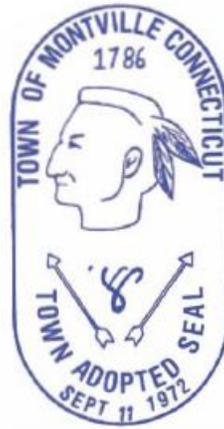


Project Manual and Specifications

Fitch Hill Road Drainage Improvements



**Town of Montville
Connecticut**

April 2016

Prepared By:

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Consulting Engineers

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INVITATION TO BID

TOWN OF MONTVILLE - INVITATION TO BID
BID #16-08

The Town of Montville is interested in receiving bids for the construction of Fitch Hill Road Drainage Improvements for the Town of Montville. A copy of the plans and specifications is available at www.montville-ct.org.

All proposals must be sealed and must be received at the Finance Office prior to the due date. All bids are due no later than 5/17/2016 at 10:00 AM. All bids must be in a sealed envelope marked "Fitch Hill Road Drainage Improvements". A Company official must sign all bids. At 10:00 AM on 5/17/2016, the bids will be opened publicly and read aloud in the Finance Office at 310 Norwich New London Tpke, Uncasville, CT 06382.

Award of this bid will be made pending final approval of Inland Wetland permit.

The Town may hold the bids for a period not to exceed sixty (60) days from the date of the bid opening to review the bids and investigate the bidders' qualifications prior to awarding the contract.

The Town of Montville reserves the right to reject any or all bids and waive any informalities or irregularities in the bid procedure or bids.

All bidders are advised the Town of Montville has enacted through resolutions the following special conditions concerning Town bids and purchases.

1. For all Town purchases of goods and services not utilizing State or Federal funds, any Town bidder that has submitted a bid not more than 15% (fifteen percent) higher than the low bid may be awarded the project provided such Town based bidder agrees to accept the award of the bid at the amount of the low bid. If more than one Town based bidder has submitted bids not more than 15% (fifteen percent) higher than the low bid, and have agreed to accept the award of the low bid, the lowest responsible bidder shall be the one of such Town based bidders that submitted the lowest bid. That within the bidding process that all businesses claiming to be Montville businesses, provide the Finance Department (Assessor's Section) with sufficient documentation to prove that they are in compliance with property tax assessments, including motor vehicle tax assessments.
2. Seller agrees that as a condition of his sale of goods and/or services to the Town of Montville, the Town of Montville will be authorized to deduct from the proceeds due Seller an amount not to exceed 25% of the total amount due Seller. Said amount is to be applied against any unpaid and overdue taxes, assessments, fees, or other charges levied by the town of Montville or any agency thereof against the Seller. The Seller further agrees that Seller shall insure that Seller has the right to withhold an amount not to exceed 25% from each subcontractor working for the Seller, and providing goods and/or services to the Town of Montville, and to remit such withheld money to the Town in full or partial satisfaction of any unpaid and overdue taxes, assessments, fees, or other charges levied by the Town of Montville or any agency thereof against such subcontractor.

Theresa Hart
Director of Finance

INFORMATION TO BIDDERS

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ARTICLE 1 RECEIPT AND OPENING OF BIDS

Sealed bids are requested to be delivered to the Town of Montville, Connecticut at the Office of the Director of Finance, third floor, Montville Town Hall, 310 Norwich-New London Turnpike, Uncasville, CT until 10:00 A.M. local time on Tuesday, May 17th, 2016, at which time they will be publicly opened and read aloud. All bids must be submitted in a sealed envelope bearing the bidder's name and bid name.

The envelopes containing the bids must be sealed and designated as FITCH HILL ROAD 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.

The Town of Montville reserves the right to reject any or all bids and waive any informalities or irregularities in the bid procedure or bids.

The Town may hold the bids for a period not to exceed sixty (60) days from the date of the bid opening to review the bids and investigate the bidders' qualifications prior to awarding the contract.

All bidders are advised the Town of Montville has enacted through resolutions the following special conditions concerning Town bids and purchases.

1. Any Town bidder that has submitted a bid not more than 15% (fifteen percent) higher than the low bid may be awarded the project provided such Town based bidder agrees to accept the award of the bid at the amount of the low bid. If more than one Town based bidder has submitted bids not more than 15% (fifteen percent) higher than the low bid, and have agreed to accept the award of the low bid, the lowest responsible bidder shall be the one of such Town based bidders that submitted the lowest bid. That within the bidding process that all businesses claiming to be Montville businesses, provide the Finance Department (Assessor's Section) with sufficient documentation to prove that they are in compliance with property tax assessments, including motor vehicle tax assessments.
2. Seller agrees that as a condition of his sale of goods and/or services to the Town of Montville, the Town of Montville will be authorized to deduct from the proceeds due Seller an amount not to exceed 25% of the total amount due Seller. Said amount is to be applied against any unpaid and overdue taxes, assessments, fees, or other charges levied by the town of Montville or any agency thereof against the Seller. The Seller further agrees that Seller shall insure that Seller has the right to withhold an amount not to exceed 25% from each subcontractor working for the Seller, and providing goods and/or services to the Town of

Montville, and to remit such withheld money to the Town in full or partial satisfaction of any unpaid and overdue taxes, assessments, fees, or other charges levied by the Town of Montville or any agency thereof against such subcontractor.

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 and from securities listed on the most recent IRS Circular 570, 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. 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 prior to any work on the project.

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 ten (10) 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, ten (10) 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 ten (10) 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 45 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 \$480.00 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 prebid documents will be made to any bidder orally. Every request for such interpretation should be in writing, addressed to: CLA Engineers, Inc., 317 Main Street, Norwich, CT 06360. In order to be given consideration, such request must be made at least 5 days prior to the date fixed for the opening of bids. Any and all interpretations and any supplemental instructions will be in the form of written Addenda to the Specifications, which, if issued, will be distributed to all prospective bidders, not later than three (3) days prior to the date fixed for the opening of bids in any one of the following methods:

1. Mailed by certified mail with return receipt requested; or

2. Faxed; or
3. Emailed

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 Montville 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 NEW construction.

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.

The contractor will also be required to provide certified payrolls on a weekly basis to the Owner.

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 Montville 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 as outlined in the Supplemental Information for Bidders.

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.

PROPOSAL FORMS

BID FORM

TOWN OF MONTVILLE
FITCH HILL ROAD DRAINAGE IMPROVEMENTS

TO: Dept. of Finance
Town of Montville
310 Norwich-New London Tpk.
Montville, Connecticut 06382

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 FITCH HILL ROAD 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.

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.

Unit prices are to be written in both words and figures. In case of discrepancy, the unit price shown in words will govern.

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

UNIT PRICE IN WORDS: _____

2.	Sedimentation & Erosion Control	1	L.S.	_____	_____
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UNIT PRICE IN WORDS: _____

3.	General Excavation	1	L.S.	_____	_____
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UNIT PRICE IN WORDS: _____

4. Clearing & Grubbing 1 L.S. _____

UNIT PRICE IN WORDS: _____

5. 15" HDPE 660 L.F. _____

UNIT PRICE IN WORDS: _____

6. 18" HDPE 830 L.F. _____

UNIT PRICE IN WORDS: _____

7. 18" HDPE Flared End 1 Ea. _____

UNIT PRICE IN WORDS: _____

8. Type "C" Catch Basin 12 Ea. _____

UNIT PRICE IN WORDS: _____

9. Yard Drain 1 Ea. _____

UNIT PRICE IN WORDS: _____

10. 12" PVC 60 L.F. _____

UNIT PRICE IN WORDS: _____

11. Riprap 70 C.Y. _____

UNIT PRICE IN WORDS: _____

12. Concrete Endwall 2 Ea. _____

UNIT PRICE IN WORDS: _____

13. Two Course Bituminous Concrete 1400 S.Y. _____

UNIT PRICE IN WORDS: _____

14. Bituminous Curb 1300 L.F. _____

UNIT PRICE IN WORDS: _____

15. Guide Rail – CT RB-350 150 L.F. _____

UNIT PRICE IN WORDS: _____

16. Guide Rail End Anchors 4 Ea. _____

UNIT PRICE IN WORDS: _____

17. Topsoil, Seed, Fertilizer & Mulch 1 L.S. _____

UNIT PRICE IN WORDS: _____

18. **Provisional Item – Rock Removal** 50 C.Y. _____

UNIT PRICE IN WORDS: _____

TOTAL BID PRICE: _____

TOTAL BID PRICE 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.

