changes from said plans without prior written approval of the Commissioner.
3. The Permittee may not conduct work waterward of the coastal jurisdiction line or in tidal wetlands at this permit site other than the work authorized herein, unless otherwise authorized by the Commissioner pursuant to CGS section 22a-359 et. seq. and/or CGS section 22a-32 et. seq.
4. The Permittee shall maintain all structures or other work authorized herein in good condition. Any such maintenance shall be conducted in accordance with applicable law including, but not limited to, CGS sections 22a-28 through 22a-35 and CGS sections 22a-359 through 22a-363g.
5. In undertaking the work authorized hereunder, the Permittee shall not cause or allow pollution of wetlands or watercourses, including pollution resulting from sedimentation and erosion. For purposes of this permit, "pollution" means "pollution" as that term is defined by CGS section 22a-423.
6. Upon completion of any work authorized herein, the Permittee shall restore all areas impacted by construction, or used as a staging area or access way in connection with such work, to their condition prior to the commencement of such work.
7. The work specified in the SCOPE OF AUTHORIZATION is authorized solely for the purpose set out in this permit. No change in the purpose or use of the authorized work or

facilities as set forth in this permit may occur without the prior written authorization of the Commissioner. The Permittee shall, prior to undertaking or allowing any change in use or purpose from that which is authorized by this permit, request authorization from the Commissioner for such change. Said request shall be in writing and shall describe the proposed change and the reason for the change.

8. The Permittee shall allow any representative of the Commissioner to inspect the work authorized herein at reasonable times to ensure that it is being or has been accomplished in accordance with the terms and conditions of this permit.
9. This permit is not transferable without prior written authorization of the Commissioner. A request to transfer a permit shall be submitted in writing and shall describe the proposed transfer and the reason for such transfer. The Permittee's obligations under this permit shall not be affected by the passage of title to the work area to any other person or municipality until such time as a transfer is authorized by the Commissioner.
10. Any document required to be submitted to the Commissioner under this permit or any contact required to be made with the Commissioner shall, unless otherwise specified in writing by the Commissioner, be directed to:

Permit Section
Office of Long Island Sound Programs
Department of Energy and Environmental Protection
79 Elm Street
Hartford, Connecticut 06106-5127
(860) 424-3034
Fax # (860) 424-4054

11. The date of submission to the Commissioner of any document required by this permit shall be the date such document is received by the Commissioner. The date of any notice by the Commissioner under this permit, including but not limited to notice of approval or disapproval of any document or other action, shall be the date such notice is personally delivered or the date three (3) days after it is mailed by the Commissioner, whichever is earlier. Except as otherwise specified in this permit, the word "day" as used in this permit means calendar day. Any document or action which is required by this permit to be submitted or performed by a date which falls on a Saturday, Sunday or a Connecticut or federal holiday shall be submitted or performed on or before the next day which is not a Saturday, Sunday, or a Connecticut or federal holiday.
12. Any document, including but not limited to any notice, which is required to be submitted to the Commissioner under this permit shall be signed by the Permittee and by the individual or individuals responsible for actually preparing such document, each of whom shall certify in writing as follows: "I have personally examined and am familiar with the information submitted in this document and all attachments and certify that based on reasonable investigation, including my inquiry of those individuals responsible for obtaining the information, the submitted information is true, accurate and complete to the best of my knowledge and belief, and I understand that any false statement made in this document or its

attachments may be punishable as a criminal offense.”

13. In evaluating the application for this permit the Commissioner has relied on information and data provided by the Permittee and on the Permittee’s representations concerning site conditions, design specifications and the proposed work authorized herein, including but not limited to representations concerning the commercial, public or private nature of the work or structures authorized herein, the water-dependency of said work or structures, its availability for access by the general public, and the ownership of regulated structures or filled areas. If such information proves to be false, deceptive, incomplete or inaccurate, this permit may be modified, suspended or revoked, and any unauthorized activities may be subject to enforcement action.
14. In granting this permit, the Commissioner has relied on representations of the Permittee, including information and data provided in support of the Permittee’s application. Neither the Permittee’s representations nor the issuance of this permit shall constitute an assurance by the Commissioner as to the structural integrity, the engineering feasibility or the efficacy of such design.
15. In the event that the Permittee becomes aware that they did not or may not comply, or did not or may not comply on time, with any provision of this permit or of any document required hereunder, the Permittee shall immediately notify the Commissioner and shall take all reasonable steps to ensure that any noncompliance or delay is avoided or, if unavoidable, is minimized to the greatest extent possible. In so notifying the Commissioner, the Permittee shall state in writing the reasons for the noncompliance or delay and propose, for the review and written approval of the Commissioner, dates by which compliance will be achieved, and the Permittee shall comply with any dates which may be approved in writing by the Commissioner. Notification by the Permittee shall not excuse noncompliance or delay and the Commissioner’s approval of any compliance dates proposed shall not excuse noncompliance or delay unless specifically stated by the Commissioner in writing.
16. This permit may be revoked, suspended, or modified in accordance with applicable law.
17. The issuance of this permit does not relieve the Permittee of their obligations to obtain any other approvals required by applicable federal, state and local law.
18. This permit is subject to and does not derogate any present or future property rights or powers of the State of Connecticut, and conveys no property rights in real estate or material nor any exclusive privileges, and is further subject to any and all public and private rights and to any federal, state or local laws or regulations pertinent to the property or activity affected hereby.

Issued on May 28, 2015

STATE OF CONNECTICUT
DEPARTMENT OF ENERGY AND ENVIRONMENTAL PROTECTION



Michael Sullivan
Deputy Commissioner

Permit #201407219-MG, Stonington
Town of Stonington

OFFICE OF LONG ISLAND SOUND PROGRAMS

APPENDIX A

**TO: Permit Section
Department of Energy and Environmental Protection
Office of Long Island Sound Programs
79 Elm Street
Hartford, CT 06106-5127**

PERMITTEE: Town of Stonington
c/o Scot Deledda
152 Elm Street
Stonington, CT 06378

Permit No: 201407219-MG, Stonington

CONTRACTOR 1: _____

Address: _____

Telephone #: _____

CONTRACTOR 2: _____

Address: _____

Telephone #: _____

CONTRACTOR 3: _____

Address: _____

Telephone #: _____

EXPECTED DATE OF COMMENCEMENT OF WORK: _____

EXPECTED DATE OF COMPLETION OF WORK: _____

PERMITTEE: _____
(signature) (date)



OFFICE OF LONG ISLAND SOUND PROGRAMS

APPENDIX B

NOTICE OF PERMIT ISSUANCE
DEPARTMENT OF ENERGY AND ENVIRONMENTAL PROTECTION

To: Stonington Town Clerk

Signature and

Date:

M.P. Joyce 5/28/15

Subject: East end of Summit Street, Stonington
Coastal Permit #201407219-MG

Pursuant to Section 22a-363g and Section 22a-361 of the Connecticut General Statutes, the Commissioner of Energy and Environmental Protection gives notice that a permit has been issued to the Town of Stonington, c/o Scot Deledda, 152 Elm Street, Stonington, CT 06378 to:

1. clear and grub existing vegetation from the project limits;
2. install sedimentation and erosion controls;
3. excavate approximately 37 cubic yards of sediments and stockpile on the upland;
4. place bedding stone and install two (2) new 18" diameter HDPE pipes with an invert elevation of +0.1' NAVD 88, pre-cast concrete headwall and manhole;
5. place sediment on top of the new stormwater pipe identified above; and
6. remove the sedimentation and erosion controls.

If you have any questions pertaining to this matter, please contact the Office of Long Island Sound Programs at 860-424-3034.



PERMIT NOTICE

This Certifies that Authorization to perform work below the Coastal Jurisdiction Line and/or within Tidal Wetlands of coastal, tidal, or navigable waters of Connecticut

Has been issued to: **The Town of Stonington**

At this location: **East end of Summit Street, Stonington**

To conduct the following: **remove and replace an existing discharge pipe and install a new headwall.**

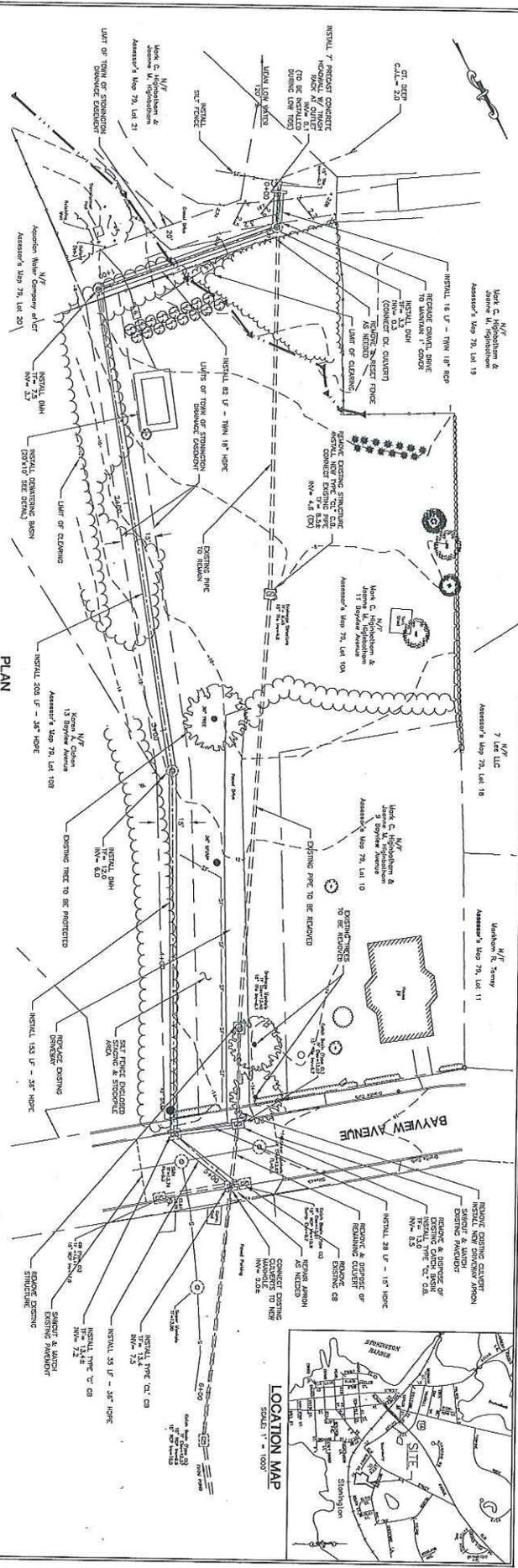
Permit #: **201407219-MG**

Issued on: **May 28, 2015**

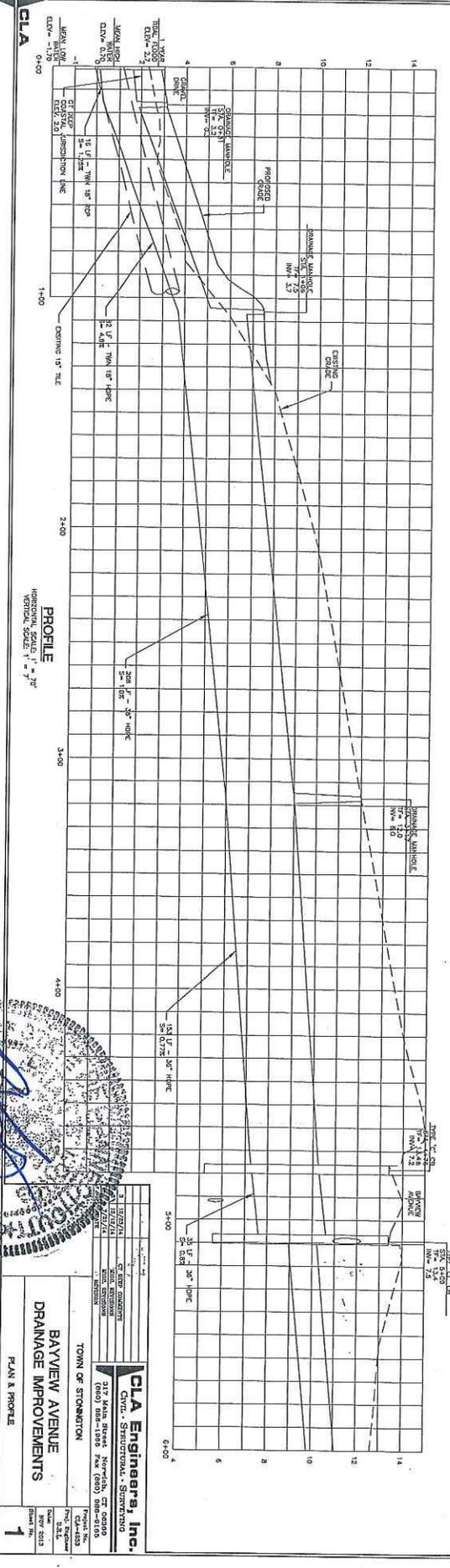
This Authorization expires on: **May 28, 2020**

This Notice must be posted in a conspicuous place on the job during the entire project.

