TOWN OF WATERTOWN
WATERTOWN, CONNECTICUT

NOTICE OF BID

Bassett Road Culvert Replacement
Watertown Public Works Department

Sealed bids are invited and will be received by the Purchasing Agent of the Town of Watertown at the office of the Purchasing Agent, Town Hall Annex, 424 Main Street, Watertown, Connecticut, until 11:00 a.m., Thursday, March 31, 2016 at which time and place they will be publicly opened and read aloud for furnishing cleaning of the box culvert at 680 Main Street to the Town of Watertown.

The Information for Bidders, Form of Bid, Specifications, and other contract documents may be obtained or examined at the office of the Purchasing Agent, Town Hall Annex, 424 Main Street, Watertown, Connecticut 06795 or by accessing the Town of Watertown’s website at http://www.watertownct.org. Proposals must be submitted on the forms provided and in a sealed envelope plainly marked “Bid – Bassett Road Culvert Replacement”.

To receive consideration bids must be in the hands of the Purchasing Agent or his authorized representative no later than the day and hour mentioned above.

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

The Town of Watertown reserves the right to take into account the residency of bidders within the Town of Watertown and/or the location of the bidder’s business within the Town of Watertown in awarding this bid.

All bids will be considered valid for a period of ninety (90) days.

Jason Warner
Purchasing Agent
Town of Watertown
INFORMATION FOR BIDDERS

TOWN OF WATERTOWN
WATERTOWN, CONNECTICUT 06795

Bassett Road Culvert Replacement
Watertown Public Works Department

BID OPENING: 11:00 a.m., Thursday, March 31, 2016

PROPOSALS RECEIVED
All bids must be in a sealed envelope and received prior to 11:00 a.m., Thursday, March 31, 2016 at the office of the Purchasing Agent, 424 Main Street, Watertown, Connecticut 06795.

PREPARATION OF PROPOSALS
Proposals must be made upon forms contained herein. The blank spaces in the Proposal must be filled in correctly where indicated. The Bidder must state the prices for which he proposes to do each item of the work contemplated. In case of discrepancy where both words and the numerals are requested, the words shall govern. Ditto marks are not considered writing or printing and shall not be used. The Bidder shall sign his Proposal correctly. If the Proposal is made by an individual, his name, post office address and telephone number must be shown. If made by a firm, partnership, or corporation, the Proposal must be signed by an official of the firm, partnership, or corporation authorized to sign contracts, and must show the post office address and telephone number of the firm, partnership, or corporation. Failure to do so may disqualify the bid.

Each bid must be submitted in a sealed envelope bearing on the outside the name of the Bidder, post office address, and name of the project for which the bid is submitted. If forwarded by mail, the sealed envelope containing the bid must be enclosed in another envelope addressed to: The Purchasing Agent, Town Hall Annex, 424 Main Street, Watertown, CT 06795.

All information shall be entered in ink or by typewriter. Mistakes may be crossed out and corrections inserted before submission of your bid. The person signing the bid shall initial corrections in ink.

Corrections and/or modifications received after the closing time specified will not be accepted.

SUBMISSION OF PROPOSALS
All proposals and literature shall be submitted IN DUPLICATE on the proposal form, which is a part of these specifications.

Descriptive literature containing complete specifications must accompany each bid. If a bidder wishes to furnish additional information, more sheets may be added.
Response summaries will be available online at http://www.watertownct.org on the day of the bid opening.

Responses delivered via fax are received subject to the following qualifications and limitations:

- The Town is not responsible for the confidentiality of the information transmitted.
- The Town cannot guarantee that its fax equipment will be operational and able to receive transmittals by a particular time and date. It is the Bidder's responsibility to ensure that quotations are received in their entirety and on time at the required location. It is recommended that vendors be advised to call immediately after transmitting a document electronically to confirm complete and accurate receipt by the Town. The Town assumes no liability in the event that a bidder's electronic transmission is not received by the Town in a timely fashion, or is not received either in its entirety or error-free.
- Bids transmitted electronically which have a bond requirement are subject to the same submittal requirements as those responses delivered via traditional means, such as mail or hand delivery, or as otherwise stipulated by appropriate authority.