If the Contractor should choose to employ manufacturers or suppliers other than those listed on the drawings and specifications, he shall submit a list of said suppliers as part of this proposal. If no list is included in the proposal, it shall be concluded by the Town that the Contractor will use only those suppliers listed on the drawings. An "or equal" supplier shall be included on the submitted list.

Wherever in the plans and specifications, an item of equipment or material is designated by reference to a particular brand, manufacturer or trade name, it is understood that an equal product may be substituted by the bidder or Contractor, under the conditions as stated above.

The bidder must agree to commence work on or before a date to be specified in a written "Notice to Proceed" of the Municipality and to fully complete the project within 60 consecutive calendar days thereafter. The bidder must agree also to pay as liquidated damages, the sum of \$250.00 for each consecutive calendar day thereafter.

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 Bidder 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.

Bidder understands that the Owner reserves the right to reject any or all bids and to waive any informalities in the bidding.

The bidder 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)

(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 Montville 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

Fitch Hill Road 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)

(Business Address)

(Partnership)

(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?

15. The undersigned hereby authorizes and requests any person, firm, or corporation to furnish any information requested by the Owner or representative in verification of the recitals comprising this Statement of Bidder's Qualifications.

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

(Name of Bidder)

By _____

Title _____

State of _____)

) ss.

County of _____)

_____ being duly sworn deposes and says that he is _____
_____ of _____
(name of organization)

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

Subscribed and sworn to before me this _____ day of _____, 20__.

Notary Public

My Commission expires _____ 20__.

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 th day of May, 2016 by and between the Town of Montville, hereinafter called "OWNER" and _____

_____ doing business as (an individual) or (a corporation) 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 Fitch Hill Road 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 60 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
- Drawings prepared by CLA Engineers, Inc.
- Specifications prepared by CLA Engineers, Inc.
- Addenda:
 - No. _____, dated _____
 - No. _____, dated _____
 - 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: _____

CORPORATE SEAL:

BY _____

(Title)

ATTEST _____

CONTRACTOR: _____

CORPORATE SEAL:

BY _____

(Title)

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 Montville, 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:

Fitch Hill Road 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)

Principal
By _____ (s)

(Address-Zip Code)

Surety

ATTEST:

(Surety) Secretary
(SEAL)

Witness as to Surety

(Address-Zip Code)

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 Montville
(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:

_____ Fitch Hill Road 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)

Principal
By _____ (s)

(Address-Zip Code)

Surety

ATTEST:

(Surety) Secretary
(SEAL)

Witness as to Surety

(Address-Zip Code)

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 Montville.
- 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 affect 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.

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)	Same as State Workers' Compensation
Employer's Liability	\$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 Montville (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 Poirier
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.

SPECIAL CONDITIONS

INDEX TO SPECIAL CONDITIONS

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4.	SEQUENCE OF WORK
5.	STREETS AND SIDEWALKS TO BE KEPT OPEN
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28.	WORK IN STATE HIGHWAY
29.	BLASTING
30.	EMERGENCY TELEPHONE NUMBERS

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

Where the work is in a State Highway, the Contractor shall obtain at his own expense all required permits, and perform the work in accordance with the terms and conditions stipulated by the State Department of Transportation (DOT) and/or as required by the DOT inspectors. The Contractor must provide such security and insurance as may be prerequisite to obtaining such permits.

In the event the Owner, or the Owner and the Contractor jointly are required to obtain any permits the Contractor shall familiarize himself with the conditions of said permits and shall be held to comply with all requirements of the permits and all specifications attached thereto, as if the permits were held solely by the Contractor.

The Contractor shall conform to all Department of Transportation requirements for materials and construction methods for all work within State Highway.

The cost of all labor, materials, and equipment necessary to conform with State requirements for work in or adjacent to State Highways, including work not specifically stated in the Contract drawings and specifications, shall be included in the Contract unit prices.

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 Montville** for instructions relative to the regulations for possession and use of explosives in the **Town of Montville**, 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 Montville**, 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 Montville**, 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.

TECHNICAL SPECIFICATIONS

INDEX TO TECHNICAL SPECIFICATIONS

<u>SECTION</u>	<u>TITLE</u>
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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 Grubbing
2.09	Sedimentation & Erosion Control
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3.02	Trench Earth Excavation & Backfill
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9.01	Guide Rail
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SECTION 1.00
GENERAL REQUIREMENTS

1.01 SUMMARY OF WORK

1.01.1 Description:

The work required under this contract covers the following:

The installation of drainage and pavement on a portion of Fitch Hill Road as shown on the contract drawings.

The contractor shall purchase, provide, and install all materials and equipment necessary to complete the work specified.

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 the Town of Montville as shown on the Contract Drawings.

1.01.3 Work Sequence

Work shall be sequenced so as to allow for the uninterrupted flow of vehicular traffic or of the existing drainage system.

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, 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.

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, Supplemented Form 816, dated July 2012 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

1.02 MEASUREMENT AND PAYMENT

The following Sections describe the measurement of, and payment for, the work to be done under the respective items listed in the Bid.

Each lump sum price stated shall constitute full compensation as herein specified, for each item of work completed in accordance with the Drawings and specifications.

No separate payments will be made for cleaning up. Such clean-up shall be considered incidental to the item to which it applies and shall be included in the price for the item.

The prices for those items which involve excavation shall include compensation for disposal of surplus excavated material, handling water, and the installation of all necessary sheeting and bracing.

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".

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.

3.0 CONSTRUCTION METHODS

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 GRUBBING

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 tree clearing is shown for the construction 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 and Grubbing" and shall include all materials, equipment, tools and labor incidental to the completion of this item.

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 or in accordance with the details as shown on the Contract Drawings and in conformance with the applicable portions of Article 2.19-03 of Form 816.

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 & Erosion Control" and shall include all materials, equipment, tools, and labor incidental to the completion of this item.

SECTION 3.01
GENERAL EXCAVATION

1.0 DESCRIPTION

The work covered under this Section shall consist of the removal of all materials, not included in other Sections, required to accomplish the work indicated within the work limits. The Contractor shall remove all existing pavements, sidewalks, curbs, bases, subbase, earth, rock, etc., and all other material necessary for reconstruction of street sections shown on the Drawings or as directed by the Owner. Also included is the disposal of surplus material or unsuitable material, removal of old foundations, concrete or masonry walls, slabs and other structures. When unsuitable material has to be excavated below the subgrade, the excavation shall be backfilled and compacted up to the subgrade with material as ordered by the Owner.

3.0 CONSTRUCTION METHODS

Construction methods shall conform to the applicable provision of Article 2.02.03 for reconstruction of paved areas. The word “general” shall be substituted for the word “roadway”. At all limits of construction, the existing pavement shall be saw cut.

4.0 MEASUREMENT AND PAYMENT

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

“General Excavation” will be paid for at the Contract lump sum price bid for all excavation for roadway regrading which price shall include the excavation and disposal of all pavements, removal of all bituminous concrete lip curbing, all materials, sawcutting of existing pavements, equipment, tools, labor and work incidental thereto or necessary for the completion of the work.

Disposal of surplus or unsuitable material will not be measured for separate payment but the cost for removal, stockpiling, relocation or disposal of the same shall be considered included in this lump sum item as well as fill material needed on the project site.

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" (811) 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.

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 "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.

Depressions resulting from the removal of boulders shall be refilled with approved compacted gravel bedding. Gravel bedding for refilling will not be paid for separately, but payment therefore shall be considered to be included for payment under Rock Removal.