Department of Energy and Environmental Protection
Office of Long Island Sound Programs
79 Elm Street • Hartford, CT 06106-5127
Phone: (860) 424-3034 Fax: (860) 424-4054
www.ct.gov/deep



PLAN
SCALE: 1" = 70'



PROFILE
VERTICAL SCALE: 1" = 7'
HORIZONTAL SCALE: 1" = 70'



CLA Engineers, Inc.
Civil, Structural, Surveying

1175 MAIN STREET, STONINGTON, CT 06424
(860) 886-1988 FAX (860) 886-8105

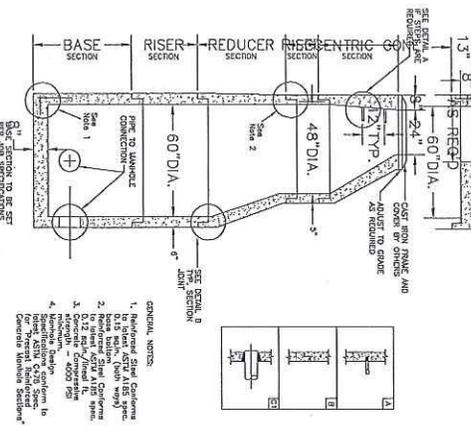
TOWN OF STONINGTON

**BAYVIEW AVENUE
DRAINAGE IMPROVEMENTS**

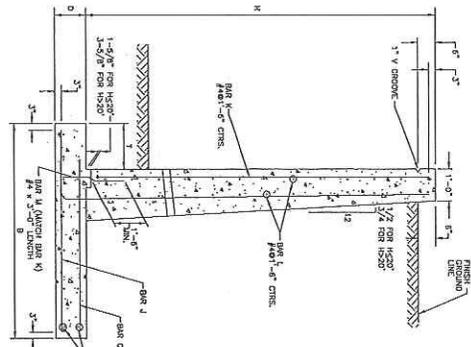
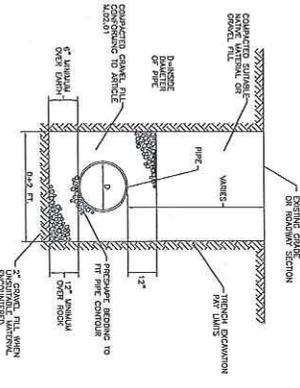
PLAN & PROFILE

PROJECT NO. _____
SHEET NO. **1**

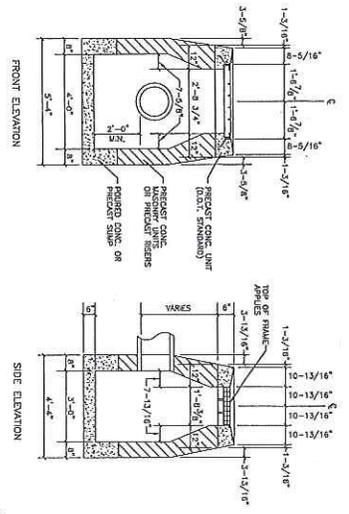
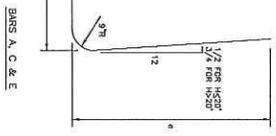
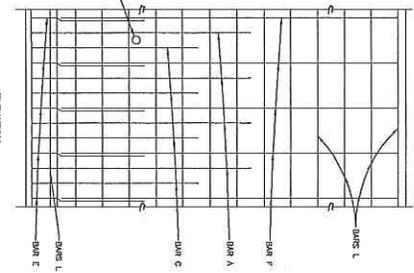
WALL DIMENSIONS		REINFORCING STEEL SCHEDULE								SPANNING			
H	D	T	D	Bar A	Bar B	Bar C	Bar D	Bar E	Bar F	Bar G	Bar H	Bar I	Bar J
6'-0"	10'-0"	2'-0"	1'-0"	1/2"	3/4"	1/2"	3/4"	1/2"	3/4"	1/2"	3/4"	1/2"	3/4"



5 FT. DIA. STORM DRAIN MANHOLE
NOT TO SCALE



CONCRETE WINGWALL - LEVEL BACKFILL
NOT TO SCALE



TYPE 'O-L' CATCH BASIN
NOT TO SCALE

CIA Engineers, Inc.
Civil, Structural, Surveying

117 Main Street, Norwich, CT 06250
(860) 885-1000 Fax (860) 885-5165

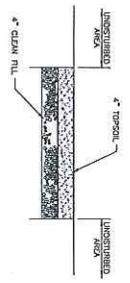
TOWN OF STONINGTON

BAYVIEW AVENUE DRAINAGE IMPROVEMENTS

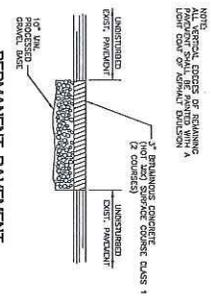
Project No. 2015-001
Date: NOV 2015
Sheet No. 2



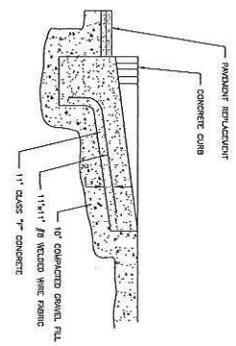
CLA



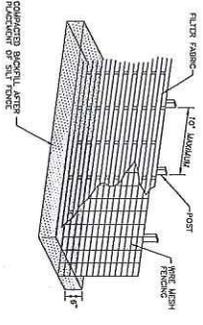
LOAM & SEED CROSS-SECTION DETAIL
NOT TO SCALE



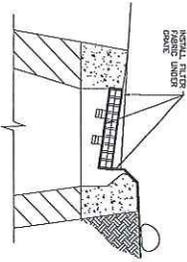
PERMANENT PAVEMENT
NOT TO SCALE



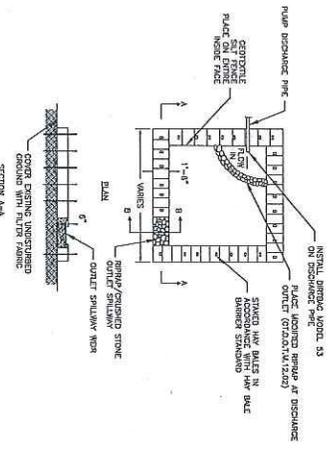
CONCRETE DRIVE APRON
NOT TO SCALE



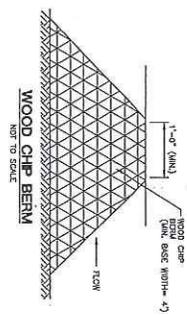
SILT FENCE DETAIL
NOT TO SCALE



FILTER FABRIC UNDER CB. GRATE
NOT TO SCALE



DEWATERING SETTLING BASIN DETAIL
NOT TO SCALE



WOOD CHIP BERM
NOT TO SCALE

EROSION CONTROL & SEDIMENTATION NARRATIVE

- Open to the application of any person and engineer control. The contractor shall meet with the town engineer prior to the construction.
- The erosion and sediment control measures shall be installed prior to the disturbance of any earth. Erosion control measures shall be installed prior to the disturbance of any earth. Erosion control measures shall be installed prior to the disturbance of any earth.
- The contractor shall maintain the erosion control measures in good condition throughout the construction period. The contractor shall be responsible for the maintenance and repair of the erosion control measures. The contractor shall be responsible for the maintenance and repair of the erosion control measures.
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CONSTRUCTION NOTES

- The contractor shall coordinate the construction schedule with the town engineer. The contractor shall coordinate the construction schedule with the town engineer.
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3/18/2015

CLA Engineers, Inc. Civil, Structural, Surveying	
117 Main Street Stamford, CT 06905 (860) 908-1000 Fax (860) 908-0105	Project No. Date Title
TOWN OF STAMFORD	Project Name Date Title
BAYVIEW AVENUE DRAINAGE IMPROVEMENTS	Sheet No. 3



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
NEW ENGLAND DISTRICT, CORPS OF ENGINEERS
696 VIRGINIA ROAD
CONCORD, MASSACHUSETTS 01742-2751

July 30, 2015

Regulatory Division
Corps Permit Number: NAE-2014-1463
CT DEEP File Number: 201407219-MG

Town of Stonington
c/o Scot Deledda
152 Elm Street
Stonington, CT 06378

Dear Mr. Deledda:

We have reviewed your application to the CT Dept. of Energy & Environmental Protection, Office of Long Island Sound Programs, to improve drainage in the residential community around Bayview Ave and Summit Street by replacing a failing storm water discharge pipe with a new larger capacity pipe. This work occurs in a tidal wetland tributary to Little Narragansett Bay in Stonington, Connecticut. Work is shown on the attached plans, entitled "BAYVIEW AVENUE DRAINAGE IMPROVEMENTS," in 3 sheets dated "NOV 2013" with revisions through "12/23/14". This letter authorizes up to 70 lf of trenching and 100 sf of tidal wetland impacts seaward of the high tide line (HTL) for the installation of the twin 18" RCP and associated pre-cast concrete headwall and trash rack. The new outlet terminates 40+/- lf seaward of mean high water.

Based on the information you have provided, we have determined that the proposed activities, which includes a discharge of dredged or fill material into waters or wetlands, will have only minimal individual or cumulative impacts on waters of the United States, including wetlands. Therefore, this work is authorized under the enclosed Federal permit known as the Connecticut General Permit (GP). This work must be performed in accordance with the terms and conditions of the GP, and also in compliance with the following special conditions:

1. No temporary fill is to be placed waterward of the HTL, including in tidal wetlands. All excavated materials will be stored in the upland, landward of the HTL, with appropriate erosion control barriers in place.
2. Work shall occur during periods of low tide to minimize the risk of sedimentation to coastal waters.
3. Sediment and erosion control devices shall be installed and maintained throughout the duration of authorized work activities and removed upon completion of this work or once slopes have stabilized. Erosion control devices should not contain plastic netting or mesh. Products that have plastic mesh embedded in them have been documented to entangle wildlife subsequently leading to mortality. A better alternative is erosion

control products composed of 100% biodegradable plant-based netting material, such as jute (vegetable fibers), sisal (stiff Agave fibers) or coir fiber (coconut husk fibers).

4. Areas of temporary wetland disturbance will be returned to grade and seeded with a native salt-tolerant seedmix.

You are responsible for complying with all of the GP's requirements. Please review the enclosed GP carefully, in particular the GP conditions. You should ensure that whoever does the work fully understands the requirements and that a copy of the permit document and this authorization letter are at the project site throughout the time the work is underway.

This authorization expires on July 15, 2016, unless the GP is modified, suspended, or revoked before then. You must commence or be under contract to commence the work authorized herein by this expiration date and complete the work within one year of this expiration date or you must contact this office to determine the need for further authorization before beginning or continuing the activity. We recommend you contact us *before* this GP expires to discuss permit reissuance.

If you change the plans or construction methods for work within our jurisdiction, please contact us immediately to discuss modification of this authorization. This office must approve any changes before you undertake them.

This authorization requires you to complete and return the enclosed **Work Start Notification Form** to this office at least two weeks before the anticipated starting date. You must also complete and return the enclosed **Compliance Certification Form** within one month following the completion of the authorized work.

This permit does not obviate the need to obtain other Federal, state, or local authorizations required by law, as listed in Section 2 of this GP. Performing work not specifically authorized by this determination or failing to comply with any special condition(s) provided above or all the terms and conditions of the GP may subject you to the enforcement provisions of our regulations.

We continually strive to improve our customer service. In order for us to better serve you, we would appreciate your completing our Customer Service Survey located at http://corpsmapu.usace.army.mil/cm_apex/f?p=regulatory_survey

Please contact Michael Narcisi, of my staff, at (978) 318-8454 if you have any questions.