**INCURRING COSTS**

The Town of Watertown is not liable for any cost incurred for the preparation of proposals or submission of samples by the firms submitting proposals for the work requested in this bid document or request for proposals.

**FAMILIARITY WITH THE WORK**

Each bidder is considered to have examined the work to fully acquaint himself with the exact existing conditions relating to the work and has fully informed himself as to the work involved and the difficulties and restrictions attending the performance of this bid. Failure to do so will not relieve a bidder of his obligation to furnish all labor, equipment, materials and supervision necessary to carry out the work for the consideration set forth in this bid. The submission of a bid will be considered as conclusive evidence that the bidder has made such examination.

Where exploration or inspection data is shown on the Plans and/or specifications or made available to the Bidder, it is understood that such data where obtained in the usual manner and with reasonable care and are to be interpreted and used as the Bidder sees fit. There is no expressed or implied agreement that the data has been correctly indicated, and the Bidder is cautioned to take into account that conditions affecting the work may differ from those indicated.

The Owner assumes no responsibility whatsoever with respect to ascertaining for the Contractor such facts concerning physical characteristics relating to this project. The Bidder agrees that he shall make no claim for and has no right to additional payment or extension of time for completion of the work, or any other concession, because of any interpretations or misunderstanding on his part of this
bid, or because of any failure on his part to fully acquaint himself with all conditions relating to the work. Permission for making borings, test pits, destructive tests or other investigations of subsurface conditions will be arranged for by the bidder upon receipt of a written approval by the Town.

CONSIDERATION OF PRIOR SERVICE
Previous performance, quality of service and merchandise will be considered.

ADDENDA AND INTERPRETATIONS & ALTERNATE PROPOSALS
Addenda information will be available online at http://www.watertownct.org. Adobe Acrobat® Reader may be required to view this document. It is strongly suggest that Bidders check for any addenda a minimum of forty eight hours in advance of the bid deadline.

At the time of the opening of bids each Bidder will be presumed to have inspected the work and to have read and to be thoroughly familiar with all of the Contract Documents (including all addenda). The failure or omission of any Bidder to receive or examine any form, instruction or document shall in no way relieve any bidder from any obligation in respect to his bid.

If any person contemplating submitting a proposal is in doubt as to the true meaning of any part of these specifications, he may submit a written request for an interpretation to the Purchasing Agent. No interpretations as to the meaning of the plans, specifications or other Contract Documents will be made to any Bidder orally.

Every request for such interpretation should be in writing addressed (duplicate copy) to the Town of Watertown, Purchasing Agent, 424 Main Street, Watertown, Connecticut 06795, and to be given consideration, must be received at least five (5) days prior to the date fixed for the opening of Bids. Any and all such interpretations and any supplementary instructions will be in the form of written Addenda to the Specifications which, if issued, will be mailed by Registered Mail with Return Receipt Requested to all prospective Bidders at the respective addresses furnished for such purposes, not later than three (3) days prior to the date fixed for the opening of bids. Failure of any Bidder to receive any such Addendum or interpretations shall not relieve any Bidder from any obligations under his bid as submitted. All Addenda so issued shall become part of the Contract Documents. Oral explanations will not be binding on the Town.

The specifications listed are to be interpreted as meaning the minimum acceptable by the Town of Watertown. Bidders are requested to submit quotations on the basis of these specifications. Alternative bids providing a broader scope and/or services than requested in these specifications may receive consideration providing such equipment and/or service is clearly explained. Any exceptions to the specifications requested herein must be clearly noted in writing and are to be included as a part of the bid proposal. If none are included it will be assumed that there are none.