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 is

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.

The item entitled "Rock Excavation and Disposal", measured as provided above, will be paid for at the Contract unit price per cubic yard, which payment shall constitute full compensation for all labor, equipment, materials and work incidental and necessary to satisfactorily complete the excavation, removal and disposal of all rocks and boulders 1 cubic yard or larger in volume; for furnishing, placing and compacting all required approved backfill material; and for all appurtenant and incidental work necessary to complete the Item, in accordance with the provisions of the Drawings and Specifications, and as directed.

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

Rock Excavation and Disposal will be measured in cubic yards in its original position prior to excavation, computed to the payment lines indicated or 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.

SECTION 3.04
GRAVEL FILL

1.0 DESCRIPTION

This material shall be used to replace unsuitable backfill material as specified in Section 3.03 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 as specified in Section 3.03 of these Contract Specifications.

4.0 MEASUREMENT AND PAYMENT

This item is for replacement of excavated rock.

This item will not be measured for payment. Costs associated with Gravel Fill required for replacement of excavated rock shall be included in unit price for "Rock Removal"

No separate payment will be made for Gravel Fill required for replacement of excavated rock, and all costs in connection therewith shall be included in the unit price bid for "Rock Removal" as it applies.

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 unit price for "General Excavation"

No separate payment will be made for removal of bituminous pavement associated with pipeline installation, and all costs in connection therewith shall be included in the unit price bid for pipeline and appurtenances as it applies.

SECTION 3.06
SUBBASE

1.0 DESCRIPTION

The work under this Section shall be the construction of a subbase for highways, roads, streets, etc., consisting of gravel, crusher-run stone or a combination thereof placed on the prepared subgrade in accordance with these specifications and in conformity with the lines, grades, compacted thickness and typical cross-section as shown on the Contract Drawings.

2.0 MATERIALS

All materials for this work shall conform to the requirements of Article M.02.02. Maximum aggregate size shall not exceed 3-1/2 inches.

3.0 CONSTRUCTION METHODS

Construction methods shall conform to the provisions of Article 2.12.03 of the Standard Specifications.

4.0 MEASUREMENT AND PAYMENT

No separate payment will be made for Subbase and all costs in connection therewith shall be included in the unit price bid for "Two Course Bituminous Concrete" as it applies.

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 and to supplement the Cold Reclaimed Asphalt base material, prior to placement of permanent pavement.

The processed gravel base shall be placed on the prepared existing subgrade or blended with the Cold Reclaimed Asphalt base material prior to placing of the pavement.

2.0 MATERIALS

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 base 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 payment will be made for Processed Gravel Base and all costs in connection therewith shall be included in the unit price bid for "Two Course Bituminous Concrete" as it applies.

SECTION 3.08
GRAVEL 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.

Solid Drainage Culvert:

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

Perforated Drainage Culvert:

Pipe bedding for perforated storm drainage shall be Crushed stone which shall consist of hard, durable fragments of crushed rock and shall be free from clay, organic matter or other objectionable material. Crushed stone shall conform to the gradation table for ¾" crushed stone as specified in Article M.01.01 of the Standard specifications.

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 retesting 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 4.06
TWO COURSE BITUMINOUS CONCRETE

1.0 DESCRIPTION

The work under this Section shall be the construction of a two-course bituminous concrete pavement installed to the specified thickness shown on the contract drawings.

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 1.
- b. Bituminous concrete base course shall conform to Article M.04, Class 1.

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 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.

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.**

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 corrugated polyethylene pipe 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 5.03
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 5.07
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 riprap lined channel to the line, grade and typical cross-section shown 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. Gravel base under riprap as shown on the drawings shall be paid for under this item.

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 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

The cost of this work shall be paid for as a lump sum for “Topsoil, Seed, Fertilizer & Mulch” and shall include all materials, equipment, tools and labor incidental to the completion of this item.

SECTION 9.01
GUIDE RAILS

1.0 DESCRIPTION

The work under this Section shall be the construction of guide rails and crushed stone surface treatment in conformance with these specifications to the dimensions and details as shown on the Contract Drawings at the locations directed by the Owner.

2.0 MATERIALS

Materials for this work shall conform to the requirements of Article 9.10.02 of the Standard Specifications.

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

Construction methods shall conform to the requirements of Article 9.10.03 of the Standard Specifications.

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.

4.0 MEASUREMENT AND PAYMENT

This work shall be measured for payment by the linear feet of guide rails accepted and measured in place including 2' wide crushed stone surface treatment under railing. End anchorage shall be measured by the number of end anchorage units installed.

This work will be paid for at the contract unit price bid price per linear feet for guide rails complete in place, which price shall include all materials (including crushed stone surface treatment), equipment, tools and labor incidental thereto. End anchorage shall be paid for at the contract unit price bid price per each end anchorage installed complete in place, which price shall include all materials, equipment, tools and labor incidental thereto.

SECTION 9.07
CONCRETE ENDWALL

1.0 DESCRIPTION

The work under this Section shall be the construction of concrete endwalls in conformance with these specifications to the dimensions and details as shown on the Contract Drawings at the locations directed by the Owner.

2.0 MATERIALS

Materials for this work shall conform to the requirements of Article M.11.02 of the Standard Specifications.

3.0 CONSTRUCTION METHODS

Construction methods shall conform to the requirements of Article 9.07.03 of the Standard Specifications.

4.0 MEASUREMENT AND PAYMENT

This work will be measured for payment according to the actual number of concrete endwalls installed and accepted.

Payment will be made according to the contract unit price for each concrete endwall completed in place, including all materials, equipment, tools and labor incidental thereto.