Sincerely,



Robert J. DeSista
Chief, Permits & Enforcement Branch
Regulatory Division

Enclosure(s)

Copy Furnished:

Micheal Grzywinski, CT DEEP – OLISP, via e-mail
Bob Russo, CLA Engineers, via e-mail



**US Army Corps
of Engineers®**
New England District

**GENERAL PERMIT
WORK-START NOTIFICATION FORM**
(Minimum Notice: Two weeks before work begins)

* MAIL TO: U.S. Army Corps of Engineers, New England District *
* Permits and Enforcement Branch *
* Regulatory Division *
* 696 Virginia Road *
* Concord, Massachusetts 01742-2751 *

Corps of Engineers Permit No. NAE-2014-1463 was issued to the Town of Stonington, c/o Scot Deledda, on July 30, 2015. This work is located off Bayview Ave and Summit Street in tidal wetlands tributary to Little Narragansett Bay in Stonington, Connecticut. The permit authorized the permittee to perform up to 70 lf of trenching and 100 sf of tidal wetland impacts seaward of the high tide line (HTL) for the installation of the twin 18" RCP and associated pre-cast concrete headwall and trash rack. The new outlet terminates 40+/- lf seaward of mean high water.

The people (e.g., contractor) listed below will do the work, and they understand the permit's conditions and limitations.

PLEASE PRINT OR TYPE

Name of Person/Firm: _____

Business Address: _____

Telephone Numbers: () _____ () _____

Proposed Work Dates: Start: _____ Finish: _____

Permittee/Agent Signature: _____ **Date:** _____

Printed Name: _____ **Title:** _____

Date Permit Issued: July 30, 2015 **Date Permit Expires:** July 15, 2016

FOR USE BY THE CORPS OF ENGINEERS

PM: Michael Narcisi **Submittals Required:** _____

Inspection Recommendation: _____



**US Army Corps
of Engineers** ®
New England District

(Minimum Notice: Permittee must sign and return notification
within one month of the completion of work.)

COMPLIANCE CERTIFICATION FORM

Permit Number: NAE-2014-1463

Project Manager: Michael Narcisi

Name of Permittee: Town of Stonington, c/o Scot Deledda

Permit Issuance Date: July 30, 2015

Please sign this certification and return it to the following address upon completion of the activity and any mitigation required by the permit. You must submit this after the mitigation is complete, but not the mitigation monitoring, which requires separate submittals.

* MAIL TO: U.S. Army Corps of Engineers, New England District *
* Permits and Enforcement Branch B *
* Regulatory Division *
* 696 Virginia Road *
* Concord, Massachusetts 01742-2751 *

Please note that your permitted activity is subject to a compliance inspection by an U.S. Army Corps of Engineers representative. If you fail to comply with this permit you are subject to permit suspension, modification, or revocation.

I hereby certify that the work authorized by the above referenced permit was completed in accordance with the terms and conditions of the above referenced permit, and any required mitigation was completed in accordance with the permit conditions.

Signature of Permittee

Date

Printed Name

Date of Work Completion

() _____
Telephone Number

() _____
Telephone Number

TECHNICAL SPECIFICATIONS

INDEX TO TECHNICAL SPECIFICATIONS

SECTION	TITLE
1.00	General Requirements
2.01	Maintenance & Protection of Traffic
2.03	Work On Or Near Private Property
2.04	Dewatering, Control and Diversion of Water
2.06	Calcium Chloride For Dust Control
2.08	Clearing and Tree Removal
2.09	Sedimentation and Erosion Control
2.10	Test Pits
3.02	Trench Earth Excavation & Backfill
3.03	Rock Excavation & Disposal
3.04	Gravel Fill
3.05	Removal of Pavement
3.07	Processed Gravel Base
3.08	Pipe Bedding
3.10	Crushed Stone
4.05	Bituminous Concrete Sidewalks and Drives
4.06	Two Course Bituminous Concrete
4.07	Granite Curbing
4.08	Concrete Sidewalks, Driveways and Ramps
5.01	Storm Drainage Pipe
5.02	Catch Basins
5.03	Connect to Existing Drainage Structure
5.09	Remove and Dispose of Existing Catch Basin, Manhole or Culvert
5.13	Riprap
5.17	Concrete Headwalls
8.01	Topsoil, Seed, Fertilize & Mulch
8.03	Landscaping
9.11	Chain Link Fence & Gate
9.16	Pavement Markings & Signing

SECTION 1.00
GENERAL REQUIREMENTS

1.01 SUMMARY OF WORK

1.01.1 Description:

The work required under this contract includes but is not limited to the following:

1. The removal of the existing culvert and headwall.
2. Installation of sheeting, shoring and dewatering structures to complete the work.
3. The installation of new culverts, a new concrete headwall, and drainage structures.
4. All surface restoration and landscaping as shown on the Contract Drawings.

The contractor shall purchase, provide, and install all materials (temporary and permanent) and equipment necessary to complete the work specified in Contract Documents.

The entire work provided for in these technical specifications and on the Drawings shall be constructed and finished in every respect in a good workmanlike and substantial manner. It is not intended that the Drawings shall show every detail piece of material or equipment, but such parts and pieces as may be in accordance with the best practices and regulatory requirements, even though not shown, shall be furnished and installed. All materials and equipment shall be new unless specifically stated otherwise in these Contract Documents.

1.01.2 Location of Site:

The work site for this contract lies in *Stonington Connecticut* shown on the Contract Drawings.

1.01.3 Work Sequence

Work shall be sequenced so as to allow for uninterrupted flow of existing utilities. The contractor shall conform to the sequences of work as outlined in the Construction Drawings and Specifications. Variations or modifications to the work sequences shall be submitted in writing to the Engineer prior to construction, for their approval.

The contractor shall coordinate work with utility companies as outlined in the Construction Drawings and Specifications, where appropriate, or as required by the Owner.

All costs associated with sequencing of work and coordination shall be included in the bid prices for other items.

The Contractor shall submit a construction schedule and modify it from time to time as need arises. The Construction schedule shall be based on the specified completion time. The Construction Schedule shall show the order of work including such significant tasks as construction of lines, connections, backfill and compaction, leakage tests, temporary and permanent restoration. The Construction Schedule shall be submitted for the Owner's approval prior to start of Construction and updated at the time of submitting each request for progress payment.

All completed pipelines, mainlines, service connections, etc. shall be tested as work progresses and in order to ensure this, the Contractor shall arrange for testing equipment to be on site prior to the commencement of pipe laying.

1.01.4 Survey Assistance:

Furnish helpers on an as needed basis to assist the Engineer in checking work.

1.01.5 Project Coordination

The work included in these Contract Documents is to be performed under the responsibility of a single prime contract. The Contractor is responsible for the coordination of all the work, whether performed by its own personnel or its subcontractor, and will maintain such procedures as necessary to keep its workman and suppliers informed of project progress so as not to unnecessarily delay completion of the Work.

1.01.6 Standard Specifications

The Standard Specifications for Roads, Bridges, and Incidental Construction, Supplement Form 816, dated July 2014 of the State of Connecticut, as specifically referenced to in the Technical Specifications, shall apply and be considered a part of this specification as though it were bound herein. The Standard Specification is available from the:

Department of Transportation
Engineer of Contracts
2800 Berlin Turnpike
P.O. Box 317546
Newington, CT 06131-7546

SECTION 2.01
MAINTENANCE AND PROTECTION OF TRAFFIC

1.0 DESCRIPTION

The Contractor shall maintain traffic in the project area to the satisfaction of the Owner. The Contractor must maintain pedestrian and vehicular traffic and permit access to businesses, factories, residences, and intersecting streets. Where detours will be required, the Owner may require the Contractor to submit a proposed detour plan for all portions of the work to the Owner. This submittal shall be made at least seven days prior to commencing construction. It shall be the sole responsibility of the Contractor to keep the Local Agencies (including but not limited to the Police and Fire Departments) prewarned at least 72 hours in advance of changes in traffic patterns due to reduction of pavement widths or closing of streets. The Contractor shall supply, install, maintain, adjust, move, relocate, and store all signs, suitably lighted barricades, traffic cones and traffic delineators, as necessary to carry out the traffic routing plan and maintain vehicular and pedestrian traffic. All of this work shall meet with the requirements of the State of Connecticut, Local Agencies and the Owner.

The Contractor shall furnish, light, and maintain such signs as may be directed, or may be necessary for the safe regulation, or convenience of traffic. Said signs shall be adequate for the regulation, safety and convenience of traffic. The Contractor shall provide, erect, and maintain suitably lighted barricades, warning lights, etc., as needed, or as directed in order to keep people, animals and vehicles from excavations, obstacles, etc. Traffic signs shall be designed and installed in accordance with MUTCD where applicable. The Contractor shall be required to employ trafficmen and take other such reasonable means of precautions as the Owner may direct, or as may be needed to prevent damage or injury to persons, vehicles, or other property, and to minimize the inconvenience and danger to the public by his construction operations. He shall arrange his operations to provide access to properties along the street including temporary bridges to driveways, and provide access to fire hydrants, manholes, gate boxes, or other utilities. Whenever any trench obstructs traffic in or to any public street, private driveway, or property entrance, the Contractor shall take such steps as required to maintain necessary traffic and access including temporary bridging if required. The Contractor shall confine his occupancy of public or traveled ways to the smallest space compatible with the efficient and safe performance of the work contemplated by the contract.

The Contractor shall observe and obey all local and state laws, ordinances, regulations and permits in relation to the obstruction of streets and highways, keeping passageways open and protecting traffic where there may be danger from blasting or other construction activities.

Suitable lighted barriers or barricades shall be furnished by the Contractor and put up and maintained at all times during the night or daytime, around all open ditches, trenches, excavations, or other work potentially dangerous to traffic. Such barricades shall be securely

supported and braced at least 3 feet high above the ground. Barricades shall be placed on all sides and throughout the entire length and width of all open ditches, trenches, excavations, or other work which must be barred to the general public. Barricades shall be properly painted to the satisfaction of the Owner in order to retain a high degree of visibility to vehicular and pedestrian traffic.

Suitably lighted barricades shall be defined as barricades lit by flashers in accordance with this paragraph or other lighting methods approved by the Owner in lieu thereof. Flashers shall be placed along the entire length of the barricades at an interval no greater than 8 feet, center to center. Flashers shall be power operated, lens directed, enclosed light units which shall provide intermittent light from 70 to 120 flashes per minute, with the period of light emittance occurring not less than 25 percent of each on-off cycle, regardless of temperature. The emitted light shall be yellow in color and the area of light on at least one face of the unit shall be not less than 12 square inches. The discernible light shall be bright enough to be conspicuously visible during the hours of darkness at a minimum distance of 800 feet from the unit under normal atmospheric conditions. For units which beam light in one or more directions, the foregoing specifications shall apply 10 degrees or more to the side and 5 degrees or more above and below the photometric axis.

The Contractor shall furnish and securely fasten flashing units to signs, barricades, and other objects in such numbers and for such lengths of time as are required for the maintenance and protection of traffic, or as the Engineer may order. The flasher shall be in operation during all hours between sunset and sunrise, and during periods of low visibility. The Contractor shall maintain, relocate and operate barricades and flashers throughout the life of the contract. No special payment will be made for barricades or flashers.

Should the Contractor or his employees neglect to set out and maintain barricades or lights, as required in these specifications, the Owner immediately, and without notice, may furnish, install and maintain barricades or lights. The cost thereof shall be borne by the Contractor any may be deducted from any amount due or to become due to the Contractor under this contract.

If the Contractor's operations or occupancy of any public street or highway, or the uneven surfaces over any trenches being maintained by the Contractor shall interfere with the removal or sanding of snow or ice by the public authorities or adjoining land owners, in an ordinary manner with regular highway equipment, the Contractor shall be required to perform such services for the public authorities or adjoining owners without charge. If the Contractor fails to do so, he shall reimburse the said authorities or adjoining owners for any additional cost to them for doing such occasioned by conditions arising from the Contractor's operations, occupancy, or trench surfaces, together with any damage to the equipment of said parties by those conditions, or claims of any parties for damage or injury or loss by reason of failure to remove snow or ice or to sand icy spots under these conditions.

4.0 MEASUREMENT AND PAYMENT

"Maintenance and Protection of Traffic" will be paid monthly in proportion to the amount of work done as determined by the Owner. Said payments will be a proportionate amount of the Lump Sum Price bid for the Maintenance and Protection of which shall include all costs for furnishing lighted barricades and traffic protection devices and for labor, equipment and services involved in the erecting, maintaining, moving, adjusting, relocating and storing of signs, flashers, lights, barricades, traffic cones, traffic delineators and other devices furnished by the Contractor, as well as the cost of all labor and equipment involved in the maintenance of traffic lanes and detours ordered or included in the approved scheme for maintenance of traffic. Sufficient signing for all approved detours shall be erected to adequately guide traffic around construction.

The use of flagman by the Contractor to control the movements of his own vehicles (owned, rented or contracted for, or those delivering materials and equipment), for the protection of said vehicles, his workmen or other traffic shall not be measured for payment but shall be included in the Lump Sum Price for the Item "Maintenance and Protection of Traffic".

Traffic control flagman required on local roads shall be included as part of this lump sum item which price shall include all compensation, insurance, benefits, vehicles and any other cost or liability incidental to the furnishing of the flagman.

The Contractor will be required under the Contract Lump Sum Price for "Maintenance and Protection of Traffic" to maintain and protect the traffic throughout the entire duration of the contract. No claim for additional payment due to unusual construction conditions encountered or delay caused by the Contractor or other outside agencies shall be considered.

SECTION 2.03
WORK ON OR NEAR PRIVATE PROPERTY

1.0 DESCRIPTION

The work under this Section includes the protection of private property and the restoration of areas near or on private property.

Every effort shall be made to protect private or public property during construction. All damaged areas shall be replaced in kind by the Contractor at no additional cost to the Owner.

2.0 MATERIALS

All materials not specifically described in other Sections, but required for work included in this Section, shall be new, first quality of their respective kinds, and subject to the approval of the Owner.

3.0 CONSTRUCTION METHODS

All areas affected by the construction outside of the work limits shall be repaired to the complete satisfaction of the Owner. This work shall also include the reinstallation of all mailboxes, signs, and posts that may be affected during construction. Should these items become damaged by the construction, the Contractor shall replace the damaged items at no additional cost to the Owner.

4.0 MEASUREMENT AND PAYMENT

No separate measurement or payment shall be made for this item and all costs in connection there with shall be included in other contract items.

SECTION 2.04
DEWATERING, CONTROL AND DIVERSION OF WATER

1.0 DESCRIPTION

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 excavation and work areas of this Contract.

The Contractor shall be responsible for performing all required dewatering in such a manner as to prevent injury to persons or public health, or damage to existing facilities of the work in progress.

2.0 MATERIALS

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 of this Contract is to be conducted.

Geotextile silt bags for pump discharges shall be ACF Heavy Duty Dirtbag® 55 or approved equal.

3.0 CONSTRUCTION METHODS

Dewatering and control and diversion of water activities shall conform to the requirements of the State of CT DEEP 2002 Connecticut Guidelines for Soil Erosion and Sediment Control Manual.

A. DEWATERING EXCAVATIONS:

The excavations for work required under this Contract are to some extent below existing ground water levels. The Contractor shall provide, operate and maintain all pumps, drains, well points, screens 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 performed in the dry.

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 Owner, at no additional expense to the Owner. Pumping shall be continuous where specified or directed, or as necessary to protect the work and to maintain satisfactory progress.

The Contractor's pumping and dewatering operation shall be carried out in such a manner that no loss of ground will occur. All pipelines or structures not stable against up-lift during construction or prior to completion shall be thoroughly braced or otherwise protected against movement or damage.

Water being disposed of by the pumping and dewatering operations shall be disposed of in such a manner to avoid injury to persons or public or private property, or to the work completed or in progress. Dewatering shall be accomplished by approved methods which have a successful record of dewatering similar excavations and subsurface conditions similar to those expected to be encountered in the work.

B. DIVERSION OF WATER:

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 protection from flooding as necessary to permit the construction of work in the dry.

Upon completion of the Contract work, the Contractor shall remove all temporary construction and shall do all necessary earthwork and grading to restore the area disturbed to their original condition or to such other condition as indicated or directed by the Owner.

Water shall not be permitted to flow into or through excavations in which work is underway or had 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. All damages resulting from flooding or restriction of flows shall be the sole responsibility of the Contractor, at no additional expense to the Owner.

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

4.0 MEASUREMENT AND PAYMENT

No separate measurement or payment shall be made for this item and all costs in connection there with shall be included in other contract items.

SECTION 2.06
CALCIUM CHLORIDE FOR DUST CONTROL

1.0 DESCRIPTION

This item shall consist of furnishing calcium chloride and spreading it on the subgrade or in other areas of a project under construction, for the purpose of reducing dust conditions.

2.0 MATERIALS

Calcium chloride shall conform to the requirements of AASHTO M 144, except that the pellet form and the flake form shall be equally acceptable.

3.0 CONSTRUCTION METHODS

Calcium chloride shall be applied only at the locations, at such times and in the amount as may be directed by the Engineer. It shall be spread in such manner and by such devices that uniform distribution is attained over the entire area on which it is ordered placed.

4.0 MEASUREMENT AND PAYMENT

No separate measurement or payment shall be made for this item and all costs in connection there with shall be included in other contract items.

SECTION 2.08
CLEARING AND TREE REMOVAL

1.0 DESCRIPTION

This work shall consist of clearing the ground of trees, stumps, brush, rubbish and all objectionable material in accordance with these specifications or as directed by the Owner. This work shall also include the clearing of the ground necessary for the construction and installation of drainage structures. Included in this work shall be the preservation from injury or defacement of vegetation and objects designated to remain.

3.0 CONSTRUCTION METHODS

Within the excavation lines all trees shall be cut off and stumps removed and disposed of away from the site to a depth of not less than 12 inches below the finish graded surface.

In areas other than within excavation lines and where clearing is necessary for the construction and installation of various highway appurtenances, all trees and stumps shall be cut flush with the ground; and all dead or uprooted trees, brush, roots, or otherwise objectionable material shall be removed as directed unless otherwise indicated on the plans.

The Contractor shall dispose of all trees, stumps, brush, etc., which have been cut by the Contractor's or Owner's forces, in a satisfactory manner away from the site.

4.0 MEASUREMENT AND PAYMENT

The cost of this work shall be paid for as a lump sum for "Clearing & Tree Removal" and shall include all equipment, tools and labor incidental to the completion of this item.

All costs incidental to the disposal of trees, stumps, etc., will be included in the price of "Clearing & Tree Removal".

SECTION 2.09
SEDIMENTATION AND EROSION CONTROL

1.0 DESCRIPTION

The work and materials required by this Section consists of the furnishing of all plant, labor, equipment and materials and in performing all operations in connection with providing and maintaining in an acceptable condition, the various erosion and sediment control devices specified below in accordance with these Specifications and as directed by the Owner.

The Contractor shall furnish all equipment, labor, materials and related work necessary for the proper execution of the intent of this Section. The Contractor shall operate and maintain and provide means and devices necessary to minimize, to the greatest extent possible, erosion within the work area of this Contract and to prevent the entrance of any silt laden runoff from the work areas into any standing or moving bodies of water on or adjacent to the Work.

2.0 MATERIALS

Filter fabric fence shall conform to the requirements of the Form 816, Section 7.55.02.

Hay bales shall conform to the requirements of Form 816, Article 2.18.02.

3.0 CONSTRUCTION METHODS

All sediment and erosion control devices shall be properly installed, in a manner acceptable to the Owner, as necessary to minimize erosion within the work area of this contract and to prevent the entrance of any silt laden runoff from the work areas into any standing or moving bodies of water on or adjacent to the work, or as directed by the Owner.

The filter fabric fence shall be installed as recommended by the manufacturer. The bottom of the fabric shall be buried by either digging a six (6") inch on the ground and placing six inches of soil on the fence fabric. All erosion control devices shall be removed when ordered by the Owner after the regulated disturbed area has been reestablished. The Contractor's attention is called to particular notes on the drawings regarding erosion and sedimentation control and coordination with public agencies.

4.0 MEASUREMENT AND PAYMENT

The cost of this work shall be paid for as a lump sum for "Sedimentation and Erosion Control" and shall include all materials, equipment, tools, and labor incidental to the completion of this item.

SECTION 2.10
TEST PITS

1.0 DESCRIPTION

The work under this Section shall be the excavation of test pits by the Contractor where it may be necessary to locate or examine soils, groundwater, drains, pipes, rock, public utilities, subsurface structures, or any other obstacles or conditions. Unless otherwise specified or ordered by the Owner, test pits will be done by the Contractor.

This work shall consist of the satisfactory removal of all materials including water, within the limits of the test pit as necessary. This work shall also include the satisfactory stockpiling, disposal of surplus or unsuitable material, backfilling and compacting of the test pit with suitable material as approved by the Owner. This work shall be done where shown on the Contract Drawings or where directed by the Owner. All work shall be done in conformance with the Applicable Safety Code.

2.0 MATERIALS

The Contractor shall coordinate the excavation of all test pits with the respective utility owners having facilities in the vicinity of the location of test pits. If so desired by the respective utility owners, all or part of the work under this item may be accomplished by their crews and/or supervised by them. The Contractor shall give sufficient notice to the respective utility owners to afford reasonable time for coordination.

Test pit excavation and backfill shall comply with the applicable provisions of the Item "Trench Earth Excavation and Backfill" and shall have neat, clean cut and vertical sides.

The Contractor shall measure and record the size, configuration, exact horizontal and vertical location of all utilities, pipes or other obstacles uncovered in the various pits dug under this Section.

The Owner shall be notified well in advance of excavation so that he also may make the necessary measurements to locate all objects within test pits.

Excavation of test pits shall be accomplished by such means as are required to ensure that underground utilities or structures as may be encountered are not damaged. It shall be the Contractor's sole responsibility for any damages incurred during the excavation operations. Any such damages shall be repaired or replaced by him (if permitted) to the satisfaction of the Owner/Responsible Agency at the Contractor's own expense. Where the repair and replacement must be done by the Owner/Responsible Agency any and all costs thereof shall be borne by the Contractor.

Where an existing pavement has been removed for the test pit excavation, the surface shall be restored in accordance with the Owner's directions.

In all other areas, the surface of test pit areas shall be restored to a condition equal or better than original as directed by the Owner.

4.0 MEASUREMENT AND PAYMENT

Excavation for test pits will be measured for payment by the Owner and shall be the actual length, width and depth of the excavation within the limits ordered/approved by the Owner. Pavement or base removed under other items of work will not be measured for payment a second time as "Test Pits". Water removed is never measured for payment.

Test pits will only be measured for payment where:

1. The location of the pit is such that said pit will never be incorporated into any excavation being dug for proposed work under this Contract.
2. The test pit will ultimately be within the limits of an excavation required for proposed work under this Contract, but said pit must be backfilled for safety and other reasons, as approved by the Owner prior to the excavation reaching the location of the pit.
3. If any pit is not backfilled and subsequently incorporated into the excavation, said pit will not be measured for payment under the Item "Test Pits" but shall be measured under the appropriate excavation Item.
4. Test pits dug by the respective utility owner will not be measured for payment.

"Test Pits" measured as provided above shall be paid at the contract unit price bid per cubic yard for "Test Pits", which price shall include the excavation of all materials as required. Included in the unit price bid for Test Pits will be excavated sheeting, shoring, dewatering, backfill, compacting and the restoration of the surface of the "Test Pit" and all other materials, equipment, tools, labor and work incidental to or necessary for the completion of the work.

Where a utility owner or company elects to perform all or part of the work under this Section, no payment shall be made to either the Contractor or the participating utility for work performed by the utility under this Section, nor shall any time lost due to poor coordination by the Contractor be charged against the Project.

SECTION 3.02
TRENCH EARTH EXCAVATION AND BACKFILL

1.0 DESCRIPTION

A. WORK INCLUDED:

The work covered under this Section includes:

1. Performing all operations of excavating, backfilling, compacting, grading and all other work necessary for the construction of pipelines, structures, and appurtenant work in accordance with the Drawings and Specifications.
2. Installation of sheeting and shoring as required.
3. Excavation of pavements and surplus and unsuitable materials, and disposal in approved locations, away from the site.
4. Protection of existing pipelines, utilities, structures and new work.
5. Compaction of trench bottoms, backfills and subgrades.

B. DEFINITIONS:

1. Earth excavation shall mean the excavation, removal, stockpiling and/or satisfactory disposal away from the site of all materials other than rock, ledge, or topsoil within the limits set forth or as directed.
2. Materials to be excavated shall include organic and inorganic silts, peat, clays, sand, gravel; pavement; cobbles and boulders less than 1 cubic yard in volume; soft or disintegrated rock; brick and concrete masonry; and all other obstructions not included in other sections.
 - a. Materials unsuitable for use as backfill are defined as organic matter, silt, peat or any combination thereof having unsuitable in-situ bearing properties; and all materials that are too loose or saturated to provide satisfactory bearing when used for backfill.
 - b. If unsuitable material is encountered at the depths indicated on the Drawings for bottom limit of excavation, the Contractor shall immediately notify the Owner and shall not proceed further until instructions are given.