TOWN OF MONTVILLE

Bid Interest Response

FINANCE@MONTVILLE-CT.ORG

Project Name: Fitch Hill Road Drainage Improvements

Date: _____

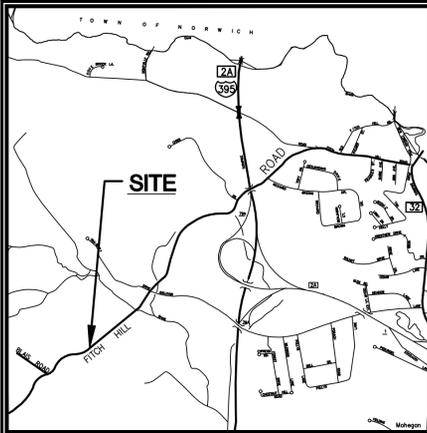
Bid No.: 16-08

Company: _____

Address: _____

Contact: _____

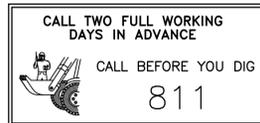
Phone: _____ Fax: _____ E-mail: _____



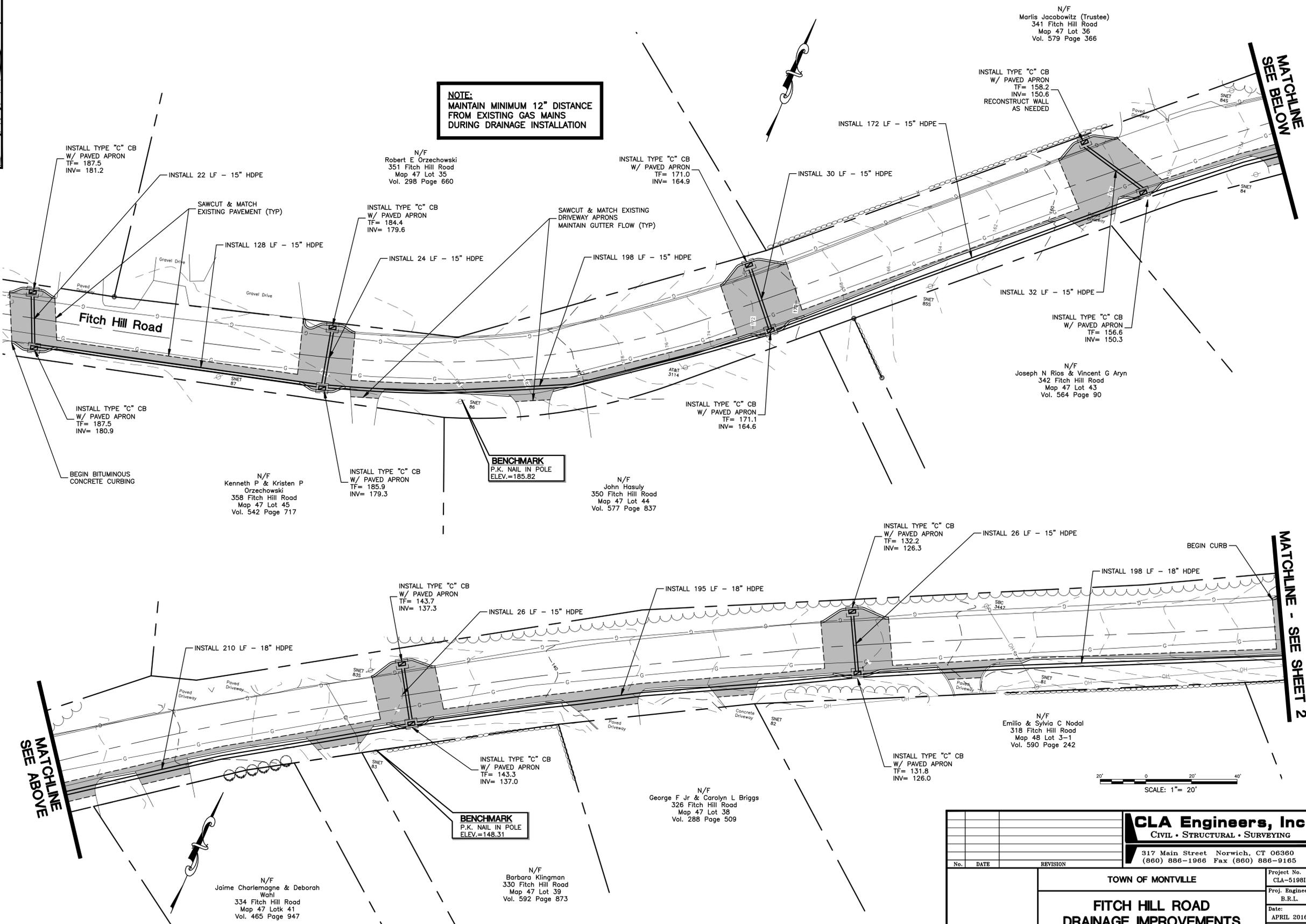
LOCATION MAP
SCALE: 1" = 2000'

GENERAL NOTES:

- PRIOR TO BIDDING THE PROJECT, THE CONTRACTOR SHALL VISIT THE SITE TO VERIFY EXISTING CONDITIONS.
- EXISTING PROPERTY LINES AND RIGHT-OF-WAY LINES WHERE SHOWN ARE APPROXIMATE AND ARE INTENDED FOR GENERAL INFORMATION ONLY.
- GROUND LINE AS SHOWN ON THESE PLANS IS BASED ON FIELD SURVEY.
- CONTRACTOR SHALL CONTACT "CALL BEFORE YOU DIG" AT 811 PRIOR TO THE START OF CONSTRUCTION.
- INFORMATION SHOWN ON THE DRAWINGS RELATING TO MATERIALS, CONDITIONS, AND/OR LOCATIONS OF EXISTING STRUCTURES AND UTILITIES HAS BEEN COMPILED FROM AVAILABLE INFORMATION INCLUDING FIELD SURVEY, UTILITY COMPANY AND TOWN RECORD MAPS AND DRAWINGS, AND IS NOT GUARANTEED ACCURATE OR COMPLETE.
- PASSAGE OF TRAFFIC ON ROADWAYS: A MINIMUM OF ONE LANE FOR TRAFFIC SHALL BE MAINTAINED AT ALL TIMES. THE CONTRACTOR SHALL PERFORM HIS OPERATIONS TO MINIMIZE DISRUPTIONS TO TRAFFIC WITHIN THE PROJECT SITE.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL MAINTENANCE AND PROTECTION OF TRAFFIC AND TRAFFIC CONTROL.
- ALL PROPOSED WORK MAY BE VARIED IN THE FIELD BY THE OWNER TO MATCH EXISTING CONDITIONS.
- THE CONTRACTOR SHALL CONFINE HIS OPERATIONS AND ACTIVITIES FOR CONSTRUCTION PURPOSES WITHIN THE STREET LINES AND/OR EASEMENTS AS SHOWN ON THE DRAWINGS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO EXISTING PAVEMENT, ROADWAY, SIDEWALKS, ETC., OUTSIDE OF THE WORK AREA AND SHALL REPAIR SUCH DAMAGE AT NO ADDITIONAL COST TO THE OWNER.
- UPON COMPLETION OF THE WORK, ALL DISTURBED AREAS SHALL BE RESTORED TO A CONDITION EQUAL TO OR BETTER THAN EXISTED PRIOR TO CONSTRUCTION.
- ALL STREET SIGNS SHALL BE PROTECTED FROM DAMAGE AND SHALL BE REPLACED IN THE SAME OR BETTER CONDITION BY THE CONTRACTOR IF DISTURBED OR DAMAGED BY THE CONTRACTOR DURING CONSTRUCTION.
- MATERIAL STOCKPILE AND STAGING AREAS: THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING STOCKPILE, MATERIAL STORAGE AND EQUIPMENT STORAGE AREAS. PRIOR TO THE START OF CONSTRUCTION THE CONTRACTOR SHALL IDENTIFY THESE AREAS AND PROVIDE EROSION AND SEDIMENTATION CONTROL MEASURES AS REQUIRED.
- DISPOSAL OF CONSTRUCTION MATERIALS: CONTRACTOR IS ADVISED TO PAY PARTICULAR ATTENTION TO PROVISIONS OF SPECIAL CONDITIONS OF THE SPECIFICATIONS IN PREPARATION OF HIS BID. PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITY, THE CONTRACTOR SHALL BE REQUIRED TO IDENTIFY ALL LOCATIONS WITHIN THE TOWN TO BE USED FOR DISPOSAL OF UNSUITABLE CONSTRUCTION MATERIALS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONSTRUCTION SURVEY AND STAKEOUT AS THEY NEED. SURVEY BASE INFORMATION AND ROADWAY LAYOUT WILL BE PROVIDED TO THE CONTRACTOR PRIOR TO THE START OF CONSTRUCTION.
- MINOR SMALL CALIPER TREES TO BE REMOVED AS DIRECTED IN THE FIELD. COST TO BE INCLUDED IN CLEAR AND GRUB ITEM.
- CROSS-CULVERT TO BE INSTALLED BETWEEN JUNE 1 AND SEPTEMBER 30.