2.0 MATERIALS

A. TREES AND SHRUBBERY:

1. Existing trees and shrubbery to remain shall be protected from injury.
2. Except as otherwise directed, cutting and trimming of existing trees will not be permitted.
3. All existing trees to remain and any which may be damaged by construction operations shall be boxed and protected, and all such protection shall be maintained until completion of the work.

B. EXISTING UTILITIES

1. Excavation and backfill operations shall be done in such a manner as to prevent cave-ins of excavations or the undermining, damage, or disturbing of existing utilities and structures or of new work.
2. 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, at no additional cost to the Owner.
3. The Contractor shall "Call-Before-You-Dig" (1-800-922-4455) at least 72 hours prior to any excavation.

C. PROPERTY:

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 Owner, shall be borne by the Contractor, at no additional cost to the Owner.

3.0 CONSTRUCTION METHODS

A. SURFACE PREPARATION:

1. Existing pavements and base courses shall be cut and removed to obtain sound, vertical edges at the lines indicated for trenching.
2. The Contractor shall remove and dispose of the existing pavements in the course of his work. Care shall be taken so that existing pavement material is not mixed with excavated material to be used for backfill.

3. The Contractor shall protect existing pavements and base courses which are to remain, and repair any damage caused by excavations at no expense to the Owner.
4. Existing pipelines, utilities and structures shall be protected by the Contractor so that no damage occurs during excavation operations.
5. All material 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.

B. CONTROL OF WATER:

1. All excavations shall be kept dry at all times, and all construction work shall be performed in the dry, unless otherwise authorized or directed by the Owner. See section entitled "Dewatering Control and Diversion of Water" for the specific requirements governing dewatering of excavations.
2. Grading shall be accomplished to prevent surface water from flowing into excavations.
3. Accumulated water shall be removed by pumping or other approved methods.
4. The pipelines shall not be used for trench draining.
5. The work shall be protected from flooding at all times.
6. 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 earth borrow, as directed and approved by the Owner at no additional expense to the Owner.

C. EXECUTION:

The Contractor shall:

1. Excavate to the lines and grades shown on the Drawings. Excavations shall be accurately graded to allow satisfactory construction of the work.
2. Immediately after excavation to the indicated trench bottom, compact exposed bottom surface with two (2) passes of an approved plate-type vibrating compactor.
3. Trench bottom shall again be thoroughly compacted just prior to the installation of pipelines.

4. Perform manual excavation adjacent to and below existing structures and utilities to prevent disturbance of or damage to the existing structures and utilities.
5. Provide temporary support to existing subsurface utilities as approved by the respective utility companies or to other facilities adjacent to or cross through excavation at no additional expense to the Owner.
6. Take all necessary measures to prevent lateral movement or settlement of the existing structures or work in progress.
7. Provide sheeting and shoring in all locations where required to maintain excavations in a safe condition and to meet all safety regulations.
 - a. The Owner may order additional sheeting and shoring where in his opinion safety regulations are being violated or the excavation is not in a safe condition.
 - b. There will be no additional payment for providing sheeting, shoring or trenching box.
 - c. No excessive trench widths will be allowed to avoid the use of sheeting.
 - d. Shoring and bracing shall be left in place as directed by the Owner to maintain stability as backfilling progresses.
8. If an excavation is made deeper or wider than that shown on the Drawings, unless directed in writing by the Owner, there will be no extra payment for such unauthorized excavation. Backfill of all unauthorized excavations shall be made by the Contractor with either selected materials from excavations or from earth borrow, as directed by the Owner, and at no expense to the Owner.

3.2 BACKFILLING

A. PREPARATION:

1. The Contractor shall:
 - a. Complete all excavation and pipe laying operations.
 - b. Perform all required tests before backfilling.
 - c. Encase pipe in concrete as required by the Engineer.
 - d. Begin backfilling as soon as practical with approved backfill material or earth borrow as directed.

B. EXECUTION:

1. All backfill placed in trenches containing non concrete encased pipe below a level 12 inches above the top shall be placed in layers not exceeding 4 inches in loose depths.

This material shall be excavated material (except as authorized), compactable, not frozen and free from clods of earth stones larger than 2 inches in diameter or unsuitable materials. This backfill shall be termed Selected Backfill and shall be deposited uniformly on both sides of the duct and shall be thoroughly compacted by tamping under and on each side of the pipe to provide uniform support around the pipe, free from voids.

2. The balance of backfill in all trenches and excavations shall be compactable materials as approved, not frozen and without stones larger than 8 inches in their greatest dimension. It shall be spread in layers not exceeding 12 inches in loose depth, and each layer shall be compacted by at least 4 passes of an approved plate-type vibratory compactor. All trench backfilling shall be carefully placed to avoid disturbance of new work and if existing structures. The moisture content of backfill shall be such that proper compaction will be obtained. Puddling or jetting of backfill with water will not be permitted.
3. Backfilling against masonry or concrete shall only be done when approved. Backfilling against concrete other than encased pipelines within 7 days after placement will not be allowed. Symmetrical backfill loading adjacent to structures shall be maintained. During backfilling and compacting operations, care should be exercised so that equipment used will not overload the structures. Backfill adjacent to structures shall be placed in layers not more than 9 inches in loose depth, and each layer thoroughly compacted with at least 4 passes of an approved plate-type vibratory compactor.
4. The Owner shall check all pipelines during backfilling operations for displacement. Poor alignment, and displaced or defective pipes shall be corrected or replaced at no additional cost to the Owner.

3.3 COMPLETION

1. After backfilling excavation, the Contractor shall maintain the filled surface in good condition, with a smooth level, leaving adjacent surfaces undisturbed. Any subsequent settling shall be immediately repaired by the Contractor and such maintenance shall be provided by the Contractor for the remainder of the Contract, at no additional expense to the Owner.
2. The finished surfaces of filled excavations shall be compacted, and reasonably smooth and free from surface irregularities. Subgrade upon which either topsoil is to be placed or pavements are to be constructed shall be maintained in a satisfactory condition until the finish courses are placed. The storage or stockpiling of materials on finished subgrade will not be permitted.

3. Prior to paving upon the subgrade, all soft or unsuitable material shall be removed and replaced with suitable material from excavation or earth borrow, as approved by the Owner. All low sections, holes, or depressions shall be brought to the required grade with approved material. The entire subgrade shall be shaped to line, grade and cross section and thoroughly compacted.
4. All unsuitable material or backfill material in excess of the amount required for the satisfactory completion of backfill operations shall be removed and disposed of by the Contractor off the site.

4.0 MEASUREMENT AND PAYMENT

Payment for earth excavation for pipelines, appurtenances and structures shall be included in the prices bid for those sections referring to pipe and appurtenances and shall not be measured for payment. Trench Earth excavation shall be all earth excavation required for the installation of all work to the designed grade under the piping, manholes and structures. (Designed depth or grade is equal to 12" below pipes and structures).

Trench Earth Excavation and Backfill will include any directed below-grade excavations made to satisfactorily excavate and remove unsuitable materials, but will not include unauthorized excavations beyond or below the payment lines indicated or directed. Removal of existing bituminous pavements, curbing and sidewalks and sawcutting pavement will also be included under this item.

Any quantities of rock excavation encountered in trench work as defined and classified by the Owner in accordance with the section entitled "Rock Excavation and Disposal" and of boulders one (1) cubic yard or greater in volume, will not be included in the quantities to be paid for under Trench Earth Excavation and Backfill.

Backfill of material utilizing borrow as defined under the section entitled "Gravel Fill" shall not be measured or paid for under the above item.

There shall be no separate payment for providing sheeting, shoring, bracing, or trenching box. Payment for these items as specified shall be included in the price bid for those sections referring to pipe and appurtenances and shall not be measured for payment.

SECTION 3.03
ROCK EXCAVATION AND DISPOSAL

1.0 DESCRIPTION

The work covered under this Section includes the furnishing of all labor, equipment and materials, and performing all operations in connection with rock excavation and subsequent gravel refill as indicated on the drawings, and all incidental work in accordance with the drawings and specifications, and as directed. The work shall also include providing and compacting gravel bedding from off-site sources for refilling depressions resulting from removal of boulders; the satisfactory removal and disposal of the excavated rock materials; and the protection of existing pipelines, structures and appurtenant facilities, and the contract work.

2.0 MATERIALS

Rock excavation shall include the excavation, removal and disposal of all boulders and detached rock fragments 1 cubic yard or more in volume; and all ledge rock, the removal of which, in the opinion of the Owner, can be accomplished only by drilling and splitting mechanically or by hand or by blasting. Boulders of less than 1 cubic yard in volume, and all soft or disintegrated rock which can be removed without the manipulation noted above, shall be classified as "Trench Earth Excavation"

Where boulders are exposed on the sides of or in the bottom of excavations, they shall be wholly or partially removed, as specified or directed. Boulders shall be removed to not less than the lateral trench width indicated, not less than 12 inches outside structure walls, and to not less than 12 inches below the underside of pipes.

Unauthorized excavations in rock, or excavations made beyond or below the indicated or directed limits, shall be refilled with compacted gravel bedding, as directed by and at no expense to the Owner.

Whenever rock is encountered, it shall be stripped of the overlying material in sections as directed by the Owner. Drilling through the existing overburden and blasting prior to stripping will be allowed only at locations approved in advance by the Owner.

Rock excavation for future connections:

Whenever provisions for a future connection are placed in the sewer lines or structure in an area of rock excavation, the rock shall be removed from a distance of at least 2 feet or more as directed, horizontally from the end of the pipe or branch stub and in the direction of the future connection.

If directed by the Owner, the Contractor shall also drill a hole in rock not less than 3 feet but not more than 5 feet beyond the outer limit of his excavation and to a point lower than the level of the branch and shall explode a charge therein adequate to shatter the rock sufficiently to permit its subsequent removal by others when any future connection is made. The Contractor will be allowed the equivalent of 1/2 cubic yard of rock excavation for such additional drilling and blasting at the location of each future connection so treated.

3.0 CONSTRUCTION METHODS

Blasting within 20 feet of existing utilities shall be allowed only when approved by the utility companies and shall be performed by an experienced blasting subcontractor using small charges and delays.

Where blasting is permitted by the Owner, the Contractor shall take every precaution to protect persons, property and the work. The Contractor, shall conduct all blasting operations so that at no time shall the peak particle velocity, as monitored at selected locations, exceed 2.0 inches per second or such lower limits as may be established by regulatory authorities, utility and/or property Owner. Blasting operations shall comply with all Federal state and local regulations, and requirements of the Owners of utilities adjacent to the work area and to any further regulations which the Owner may deem necessary in this respect. The Contractor shall be held liable for all injury to persons the damage to property and the work caused by blast or explosion.

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.

Backfilling of Rock Trench shall be done in accordance with the Section "Trench Earth Excavation and Backfill". All excavated material, suitable for backfilling and in excess of the requirements for earth excavation, shall be used to backfill rock excavated areas.

Blasting must be accomplished in accordance with the provision set forth in the current edition of the "Manual on Storage, Transportation and Use of Explosives and Blasting Agents," available from the State Fire Marshal's Office.

4.0 MEASUREMENT AND PAYMENT

Where rock is encountered, it shall be uncovered but not excavated until measurements have been made by the Engineer, unless in the opinion of the Owner satisfactory measurements can be made in some other manner.

Rock excavation and disposal will be measured in cubic yards in its original position, prior to excavation, computed to a depth of twelve inches below the new pipe or new structure or as

directed in writing by the Owner. If rock excavation is directed to be performed to less than the payment width and/or depth indicated, the Contractor will be paid only for the actual quantities of rock so directed. The measurement will not include unauthorized excavations.

Boulders or detached rock fragments which are 1 cubic yard or more in volume will be measured individually, and the volume computed from the average dimensions taken in three representative directions.

Additional material from off-site sources needed as backfill shall be measured for payment as specified under "Gravel Fill".

Measurement of rock excavation for purposes of payment shall be as follows, regardless of the actual amount of rock removed.

In pipe trenches, rock excavation in trench shall be measured to a width equal to the diameter of the pipe plus an additional 2 feet, centered on the pipe from the original surface of the rock to a plane one foot below the underside of the pipe. If the rock does not extend the full width or depth of the trench, only the actual amount of rock removed within the described measurement lines shall be allowed.

In excavation for structures, rock excavation shall be measured as having sides located twelve (12) inches beyond the outside of the manhole structure to the original surface of the rock.

The unit prices for payment under this Section shall include full compensation for all labor, materials, tools and equipment required for rock excavation and placing of the excavated material in spoil banks or elsewhere, as required.

Payment for rock excavation shall be by the cubic yard, measured as described above.

SECTION 3.04
GRAVEL FILL

1.0 DESCRIPTION

This material shall be used to replace unsuitable backfill material as specified in Section 3.02 of these contract specifications, and elsewhere as indicated on the plans, required by the specifications or as ordered by the Engineer. It shall consist of gravel conforming to the requirements of these specifications.

2.0 MATERIALS

Gravel fill shall conform to the requirements of Article M.02.01 of the Standard Specifications.

3.0 CONSTRUCTION METHODS

Gravel shall be placed and compacted in accordance with Article 3.04.03 of the Standard Specifications.

4.0 MEASUREMENT AND PAYMENT

Gravel fill will be measured in place after compaction by the Engineer. It shall be placed as directed by the Engineer.

The pay limits for gravel fill shall be as specified on the Contract Drawings. No payment will be made for gravel fill outside the specified payment limits.

This item is for replacement of excavated rock, for replacement of excavated material deemed unsuitable for refill by the Owner, and for miscellaneous fill where directed by the Owner.

Payment for this item will be the contract unit price per cubic yard bid for "Gravel Fill", which price shall include all materials, tools, equipment, labor and incidental work for providing, placing and compacting gravel fill as specified.

SECTION 3.05
REMOVAL OF PAVEMENT

1.0 DESCRIPTION

Pavement removal shall consist of the satisfactory removal of pavements as required for construction of improvements under this contract. It shall include asphalt, bituminous concrete pavements and bases as required by the contract or as directed by the Engineer.

3.0 CONSTRUCTION METHODS

Pavement shall be cut to neat lines as required by the contract drawings, or as directed by the Engineer. Pavement shall be excavated to the dimension shown on the plan. Excavated material shall be disposed of as directed by the Engineer and in the same manner as described for surplus material elsewhere in these specifications. No sections or pieces of pavement shall be used in trench backfill and pavement shall be kept separate from other excavated material.

4.0 MEASUREMENT AND PAYMENT

This item will not be measured for payment. Costs associated with pavement removal and saw cutting of pavements shall be included in other items.

SECTION 3.07
PROCESSED GRAVEL BASE

1.0 DESCRIPTION

The Contractor shall furnish and place processed gravel base to the compacted thickness shown on the contract drawings, prior to placement of pavement.

The processed gravel base shall consist of a foundation constructed on the prepared subbase or subgrade in accordance with these specifications and in conformity with the lines, grades, compacted thickness and typical cross-section as shown on the plans.

2.0 MATERIALS

Processed Gravel base shall conform to the requirements of Subarticle M.05.01-1, M.05.01-2, M.05.01-3 of the standard specifications, Form 816.

3.0 CONSTRUCTION METHODS

Gravel bases shall be placed and compacted in accordance with Article 3.04.03 of the Standard Specification - Form 816.

4.0 MEASUREMENT AND PAYMENT

No separate measurement or payment shall be made for this item and all costs in connection there with shall be included in other contract items.

SECTION 3.08 PIPE BEDDING

1.0 DESCRIPTION

The work under this item shall consist of the furnishing, placing and compacting of pipe bedding in accordance with these Specifications and the details shown on the Contract Drawings at the locations shown thereon or as directed by the Engineer.

2.0 MATERIALS

Pipe bedding shall be provided from off-site sources in the quantities required for completion of the work and shall be as approved by the Owner.

Drainage Pipes:

Gravel pipe bedding for solid storm drainage shall be gravel conforming to the requirements of Article M.02.01 of the Standard Specifications.

Sand Fill:

Sand fill between culverts shall be sand or sandy soil which meets the requirements of M.08.01.21 of the Standard Specification.

3.0 CONSTRUCTION METHODS

Pipe Bedding shall be placed in accordance with the details and at the locations indicated on the Contract Drawings or as directed by the Engineer. It shall be placed carefully and evenly on both sides of the structure/pipe/conduit being cushioned.

It shall be deposited in layers not over 6 inches thick and each layer shall be thoroughly compacted to not less than 95% of the specified ASTM maximum dry density before the addition of other layers.

All percentages of compaction specified herein shall be related to the maximum dry density as established by Method D ASTM Designation D1557-70 and verified in the field by ASTM Designation D1556-68, D2167-66, or an approved Nuclear density testing device. Prior to placing, at least one (1) laboratory test shall be made on a representative sample of each of the fill and backfill materials proposed to be furnished for the earthwork operations; to determine gradation and moisture-density characteristics. These tests will be made by a testing laboratory selected by the Owner and at the Owner's expense.

Field density tests to determine the actual in-place densities being attained will be made at the Owner's expense and in sufficient quantity to determine that the required compaction is being attained. All retesting necessitated by failure of the backfill to comply with the minimum

percent of compaction shall be performed by a laboratory selected by the Owner and the re-testing cost will be paid for by the Contractor.

4.0 MEASUREMENT AND PAYMENT

No separate measurement of payment shall be made for this item and all costs in connection therewith shall be included the appropriate piping unit price for which this item is being provided.

SECTION 3.10 CRUSHED STONE

1.0 DESCRIPTION

The Contractor shall furnish and place all crushed stone as directed by the Engineer.

2.0 MATERIALS

Crushed Stone shall be 3/4 inch in size conforming to the requirements of Article M.01.01. Crushed stone gradation table of the standard specifications, Form 816. Crushed stone shall be free from dust, foreign matter and organic material.

3.0 CONSTRUCTION METHODS

Crushed Stone Bedding shall be placed in accordance with the details and at the locations indicated on the Contract Drawings or as directed by the Engineer. It shall be placed carefully and evenly on both sides of the structure/pipe/conduit being cushioned.

It shall be deposited in layers not over 6 inches thick and each layer shall be thoroughly compacted to not less than 95% of the specified ASTM maximum dry density before the addition of other layers.

4.0 MEASUREMENT AND PAYMENT

Crushed stone will be measured in place after compaction. It shall be placed as directed by the Engineer.

Payment for this item will be made at the Contract unit price per cubic yard bid for "Crushed Stone", which price shall include all materials, tools, equipment, labor and incidental work for providing, placing and compacting crushed stone as specified.

Crushed stone used for drainage pipes shall not be paid for separately. All costs for crushed stone used in these items shall be included the appropriate unit price for which this material is being provided.

SECTION 4.05
BITUMINOUS CONCRETE FOR SIDEWALKS AND DRIVEWAYS

1.0 DESCRIPTION

The work under this Section shall be the construction of a surface course of bituminous concrete, Class 2 placed on a prepared base in accordance with these specifications and in conformity with the lines, grades, thickness and typical cross-section shown on the Contract Drawings.

The work covered by this Section includes replacement of driveways and all other bituminous concrete work not included in other Sections.

2.0 MATERIALS

The materials for the bituminous concrete mixture, the sources of supply, formula for mix, mix tolerances, approval of mix formula, and the control of the mixture shall conform to the requirements of Article M.04.01 of Form 816 for Class 2.

3.0 CONSTRUCTION METHODS

The methods employed in performing the work and all equipment, tools, machinery and other plant used in handling material and executing any part of the work shall conform to all the requirements of Form 816, Article 4.06.03.

4.0 MEASUREMENT AND PAYMENT

This work shall be measured for payment by the number of square feet, surface area, of the pavement installed to the specified thickness shown on the Drawings and as specified.

Gravel Base: This work will not be measured for payment, the cost shall be considered as included in the price bid.

"Bituminous Concrete for Sidewalks & Driveways", measured as provided above, will be paid for at the Contract unit price bid per square foot completed and accepted in place, which price shall include all materials, equipment, tools, labor and work incidental thereto.

The Contractor shall include in the cost of this construction all resetting to grade prior to paving of existing or newly constructed grates, frames, covers, valve boxes, access covers, and other items which normally must have a fixed relationship to finished grade unless specified items for resetting appear in the bid proposal.

SECTION 4.06
TWO COURSE BITUMINOUS CONCRETE

1.0 DESCRIPTION

The work under this Section shall be the construction of a 4" thick, two-course bituminous concrete pavement placed on the designated thickness of compacted gravel base in accordance with the limits and to the dimensions shown on the contract drawings, specified herein, or as directed by the Engineer.

2.0 MATERIALS

The materials for the bituminous concrete mixture, sources of supply, formula for mix, mix tolerances, approval of mix formula and the control of the mixture shall conform to the requirements of Article M.04, Form 816.

- a. Bituminous concrete surface course shall conform to Article M.04, Class 2.
- b. Bituminous concrete base course shall conform to Article M.04, Class 1.
- c. Tack coat shall consist of CSS-1H oil.
- d. Processed gravel base is specified in Section 3.07 of these Contract Specifications.
- e. Gravel Subbase shall conform to Article 2.12.02 of the Standard Specifications.
- f. Geogrid reinforcement shall be "Tensar Triax TX140" geogrid as manufactured by Tensar International, or approved equal.

3.0 CONSTRUCTION METHODS

Bituminous concrete shall be placed in accordance with Article 4.06.03.

The existing pavement shall be saw cut back 1 foot from the edge of the disturbed pavement or as directed on the plans or in the field, in a straight line using approved power tools, tack coat shall be applied to the edge of existing pavement where it meets the new pavement to be placed.

Contact surfaces of curbing, gutters, manholes, etc., shall be painted with a thin uniform coat of hot asphalt cement, or asphalt cement, or asphalt cement dissolved in naphtha, just before the material is placed against them.

All pavement surfaces that have been in place longer than five calendar days shall receive a tack coat between courses. The surface shall be swept clean and tack coated with CSS-1H at .035 gals. per square yard.

3.1 QUALITY ASSURANCE

The Owner or his authorized representative shall have access at any time to all parts of the producing plant for:

- 1) Inspection of the condition and operations of the plant and laboratory.
- 2) Confirmation of the adequacy of equipment in use.
- 3) Verification of the character and portions of the mixture.
- 4) Determination of temperatures being maintained in the preparation of the mixtures.
- 5) Inspection of incidental related procedures.

4.0 MEASUREMENT AND PAYMENT

This work shall be measured for payment by the number of square yards of the pavement installed to the specified thickness shown on the Drawings and as specified and within the pavement limits.

"Two Course Bituminous Concrete", measured as provided above, will be paid for at the Contract unit price bid per square yard of two course bituminous concrete completed and accepted in place, which price shall include all materials, equipment, tools, labor and work incidental thereto.

The Contractor shall include in the cost of this construction all resetting to grade existing or newly constructed catch basins, manholes, grates, frames, covers, valve boxes, access covers, and other items which normally must have a fixed relationship to finished grade.

The Contractor shall include in the cost of this item tack coating between courses, as required. All surfaces that have been in place longer than five calendar days shall receive a tack coat. No separate payment shall be made for tack coating.

Included in the cost of this item shall be the saw cutting of all bituminous concrete pavements and providing tack coat along all cut edges.

Gravel Subbase will not be measured for separate payment. All costs for gravel subbase shall be included in this item.

Processed gravel will not be measured for separate payment. All costs for processed gravel shall be included in this item.

SECTION 4.08
CONCRETE SIDEWALKS, DRIVEWAYS AND RAMPS

1.0 DESCRIPTION

The work under this section shall be the construction of new concrete sidewalks, and of the replacement or extension of existing sidewalks damaged or removed by construction under other work of this Contract. They shall be constructed on a gravel base course at the locations and to the dimensions and details shown on the contract drawings or as ordered by the Owner.

2.0 MATERIALS

2.1 CONCRETE

Materials for this work shall conform to the requirements of Article M.03.01 of Form 816. Sidewalks and pedestrian ramps shall be Class "F" Concrete. Concrete shall have a minimum compressive strength of 4,000 psi at 28 days.

2.2 EXPANSION JOINT

Performed Expansion Joint Filler shall comply with the provisions of ASTM D 1751 (AASHTO M 213).

2.3 ADMIXTURES

Air-entraining admixtures shall conform to Article M.03.01 of the Standard Specifications.

2.4 GRAVEL

Gravel for the base course shall conform to Article M.02.01 of the Standard Specifications for gravel fill.

2.5 REINFORCEMENT

Reinforcement where indicated on the Contract Drawings shall conform to the requirements of Article M.06.01 of the Standard Specifications.

2.6 EPOXY

Epoxy for dowels shall be Hilti H-150, or approved equal

2.7 BONDING AGENT

Bonding agent on saw cut surfaces shall be Sika Armatcc 110 bonding or approved equal.

2.8 CONCRETE SEALER

Concrete sealer shall be water based, low VOC, environmentally friendly spray or roll on sealer. Sealer shall be formulated for exterior use on floors or other walking surfaces. Sealer shall be L.M. Scofield Cementone Clear Sealer, BASF Concrete and Masonry Sealer, W.R. Meadows VOCOMP-25 Curing & Sealing Compound, or approved equal.