NOTE:
MAINTAIN MINIMUM 12" DISTANCE FROM EXISTING GAS MAINS DURING DRAINAGE INSTALLATION



N/F
Marlis Jacobowitz (Trustee)
341 Fitch Hill Road
Map 47 Lot 36
Vol. 579 Page 366

N/F
Robert E Orzechowski
351 Fitch Hill Road
Map 47 Lot 35
Vol. 298 Page 660

N/F
John Hasuly
350 Fitch Hill Road
Map 47 Lot 44
Vol. 577 Page 837

N/F
Kenneth P & Kristen P Orzechowski
358 Fitch Hill Road
Map 47 Lot 45
Vol. 542 Page 717

N/F
John Hasuly
350 Fitch Hill Road
Map 47 Lot 44
Vol. 577 Page 837

N/F
Joseph N Rios & Vincent G Aryn
342 Fitch Hill Road
Map 47 Lot 43
Vol. 564 Page 90

N/F
George F Jr & Carolyn L Briggs
326 Fitch Hill Road
Map 47 Lot 38
Vol. 288 Page 509

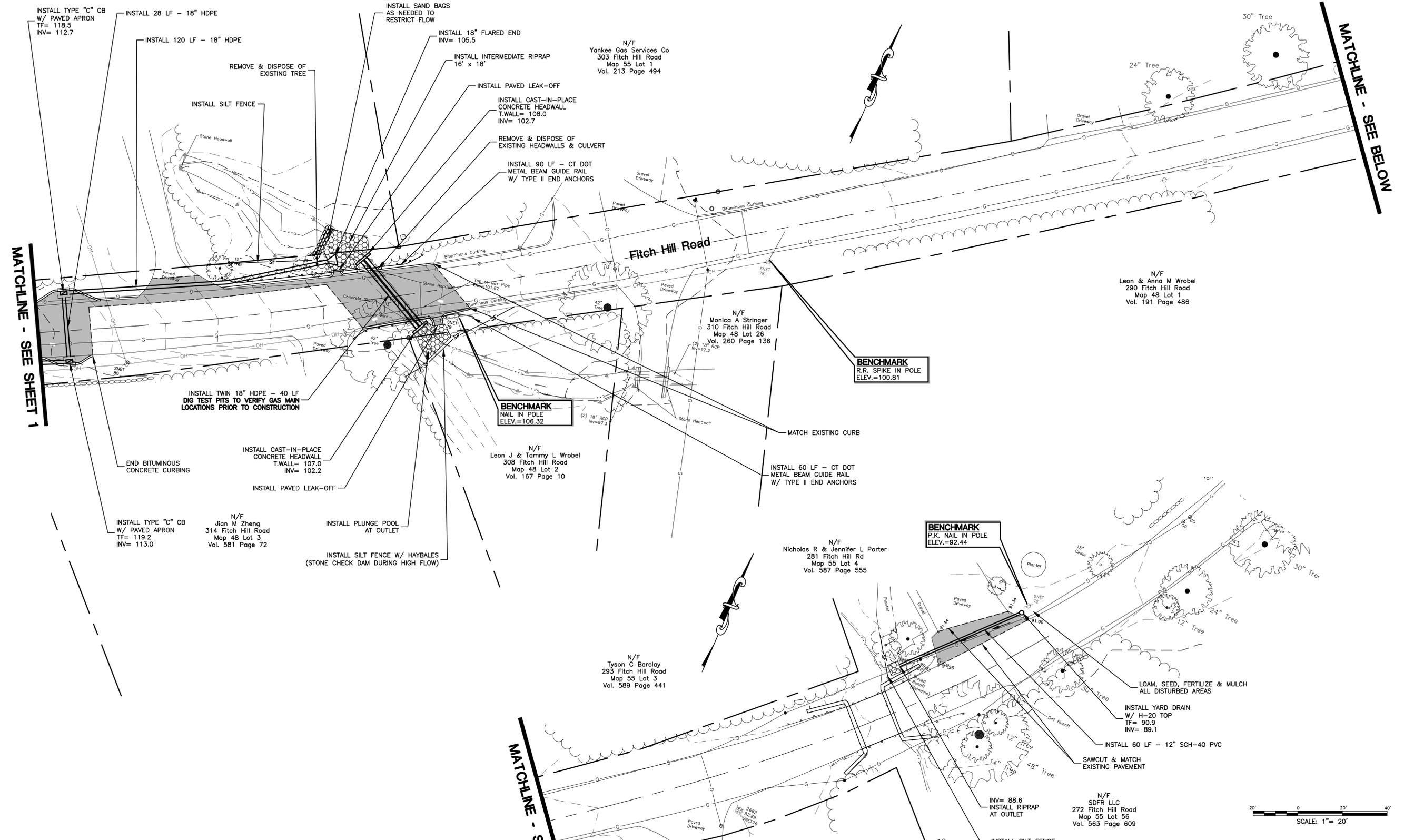
N/F
Emilio & Sylvia C Nodal
318 Fitch Hill Road
Map 48 Lot 3-1
Vol. 590 Page 242

N/F
Jaime Charlemagne & Deborah Wahl
334 Fitch Hill Road
Map 47 Lotk 41
Vol. 465 Page 947

N/F
Barbara Klingman
330 Fitch Hill Road
Map 47 Lot 39
Vol. 592 Page 873

SCALE: 1" = 20'

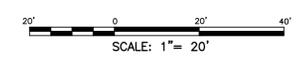
		CLA Engineers, Inc. CIVIL • STRUCTURAL • SURVEYING	
		317 Main Street Norwich, CT 06360 (860) 886-1966 Fax (860) 886-9165	
No.	DATE	REVISION	
		TOWN OF MONTVILLE	
		FITCH HILL ROAD DRAINAGE IMPROVEMENTS	
		PLAN	
		Project No. CLA-51981	Proj. Engineer B.R.L.
		Date: APRIL 2016	Sheet No. 1



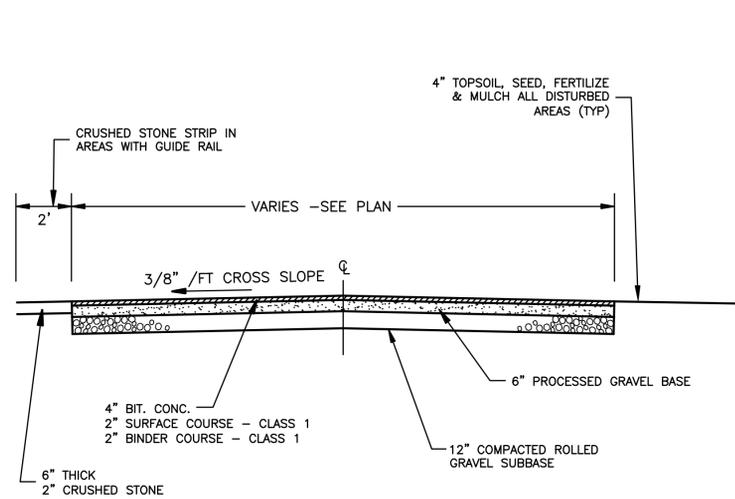
MATCHLINE - SEE SHEET 1

MATCHLINE - SEE BELOW

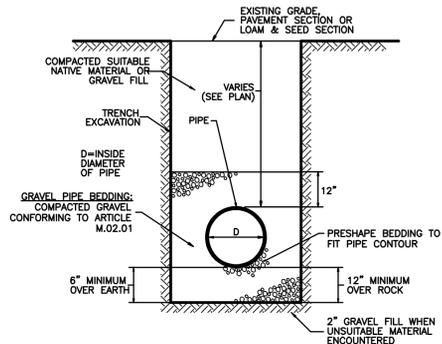
MATCHLINE - SEE ABOVE



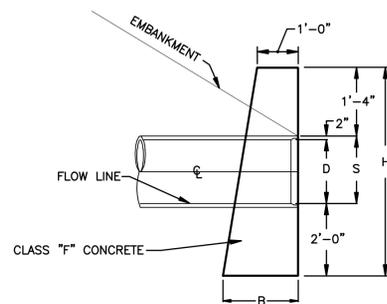
CLA Engineers, Inc. CIVIL • STRUCTURAL • SURVEYING 317 Main Street Norwich, CT 06360 (860) 886-1966 Fax (860) 886-9165		Project No. CLA-51981
		Proj. Engineer B.R.L.
TOWN OF MONTVILLE FITCH HILL ROAD DRAINAGE IMPROVEMENTS		Date: APRIL 2016
PLAN		Sheet No. 2



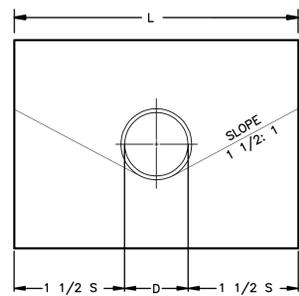
PROPOSED STREET CROSS-SECTION
NOT TO SCALE



TRENCH DETAIL
NOT TO SCALE



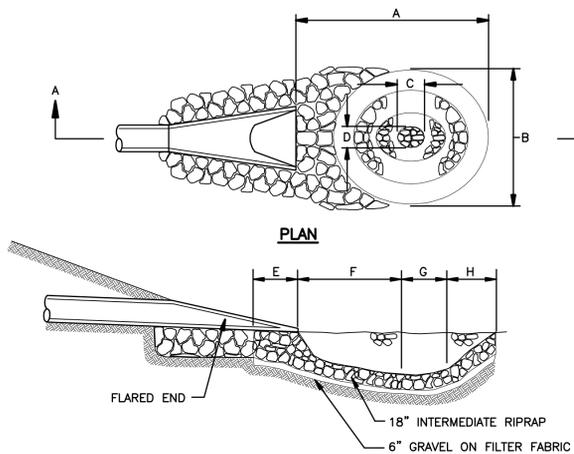
WALL AT FOOT OF SLOPE



FRONT ELEVATION

DIMENSIONS AND QUANTITIES FOR ONE ENDWALL BASED ON S = D + 2"						
D	S	H	L	BATTER	B	VOL.
INS.	FT.&INS	FT.&INS	FT.&INS	INS./FT.	FT.&INS	CU.YD.
12"	1'-2"	4'-6"	4'-6"	2 1/2"	23 1/4"	1.10
15"	1'-5"	4'-9"	5'-6"	2 1/2"	23 7/8"	1.45
18"	1'-8"	5'-0"	6'-6"	2 1/2"	24 1/2"	1.83
24"	2'-2"	5'-6"	8'-6"	2 1/2"	25 3/4"	2.72

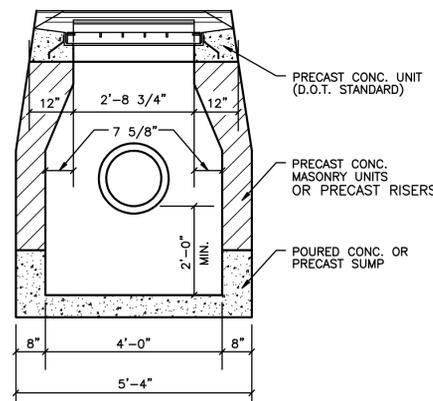
STANDARD ENDWALL
NOT TO SCALE



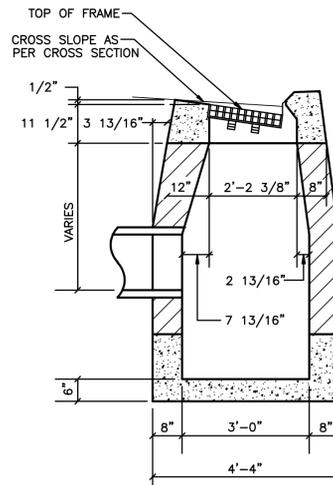
SECTION A-A

PIPE SIZE	A	B	C	D	E	F	G	H	WT. RIPRAP TONS
15"	10'	7'	1 1/2'	1'	1'	4'	1 1/2'	3'	6
18"	12'	8'	2'	1'	1'	5'	2'	4'	8
21"	14'	9'	2 1/2'	1'	1'	5 1/2'	2'	5'	10
24"	16'	10'	3'	1 1/2'	1'	6'	3'	6'	12
30"	20 1/2'	12'	4'	2'	1 1/2'	7'	4'	8'	16
36"	24 1/2'	16'	5'	3'	1 1/2'	8'	5'	10'	20

PLUNGE POOL AT STORM OUTFALL
NOT TO SCALE



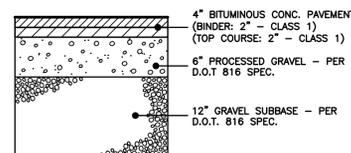
FRONT ELEVATION



SIDE ELEVATION

TYPE "C" CATCH BASIN DETAIL

NOT TO SCALE



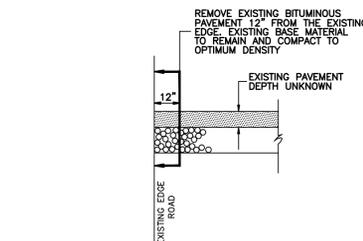
PAVEMENT SECTION

NOT TO SCALE

- NOTES:**
- PROVIDE CONTINUOUS TACK COAT ALONG EDGE WHEN MATCHING EXISTING PAVEMENT
 - CONTRACTOR TO PROVIDE COMPACTION ON ALL TRENCH BACKFILLS, EXCAVATIONS AND PAVEMENT BASES TO NOT LESS THAN 95% OF THE DRY DENSITY FOR THAT MATERIAL WHEN TESTED IN ACCORDANCE WITH AASHTO T180, METHOD D

TYPICAL CROSS SECTION FOR MATCHING EXISTING AND PROPOSED PAVEMENT

NOT TO SCALE



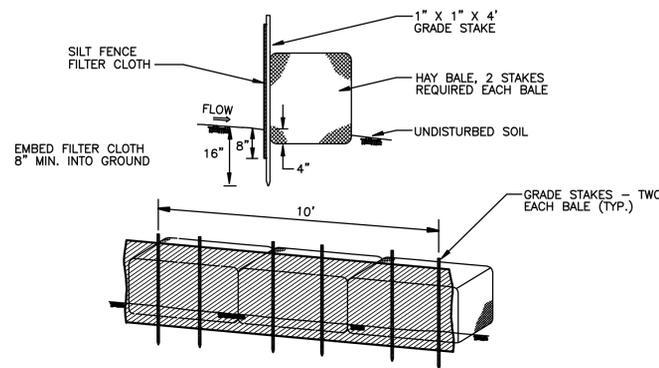
- SAW CUT PAVEMENT WITH POWER DRIVEN SAW 12" FROM THE EXISTING EDGE. SAW CUT TO BE PERPENDICULAR TO THE EXISTING SURFACE.
- REMOVE ENTIRE WIDTH OF PAVEMENT.
- CLEAN JOINT WITH COMPRESSED AIR HAVING A MINIMUM RATED CAPACITY OF 90 PSI.
- APPLY TACK COAT TO THE SAW CUT EDGE AND MATCH THIS EDGE WITH THE PROPOSED EDGE.

CONSTRUCTION NOTES:

- SILT FENCE FILTER CLOTH TO BE SECURELY FASTENED TO GRADE STAKE WITH 1/4" STAPLES, 6" ON CENTER.
- WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN ONE ANOTHER THEY SHALL OVERLAP BY 6" AND BE FOLDED.
- BALES SHALL BE PLACED IN A ROW WITH ENDS TIGHTLY ABUTTING THE ADJACENT BALES.
- EROSION PROTECTION SHALL BE INSPECTED AFTER EACH RAINFALL AND, IF NEEDED, REPAIRS SHALL BE MADE. IF SILT BUILD-UP REACHES 1/4 OF THE STORAGE CAPACITY, THE MATERIAL SHALL BE REMOVED.