2.9 DETECTABLE WARNING STRIPS

Detectable warning strips shall conform to the details shown on the Contract Drawing and to the requirements of sections 4.7.7 and 4.29 of the ADA Standards for Accessible Design.

3.0 CONSTRUCTION METHODS

Installation of concrete sidewalks shall follow the applicable portions of Article 9.21.03.

Concrete sidewalks shall be cured and protected in conformity with the requirements of Article 4.01.03 for concrete pavement.

After concrete has cured for a minimum of 28 days, all exposed concrete surfaces shall be sealed with a spray on or roll on concrete sealer installed per the manufacturer's recommendations. Adjustments to the cure duration may be made with prior approval from the Engineer and Manufacturer.

4.0 MEASUREMENT AND PAYMENT

This work will be measured for payment by the actual number of square feet of completed and accepted concrete sidewalk to the thickness and width shown on the contract drawings.

Any sidewalks, driveways, driveway ramps and/or pedestrian ramps which during the course of construction are damaged by negligent operations of the Contractor shall be repaired or replaced by the Contractor at his own expense as directed by the Engineer. Said repairs/replacements will not be measured for payment.

Saw cutting and removal of existing sidewalk, excavation, backfilling and disposal of removed concrete or other surplus material will be paid for under this item.

Gravel Base: This work will not be measured for payment, but the cost shall be considered as included in the price bid for the sidewalk, driveway, driveway ramp or pedestrian ramp.

Reinforcement: This material will not be measured for payment but the cost included in the price bid for the sidewalk, driveway, driveway ramp or pedestrian ramp.

Concrete Sealer: This material will not be measured for payment but the cost included in the price bid for the sidewalk, driveway, driveway ramp or pedestrian ramp.

This work will be paid for at the contract unit price per square foot for "Concrete Sidewalk, Driveways and Ramps" complete in place, which price shall include all gravel base, concrete, expansion joints, reinforcement, curing and all materials, equipment, tools, labor and work incidental to or necessary for the completion of the work.

The contractor shall include in the cost of this construction all resetting to grade existing or newly constructed grates, frames, covers, water gates, valve boxes, access covers, and other items which normally must have a fixed relationship to finished grade.

SECTION 4.07
GRANITE CURBING

1.0 DESCRIPTION

This work shall consist of installing new granite curbing to match the existing lines and grades, in accordance with the dimensions and details of the plans or as ordered and in conformity with these specifications.

2.0 MATERIALS

The materials for this work shall conform to the requirements of Article M.12.06 for granite curbing.

The granite curbing shall be in lengths of not less than 4 feet, except where necessary for closures, where no piece shall be less than 3 feet in length. Mortar for this work shall conform, as regards materials, proportions and mixing, to the mortar specified in Article M.11.04 or the Standard Specifications.

3.0 CONSTRUCTION METHODS

The construction methods for this work shall conform to the requirements of Article 8.13.03 of the Standard Specifications for stone curbing, as supplemented by the following requirements:

The curbing to be reset shall be removed and stored with care to avoid damage, and reset immediately following the installation of the drainage system. Curbing removed and not reset shall remain the property of the Owner unless otherwise ordered by the Owner, and shall be transported to such points, adjacent to the work, as the Owner may designate.

4.0 MEASUREMENT AND PAYMENT

Granite curbing shall be measured for payment by the Owner by the linear foot of new curbing or curbing reset in place as shown on the Drawings or as directed by the Owner. Granite curbing not in the immediate area of construction which is damaged by the Contractor's negligence shall not be measured for payment.

Payment for granite curbing shall be at the Contract unit price bid per linear foot for "Granite Curbing". Said price shall include installation of curbing, and all materials, labor and equipment necessary to satisfactorily complete the work. Curbing not in the immediate area of work which is damaged due to negligence or carelessness on the part of the Contractor shall be replaced by the Contractor at his own expense.

SECTION 5.01
STORM DRAINAGE PIPE

1.0 DESCRIPTION

The work under this Section shall consist of furnishing and installing Storm Drainage Pipe, elbows and other fittings as required with aggregate backfill material of the type, size and lengths called for on the Contract drawings or as ordered, at the locations and to the lines and grades designated on the Contract Drawings, or as directed by the Owner and in conformity with these specifications.

2.0 MATERIALS

Pipes of the type indicated on the Contract drawings, joint sealant and materials, bedding materials, and elbows or special fittings, shall conform to the applicable requirements of Article M.08.01. Drainage pipe shall be Reinforced Concrete Pipe (RCP) or High Density Polyethylene (HDPE) as indicated on the Contract Drawings with smooth interior surface either solid or with perforations and shall conform to AASHTO M252 or M294.

3.0 CONSTRUCTION METHODS

Unless otherwise directed by the Owner, all pipe shall be installed in pipe bedding in accordance with the details as shown on the Contract Drawings and in conformance with the applicable portions of Article 6.51.03 of Form 816.

4.0 MEASUREMENT AND PAYMENT

This work will be measured for payment according to the actual number of linear feet of pipe of the various sizes and types installed and accepted and measured in place. Said unit prices shall include the cost of furnishing and installing the pipe, bedding, trench excavation and backfill, shaping and compacting the bedding, sheeting and bracing, shoring, trench boxes, support of pipes or structures over the excavation, required aggregate backfill material, testing, pipe repair or replacement, maintaining flow in existing pipes, making all cross connections with existing pipes, culverts, catch basins, etc., and all labor, materials, tools, or equipment necessary or incidental to complete the installation of the pipe.

Payment will be made according to the contract unit price bid for the actual number of linear feet of the applying size and type pipe installed, and accepted, which price shall include all labor, materials, tools, equipment incidental thereto.

SECTION 5.02 CATCH BASINS

1.0 DESCRIPTION

The work under this item shall include the construction of all catch basins in conformity with the lines, grades, dimensions and details shown on the Contract Drawings, or as ordered by the Owner and in accordance with the provisions of these specifications for the various materials and work which constitute the completed structure.

2.0 MATERIALS

2.1 CATCH BASIN

The materials to be used for the work under this Item shall be those indicated on the Contract Drawings or ordered by the Owner and shall conform to Article M.08.02. Protective compound material shall conform to Article M.03.01-11. Mortar shall conform to Article M.11.04.

Frame and grate shall be Connecticut DOT Type "A" to allow bicycle traffic (galvanized).

3.0 CONSTRUCTION METHODS

The construction methods for the work under this Item shall conform to the requirements of Article 5.07.03 and the details shown on the Contract Drawings or as directed by the Owner. Castings will be set to grade on no less than two courses of brick.

When constructing a new drainage structure within a run of existing pipe, the section of existing pipe disturbed by the construction shall be replaced with new pipe of identical type and size extending from the drainage structure to the nearest joint of the existing pipe.

4.0 MEASUREMENT AND PAYMENT

Construction of catch basins will be measured as units of the various sizes and types furnished installed and accepted in place. Said unit prices shall include the cost of furnishing and installing the catch basin, bedding, trench excavation and backfill, shaping and compacting the bedding, sheeting and bracing, shoring, trench boxes, support of pipes or structures over the excavation, required aggregate backfill material, maintaining flow in existing pipes, making all cross connections with existing pipes, culverts, etc., and all labor, materials, tools, or equipment necessary or incidental to complete the installation of the pipe.

Payment will be made according to the Contract unit bid price for each catch basin, complete in place, which price shall include all materials, equipment, tools and labor incidental thereto.

SECTION 5.03
CONNECT TO EXISTING DRAINAGE STRUCTURE

1.0 DESCRIPTION

The work under this Section consists of breaking into an existing catch basin, manhole or culvert with a new drainage pipe and making a watertight connection.

2.0 MATERIALS

Materials shall conform to the requirements of Article M.08.02 and M.11.04 as applicable.

3.0 CONSTRUCTION METHODS

Construction methods shall conform to Article 5.07.03 as applicable.

4.0 MEASUREMENT AND PAYMENT

This item shall not be measured for payment.

No separate payment will be made for connecting to existing structures or culvert, and all costs in connection therewith shall be included in other unit prices.

SECTION 5.09
REMOVE AND DISPOSE OF EXISTING CATCH BASIN,
MANHOLE OR CULVERT

1.0 DESCRIPTION

Catch basins, manholes and culverts shall be completely removed and disposed of and associated pipes shall be plugged and abandoned as indicated on the Contract Drawings or as directed by the Engineer.

2.0 MATERIALS

Mortar shall conform to Article M.11.04.

Brick shall conform to Article M.08.02.

3.0 CONSTRUCTION METHODS

All metal, concrete, (including bases) brick work, masonry or other materials of catch basins, manholes or culverts to be removed shall be completely removed and shall be disposed of. No materials removed from catch basins, manholes or culverts shall be used as backfill.

4.0 MEASUREMENT AND PAYMENT

This item shall not be measured for payment.

No separate payment will be made for removing and disposing of existing catch basins, manholes and culverts, and all costs in connection therewith shall be included in other unit prices.

SECTION 5.13
RIPRAP

1.0 DESCRIPTION

Where called for on the plans or directed by the Owner, the Contractor shall place Riprap in conformity with the type and compacted thickness shown on the plans.

2.0 MATERIALS

Subgrade shall conform to the requirements of Article 2.09.03 of the Standard Specifications. Stone for Riprap shall conform to the requirements of Article M.12.02. Filter fabric shall conform to the requirements of Article M.08.01-26 of the Standard Specifications.

3.0 CONSTRUCTION METHODS

Subgrade shall be accurately shaped prior to placing of riprap in accordance with construction methods detailed in Article 2.09.03 of the Standard Specifications.

Riprap shall be placed in accordance with construction methods specified in Article 7.03.03 of the Standard Specifications

Filter fabric shall be placed in accordance with construction methods specified in Article 7.55.03 of the Standard Specifications.

4.0 MEASUREMENT AND PAYMENT

This work will be measured for payment by the number of cubic yards of Riprap accepted and measured in place to the thickness, length and width shown on the Contract Drawings for riprap lines channel and slope paving.

This work shall be paid for at the contract unit price per cubic yard for the type of riprap indicated and complete in place.

Excavation necessary to form the riprap to the line, grade and typical cross-section called for on the plan shall be paid for under this item. Pervious filter fabric under riprap (where required) as shown on the drawings shall be paid for under this item.

SECTION 5.17
CONCRETE HEADWALLS

1.0 DESCRIPTION

The work under this section shall consist of furnishing and installing the headwall of the details and dimensions shown on the plans or as ordered and in conformity with these specifications.

2.0 MATERIALS

Materials for this work shall conform to the requirements of Article M.03.01 of the Standards Specifications for Class "F" Concrete. Concrete shall have a minimum compressive strength of 4,000 psi at 28 days.

Expansion Joint Filler shall conform to the requirements of Article M.03.01 of the Standard Specifications.

Reinforcement where indicated on the Contract Drawings shall conform to the requirements of Article M.06.01 of the Standard Specifications.

3.0 CONSTRUCTION METHODS

Construction methods shall conform to the provisions of Article 5.60.03 of the Standard Specifications.

Reinforcement where used shall be placed as shown on the Contract Drawings in accordance with the applicable methods of Article 6.02.03 of the Standard Specifications as modified hereafter or as directed by the Engineer.

4.0 MEASUREMENT AND PAYMENT

Construction of Concrete Headwalls will be measured as units of the various sizes and types furnished installed and accepted in place. Said unit prices shall include the cost of furnishing and installing the Concrete Headwalls, bedding, trench excavation and backfill, shaping and compacting the bedding, sheeting and bracing, shoring, forming, trench boxes, support of pipes or structures over the excavation, required aggregate backfill material, maintaining flow in existing pipes, making all cross connections with existing pipes, culverts, etc., and all labor, materials, tools, or equipment necessary or incidental to complete the installation of the pipe.

SECTION 8.01
TOPSOIL, SEED, FERTILIZE AND MULCH

1.0 DESCRIPTION

This work shall consist of placing topsoil, furnishing topsoil when required, fertilizing, seeding and mulching all areas disturbed by the work and the Contractor's operations.

2.0 MATERIALS

Materials for this work shall conform to the following requirements:

2.01 TOPSOIL

Topsoil excavated from the project shall be used whenever possible. Topsoil supplied by the Contractor shall conform to the requirement of Article M.13.01-1.

2.02 FERTILIZER

Fertilizer shall conform to the requirement of Article M.13.03.

2.03 MULCH

Mulch shall conform to Article M.13.05-1 and shall be hay or wood fiber.