EROSION PROTECTION WITH HAYBALES

NOT TO SCALE

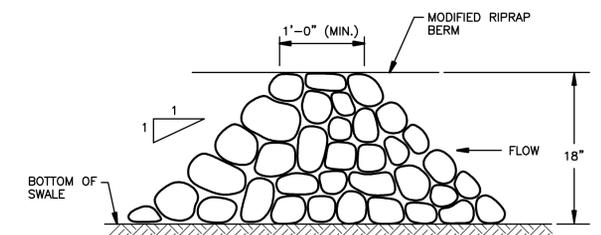


EROSION & SEDIMENTATION CONTROL NARRATIVE

- THE EROSION & SEDIMENTATION CONTROL PLAN AND DETAILS HAVE BEEN DEVELOPED AS A STRATEGY TO CONTROL SOIL EROSION AND SEDIMENTATION DURING AND AFTER CONSTRUCTION. THIS PLAN IS BASED ON THE "2002 CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL" BY THE CONNECTICUT COUNCIL ON SOIL AND WATER CONSERVATION IN COOPERATION WITH THE CONNECTICUT DEP.
- THE PROPOSED LOCATIONS OF SILTATION AND EROSION CONTROL MEASURES ARE SHOWN ON THE PLANS. THE CONTRACTOR SHALL PROVIDE SILT FENCE, STONE CHECK DAMS AND/OR OTHER EROSION CONTROL MEASURES AS NEEDED OR DIRECTED BY THE ENGINEER OR TOWN STAFF TO ADEQUATELY PREVENT SEDIMENT TRANSPORT.
- EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO SITE DISTURBANCE. TOWN STAFF SHALL REVIEW AND APPROVE THE INSTALLATION PRIOR TO EXCAVATION.
- THE CONTRACTOR SHALL INSPECT, REPAIR AND/OR REPLACE EROSION CONTROL MEASURES EVERY 7 DAYS AND IMMEDIATELY FOLLOWING ANY SIGNIFICANT RAINFALL OR SNOW MELT. SEDIMENT DEPOSITS MUST BE REMOVED WHEN DEPOSITS REACH APPROXIMATELY ONE HALF THE HEIGHT OF THE BARRIER. SEDIMENT CONTROL DEVICES SHALL REMAIN IN PLACE AND BE MAINTAINED BY THE CONTRACTOR UNTIL AREAS UPSLOPE ARE PERMANENTLY STABILIZED.
- STAKED HAY BALE SILT BARRIERS OR SILT FENCE SHALL BE INSTALLED AROUND ANY TEMPORARY STOCKPILE AREAS. TEMPORARY VEGETATIVE COVER MAY BE REQUIRED.
- INLET SEDIMENTATION CONTROL DEVICES SHALL BE INSTALLED UNDER THE GRATES OF ALL NEW CATCH BASINS AT THE TIME OF INSTALLATION, AND UNDER THE GRATES OF EXISTING CATCH BASINS IN THE CONSTRUCTION AREA.
- CONTINUOUS DUST CONTROL USING WATER, CALCIUM CHLORIDE OR APPROVED EQUAL SHALL BE PROVIDED FOR ALL EARTH STOCKPILES, EARTH PILED ALONG EXCAVATIONS, SURFACES OF BACKFILLED TRENCHES AND GRAVELED ROADWAY SURFACES.
- IF DEWATERING IS NECESSARY DURING ANY TIME OF CONSTRUCTION A CLEAR WATER DISCHARGE SHALL BE PROVIDED.
- ALL DISTURBED AREAS SHALL BE RESTORED PER THE SLOPE STABILIZATION AND PERMANENT VEGETATION DETAILS. ALL DISTURBED AREAS THAT ARE SLOPED LESS THAN TWO HORIZONTAL TO ONE VERTICAL (2:1) SLOPE SHALL BE LOAMED, SEED, FERTILIZED AND MULCHED PER THE PERMANENT VEGETATIVE COVER SPECIFICATIONS. EROSION CONTROL MATTING SHALL BE PROVIDED ON ALL DISTURBED AREAS THAT ARE SLOPED MORE THAN TWO HORIZONTAL TO ONE VERTICAL (2:1).
- IF FINAL SEEDING OF DISTURBED AREAS IS NOT TO BE COMPLETED BEFORE OCTOBER 15, THE CONTRACTOR SHALL PROVIDE TEMPORARY MULCHING (DORMANT SEEDING MAY BE ATTEMPTED AS WELL) TO PROTECT THE SITE AND DELAY PERMANENT SEEDING.
- WHEN FEASIBLE, TEMPORARY SEEDING OF DISTURBED AREAS THAT HAVE NOT BEEN FINISHED GRADED SHALL BE COMPLETED PRIOR TO OCTOBER 15.
- ANY EROSION WHICH OCCURS WITHIN THE DISTURBED AREAS SHALL BE IMMEDIATELY REPAIRED AND STABILIZED. DURING THE CONSTRUCTION PHASE, INTERCEPTED SEDIMENT SHALL BE RETURNED TO THE SITE. POST SEEDING, INTERCEPTED SEDIMENT, IF ANY, SHALL BE DISPOSED OF IN A MANNER APPROVED BY THE TOWN AND ENGINEER.
- EROSION AND SEDIMENTATION CONTROL MEASURES SHALL REMAIN IN PLACE UNTIL VEGETATION IS RE-ESTABLISHED OR SLOPES ARE STABILIZED AND REMOVAL IS APPROVED BY THE TOWN.
- UNFORESEEN PROBLEMS WHICH ARE ENCOUNTERED IN THE FIELD SHALL BE SOLVED ACCORDING TO THE "2002 CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL" BY THE CONNECTICUT COUNCIL ON SOIL AND WATER CONSERVATION IN COOPERATION WITH THE CONNECTICUT DEP.
- IF NECESSARY, THE PUBLIC WORKS DEPARTMENT WILL BE PREPARED TO STEP IN AND TAKE ACTION TO ADDRESS ANY POTENTIAL EROSION PROBLEMS. ANY WORK DONE BY THE PUBLIC WORKS DEPARTMENT WILL BE BACK CHARGED TO THE CONTRACTOR.
- THE CONTRACTOR SHALL PROVIDE THE NAME AND CONTACT INFORMATION FOR THE PROJECT PERSONNEL RESPONSIBLE FOR EROSION AND SEDIMENTATION CONTROLS.

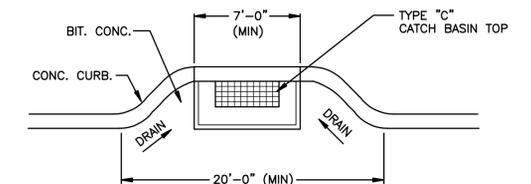
FILTER BARRIER INSTALLATION & MAINTENANCE

- DIG A 6" TRENCH ON THE UPHILL SIDE OF THE BARRIER LOCATION.
- POSITION THE POSTS ON THE DOWNHILL SIDE OF THE BARRIER AND DRIVE THE POST 1.5 FEET INTO THE GROUND.
- LAY THE BOTTOM 6" OF THE FABRIC IN THE TRENCH TO PREVENT UNDERMINING AND BACKFILL.
- INSPECT AND REPAIR BARRIER AFTER HEAVY RAINFALL.
- SEDIMENT DEPOSITS ARE TO BE REMOVED WHEN THEY REACH A HEIGHT OF ONE FOOT BEHIND THE BARRIER AND ARE TO BE DEPOSITED IN AN AREA WHICH IS NOT REGULATED BY THE INLAND WETLANDS COMMISSION.
- INSPECTIONS AND NECESSARY REPAIRS WILL BE MADE TWICE WEEKLY.



STONE CHECK DAM

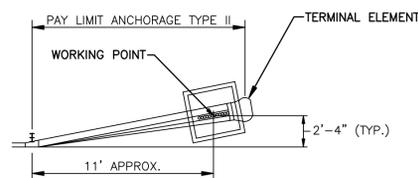
NOT TO SCALE



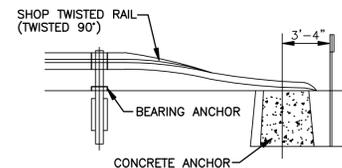
TYPE "C" C.B. APRON / LEAKOFF DETAIL

NOT TO SCALE

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No.	DATE	REVISION	Project No. CLA-51981
			Proj. Engineer B.R.L.
			Date: APRIL 2016
			Sheet No. 3
TOWN OF MONTVILLE			
FITCH HILL ROAD DRAINAGE IMPROVEMENTS			
DETAILS			



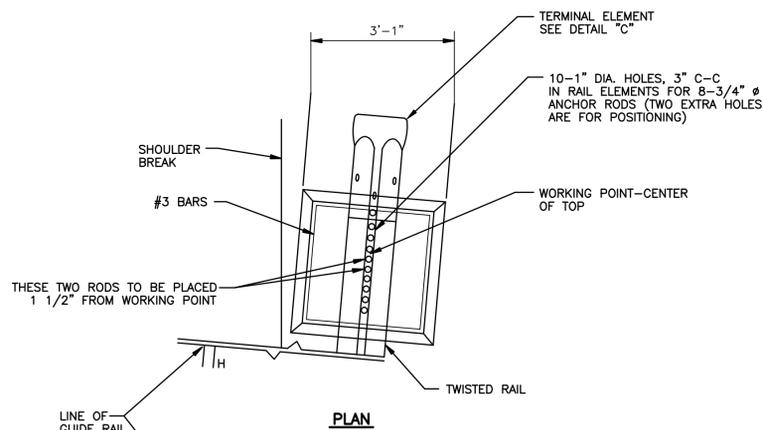
PLAN



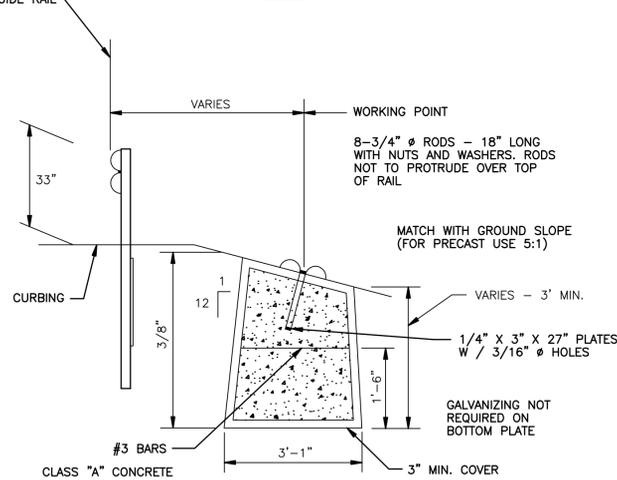
ELEVATION

R-I END ANCHORAGE TYPE II

NOT TO SCALE



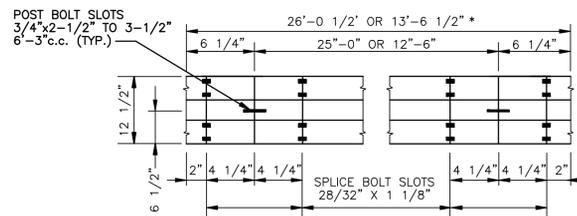
PLAN



ELEVATION

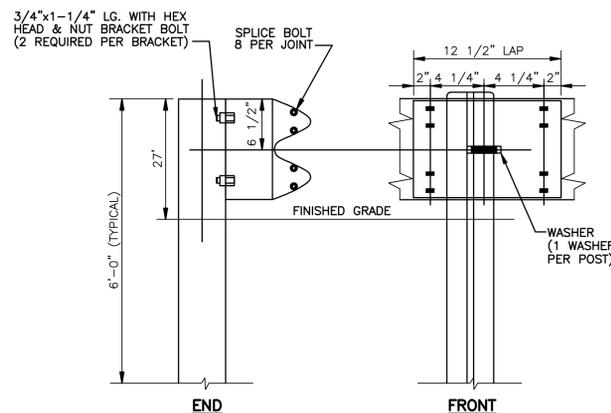
CONCRETE END ANCHORAGE TYPE II

NOT TO SCALE



TYPICAL RAIL ELEMENT
CLASS A (12 GA.)

* AT THE OPTION OF THE CONTRACTOR



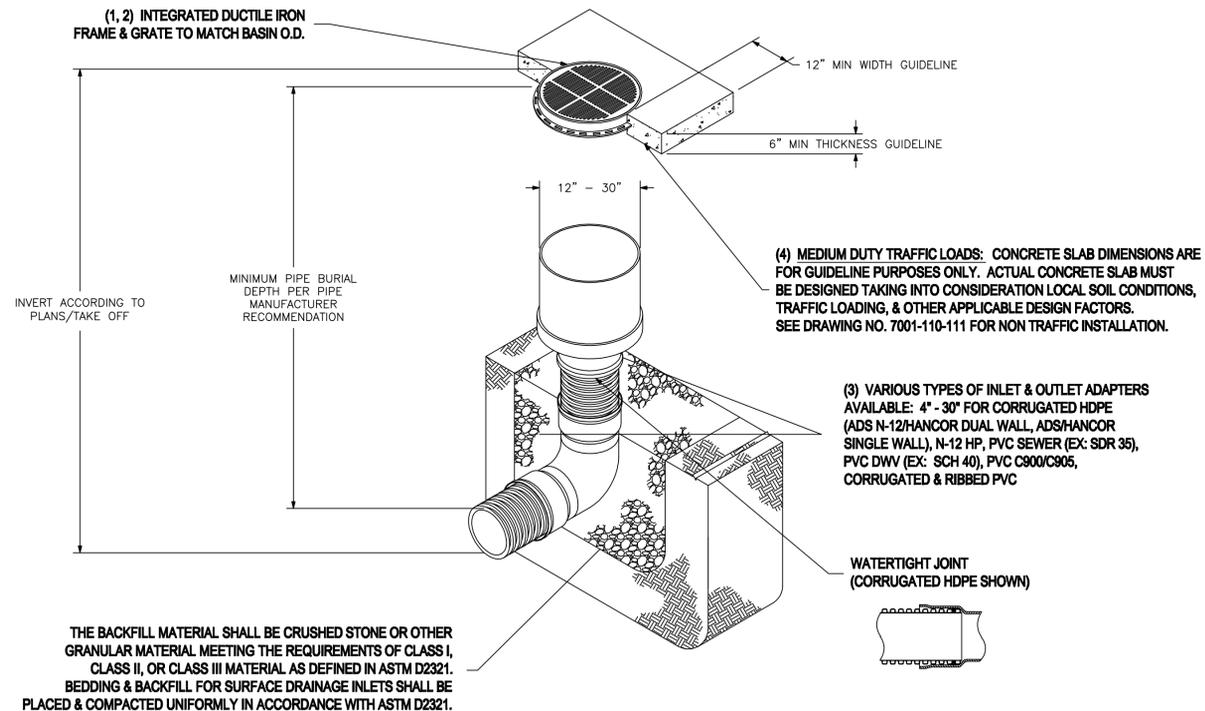
END
SYMMETRICAL ABOUT CENTER LINE FOR MEDIAN BARRIER INSTALLATION

FRONT

INSTALLATION TO BE IN ACCORDANCE WITH THE REQUIREMENTS OF CT. D.O.T.

METAL BEAM RAIL

NOT TO SCALE



THE BACKFILL MATERIAL SHALL BE CRUSHED STONE OR OTHER GRANULAR MATERIAL MEETING THE REQUIREMENTS OF CLASS I, CLASS II, OR CLASS III MATERIAL AS DEFINED IN ASTM D2321. BEDDING & BACKFILL FOR SURFACE DRAINAGE INLETS SHALL BE PLACED & COMPACTED UNIFORMLY IN ACCORDANCE WITH ASTM D2321.

- 1 - 12" - 30" PEDESTRIAN GRATES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05.
- 2 - 12" - 30" FRAMES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05.
- 3 - DRAINAGE CONNECTION STUB JOINT TIGHTNESS SHALL CONFORM TO ASTM D3212 FOR CORRUGATED HDPE (ADS N-12/HANCOR DUAL WALL, N-12 HP, & PVC SEWER (4" - 24").
- 4 - 12" - 24" PEDESTRIAN GRATES SHALL MEET H-10 LOAD RATING. 30" PEDESTRIAN GRATE SHALL MEET H-20 LOAD RATING (SEE DRAWING NO. 7003-110-022 FOR H-20 TRAFFIC LOAD GUIDELINES).

YARD DRAIN

NOT TO SCALE

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<p>TOWN OF MONTVILLE</p> <p>FITCH HILL ROAD DRAINAGE IMPROVEMENTS</p> <p>DETAILS</p>			Date: APRIL 2016
			Sheet No. 4