2.04 SEED MIXTURE

Seed mixture for seeding shall conform to the specifications outlined on the Contract Drawings.

3.0 CONSTRUCTION METHODS

All topsoil excavated from the project shall be used. When, in the opinion of the Engineer, sufficient topsoil is not available, the Contractor shall supply topsoil from other sources. The areas on which topsoil is to be placed shall be graded to a reasonable true surface. Topsoil shall then be spread and shaped to the lines and grades shown on the plans, or as directed by the Owner. The depth shown on the plans to which the topsoil is to be placed is that required after settlement of the material has taken place. All stones, roots, debris, sod, weeds and other undesirable material shall be removed. After shaping and grading, all trucks and other equipment shall be excluded from the topsoil area to prevent excessive compaction. The Contractor shall perform such work as required to provide a friable surface for seed germination and plant growth prior to seeding. During hauling and spreading operations, the Contractor shall immediately remove any material dumped or spilled on pavement.

It shall be the Contractor's responsibility to restore to the line, grade and surface all eroded areas with approved material and to keep topsoiled areas in acceptable condition until the completion of the construction work.

The areas to be seeded shall be made friable and receptive to seeding by approved methods which will not disrupt the line and grade of the slope surface. In no event will seeding be permitted on hard or crusted soil surface. All areas shall be free from weeds taller than three (3) inches.

The normal seeding seasons shall be March 15th to June 15th and August 15th to October 15th. Seeding at other times shall be done only when ordered by the Engineer.

Areas of disturbed soil which will contribute significantly to air and stream pollution shall be established to the designated vegetative cover as soon as feasible or when directed by the Engineer.

Seed shall be uniformly applied by any ergonomically acceptable and feasible method approved by the Engineer. Seed mixture shall be applied at the rate of 200 pounds per acre. Fertilizer shall be uniformly placed at the rate of 640 pounds per acre.

All seeded areas shall be mulched with hay or, if hydroseeding is used, wood fiber. Hay shall be uniformly applied by an approved method to a placed depth of two (2) inches. Hay shall be held in place by one uniform Application of asphalt emulsion, Type SS-1, applied at the rate of 0.08 gallons per square yard. The emulsion shall have a temperature range within 50 to 120 degrees F. at the time of the application. The emulsion may be applied during or immediately after the application of the mulch. Wood fiber mulch shall be uniformly applied at the rate of one (1) tone per acre.

The Contractor shall keep all equipment and vehicular and pedestrian traffic off areas that have been seeded to prevent excessive compaction and damage to young plants.

The Contractor shall be required to replant areas damaged by water, wind, fire, equipment or pedestrian traffic when ordered by the Owner at no cost to the Owner.

Work under this item shall not be complete until all stones and debris have been removed from the seeded areas. In areas where topsoil and seeding are not required, all disturbed areas shall be neatly graded and cleared of all debris.

4.0 MEASUREMENT AND PAYMENT

This item will be measured by the actual number of square yards of completed and accepted areas which are topsoiled, seeded, fertilized and mulched as indicated on the Drawings or as directed by the Engineer.

Any excavation required to provide for the specified thickness of topsoil in the designated areas will not be measured for payment but the cost shall be included in the price bid for topsoil, seed, fertilizer and mulch.

"Topsoil, Seed, Fertilize & Mulch" measured as provided above, will be paid for at the Contract unit price bid per square yard completed and accepted in place, which price shall include all materials, equipment, tools, excavation, labor and work incidental thereto.

SECTION 8.03
LANDSCAPING

1.0 DESCRIPTION

The work under these items shall consist of relocating, planting and mulching trees, shrubs, vines and ground cover plants of the type and size indicated on the plans of special provisions. It shall also include all incidental operations, such as the care of the living plants, purchase of new plants and the replacement of dead and unsatisfactory plants and unsatisfactory materials before final acceptance of the contract.

The Contractor is cautioned that within the limits of any project, buried cable for illumination or utilities, which may be energized, may be present.

2.0 MATERIALS

DELIVERY, STORAGE, AND HANDLING OF PLANTINGS:

- A. PLANT DELIVERY: When delivered, plants shall have labels stating plant names and sizes; labels shall be legible for at least 60 days. Groups of plants may be labeled by tagging one plant. Protect plants from damage.
- B. PLANT STORAGE: Store and protect plants not planted on the day of arrival as follows:
 - 1. Shade and protect plants from wind and direct sunlight.
 - 2. Heel-in bare root plants.
 - 3. Protect balled and burlapped (B&B) plants from freezing and drying out. Provide covering that allows air circulation.
 - 4. Keep plants moist until planted.

PLANT HANDLING: Do not drop materials from vehicles

The material for this work shall conform to the requirements of Section M.13 of the Standard Specifications and the following.

- A. PLANTS: ANSI Z60. 1. Minimum plant sizes before pruning and with branches in normal position shall be as stated on the drawings, based on the average width or height of the plant specified in ANSI Z60. 1. Plants of the same specified size shall be uniform in size and character of growth. Plants shall be well-branched, well-formed, sound, vigorous, healthy, and free of disease, sunscald, windburn, abrasion, harmful insects or insect eggs, and have healthy, unbroken root systems. Deciduous trees and shrubs shall be symmetrically developed and of uniform growth, with straight boles or stems and no disfigurements. Evergreen trees and shrubs shall

- have well-developed symmetrical tops with typical spread of branches for each species or variety. Container grown plants shall have sufficient root growth to hold soil intact when removed from containers. Root bound plants are not acceptable.
- B. PLANTING SOIL: Use the excavated material.
 - C. FERTILIZER: As recommended in writing, by the plant supplier.
 - D. MEMBRANE: Landscape fabric.
 - E. GRANULAR FILL: Uniformly graded clean sand, stone, gravel, or stone screenings.
 - F. MULCH: Material shown on the drawings, free of noxious weeds, mold, and other deleterious materials.
 - G. TRUCK WRAPPING MATERIAL: Double-thickness crinkled paper cemented together with bituminous material, at least 4 inches wide, with stretch factor of 33-1/3 percent.
 - H. STAKES: Rough sawn hardwood free of knots, rot, cross grain, bark, long slivers, or other defects that impair strength.
 - I. FLAGS: White plastic tape, 6 inches long.
 - J. FERTILIZER: Type and formula recommended in writing by the local USDA Soil Conservation Service agent. If you hydroseed, provide controlled release fertilizer composed of prills coated with plastic resin to provide a continuous release of fertilizer for at least 6 months.
 - K. MULCH: Air-dry hay or straw free of noxious weeds, mold, and foreign matter detrimental to plants. If you hydroseed, provide specially prepared color-dyed wood cellulose fiber that contains no growth or germination-inhibiting factors.

3.0 CONSTRUCTION METHODS

Contact "Call Before You Dig" at 1-800-922-4455 at least 72 hours prior to any excavation.

Construction methods shall conform to the requirements of Section 9.49.03 of the standard specifications and the following.

SEASONS AND CONDITIONS: According to the written instructions of the local USDA Soil Conservation Service agent. Do not plant when the ground is frozen or covered with snow.

PREPARATION:

- A. **LAYOUT:** Stake out plant and bed locations and outlines before digging pits or beds. The Contracting Officer's Representative may adjust locations to meet field conditions
- B. **EXCAVATION:** Protect existing adjacent turf before excavating. When planting beds occur in existing turf areas, remove turf to the depth that removes the entire root system. Measure depth of pits from finished grade. Depth of pit shall provide same relation between top of ball and finished grade as existed when plant was grown.
- C. **WATERING BASINS:** Form with topsoil around each plant, 6 inches deep for trees and 4 inches deep for shrubs.
- D. **PLANTING:** Set plants at the depth they were grown, on a 6-inch hand-compacted layer of soil.
- E. **B&B STOCK:** Backfill to one-half the depth of the ball, then tamp and water. Carefully remove or fold back excess burlap and tying materials. Backfill and water.
- F. **BARE-ROOT STOCK:** Plant so roots are in a natural position. Remove damaged roots with clean cuts. Apply tree wound dressing to cuts larger than 1/2-inch in diameter. Work soil among roots. Tamp, backfill, and water.
- G. **CONTAINER GROWN STOCK:** Remove from container without damaging plant. Cut root ball vertically in 2 or 3 places with sharp knife before planting. Backfill, firm the soil around the plant, and water.
- H. **GROUND COVERS AND VINES:** Do not remove from flats or containers until immediately before planting. Plant at depth to cover all roots. Immediately sprinkle with water until entire area is soaked. Backfill, firm the soil around the plant, and water.
- I. **FERTILIZING:** Fertilize as recommended by the plant supplier. If fertilizer adheres to plants, remove it by flushing.

FINISHING:

- A. **EDGING:** Install edging to provide a clear cut line between planted area and adjacent turf.

- B. **MULCHING:** Keep mulch off buildings, sidewalks, light standards, and other structures. Lay membrane with edges lapped 6-12 inches. Spread mulch to a uniform thickness.
- C. **EROSION CONTROL MATERIAL:** Install according to the manufacturer's printed instructions.
- D. **WRAPPING:** Tie trunk wrapping to trunks of deciduous trees within the next full working day after planting. Begin wrapping at base and extend to first branches. Overlay the wrapping half the width of underlying wrap and securely tie at top, bottom and 18 inch maximum intervals.
- E. **STAKING AND GUYING:** Hold plants firmly between stakes with guy wire. Use hose chafing guards where wire contacts plant. Drive support stakes outside of plant balls. Do not injure ball or roots. Drive ground stakes into firm ground with top of stake flush with ground. Securely fasten flags on each guy wire and cable.
- F. **PRUNING:** Remove dead and broken branches. Make cuts with sharp instruments, flush with trunk or adjacent branch to eliminate stubs. Apply tree wound dressing to cuts 1/2-inch in diameter and larger immediately after pruning.
- G. **MAINTENANCE:** Begin maintenance immediately after each plant is planted and perform until final acceptance of the project. Water, prune, weed, mulch, re-guy, re-wrap, and perform other operations necessary to promote plant growth. Remove and replace plants not in healthy growing condition.

4.0 MEASUREMENT AND PAYMENT

The cost of this item shall be paid for under the contract lump sum price and shall include all materials, equipment, tools and labor incidental to the completion of this item.

SECTION 9.11
CHAIN LINK FENCE FENCING AND GATE

1.0 DESCRIPTION

The work under this section shall consist of providing and installing new fencing and gate at the locations shown on the contract drawings and as specified below.

2.0 MATERIALS

Materials for this work shall conform to the requirements of the Standard Specification - Form 814A, Article M.10.05. and as shown on the contract drawings.

3.0 CONSTRUCTION METHODS

Construction methods shall conform to the requirements of the Standard Specification - Form 814A, Article 9.13.03.

4.0 MEASUREMENT AND PAYMENT

Payment shall be made for the installation of the chain link fence and gate at the applicable contract lump sum bid.

Said lump sum prices shall include supplying and installing the chain link and gate and all other labor, materials, equipment and tools necessary for the completion of this item as shown on the contract drawings and specified herein.

All surface restoration associated with this item including topsoil, seed, fertilizer and mulch, processed gravel, temporary, and permanent paving, bituminous concrete curbing and drives shall not be measured for payment but the cost there of shall be included in this lump sum item.

SECTION 9.16
PAVEMENT MARKINGS AND SIGNING

1.0 DESCRIPTION

This work shall consist of installing painted pavement markings and epoxy resin pavement markings, eradicating existing pavement markings, removing and reinstalling existing signage and the installation of new signage as shown on the Contract Drawings.

2.0 MATERIALS

Painted pavement markings shall conform to Article 12.09.02 of the Standard Specifications.

Epoxy resin pavement markings shall conform to Article 12.10.02 of the Standard Specifications.

Traffic signage and sign posts shall conform to Article 12.08.02 of the Standard Specifications and the details shown on the Contract Drawings.

3.0 CONSTRUCTION METHODS

The installation of painted pavement markings shall conform to Article 12.09.03 of the Standard Specifications.

The installation of epoxy resin pavement markings shall conform to Article 12.10.03 of the Standard Specifications.

The installation of new traffic signage and the reinstallation of existing signage shall conform to Article 12.08.03 of the Standard Specifications and the details shown on the Contract Drawings.

The removal of existing pavement markings shall conform to Article 12.11.03 of the Standard Specifications.

4.0 MEASUREMENT AND PAYMENT

No separate measurement or payment shall be made for this item and all costs in connection there with shall be included in other contract items.

PREVAILING WAGE RATES & REQUIREMENTS
(To Be Inserted By Addendum)