Definition of the word "complete" means that each unit of the equipment proposed shall include all appurtenances, fasteners, parts, accessories, and services ordinarily catalogued.
An item equal to that named or described in the specifications may be furnished by the Bidder, except where expressly noted as "no substitutions." The naming of any commercial name, trademark, or other identification shall not be construed to exclude any item of any manufacturer not mentioned by name, nor limit competition, but shall establish a standard of equality only. An item shall be considered equal to the item so named or described if:

- It is at least equal in quality, durability, appearance, strength and design.
- It will perform at least equally the function imposed by the design for the work being contracted for or the material being purchased.
- It conforms substantially, even with deviations, to the detailed requirements for the item in the specifications.

The Bidder shall hold the Town of Watertown, its officers, agents, servants, and employees, harmless from liability of any nature or kind because of use of any copyrighted or uncopyrighted compositions, secret process, patented or unpatented inventions, articles or appliances furnished or used under this bid, and agrees to defend, at his own expense, any and all actions brought against the Town of Watertown or himself because of the unauthorized use of such articles.

QUOTATION LIMITATION
Bidders shall offer only ONE ITEM AND PRICE for each line item bid. If an or equal item is to be bid, the bidder is to select the brand and model that meets or exceeds the specified item, and submit his bid for that item.

ESTIMATE OF WORK
For bidding purposes, the work has been subdivided into unit price items. The quantities shown are to be considered as approximate only. The Purchasing Agent does not expressly or by implication agree that the actual quantity will correspond therewith, but reserves the right to increase or decrease the amount of any item or portion of the work as deemed necessary.

WITHDRAWAL OF BID
Bidders may withdraw their proposals at any time prior to the bid date. No agent/broker shall withdraw or cancel their proposal for a period of sixty (60) days after the bid closing date of 11:00 a.m., Thursday, March 31, 2016. The successful agent/broker shall not withdraw, cancel or modify their proposal.

POWER OF ATTORNEY
Attorneys-in-fact who sign contract bonds must file, with each bond, a certified and effectively dated copy of their power of attorney.
SUBCONTRACTORS

- Each bidder contemplating the use of any subcontractor shall submit a list of subcontractors as listed on the Bid Form.
- The apparent low bidder shall file with the Town of Watertown, within five (5) days after the date of bid opening, a complete list of the names and addresses of competent, responsible and qualified subcontractors who are actually to perform major portions of the work. This in no way restricts or limits the requirement that all subcontractors must be approved by the Town.
- Subcontractors listed on the Bid Form or those previously approved may not be changed without the approval of the Town of Watertown.

Local subcontractors, material suppliers, and labor in the Town of Watertown should be considered and sought insofar, as is practical in the performance of this project.

QUALIFICATION OF BIDDER

In determining the qualifications of a bidder, the Town may consider his record in the performance of any contracts for similar work into which he may have previously entered; and the Town expressly reserves the right to reject the bid of such bidder if such record discloses that such bidder, in the opinion of the Town, has not properly performed such contracts or has habitually, and without just cause, neglected the payment of bills or has otherwise disregarded his obligations to subcontractors, suppliers, state or local codes, men or employees of subcontractors.

The Town may make such investigation as he deems necessary to determine the ability of the bidder to perform the work and the bidder shall furnish to the Town all such information and data for this purpose as the Town may request. The Town reserves the right to reject any bid if the evidence submitted by or the investigation of such bidder fails to satisfy the Town that such bidder is properly qualified, or that such bidder misrepresented material facts in the bid documents.

DISQUALIFICATION OF BIDDERS

More than one proposal from an individual, firm, partnership, corporation, or an association under the same or different names will not be considered. Reasonable grounds for believing that any Bidder is interested in more than one proposal for the work contemplated will cause the rejection of all proposals in which such Bidder is interested. Any or all proposals in which such Bidder is interested will be rejected if there is reason for believing that collusion exists among the Bidders and all participants in such collusion will not be considered in future proposals for the same work. Proposals in which the prices are obviously unbalanced may be rejected. No Contract will be awarded except to competent Bidders capable of performing the class of work contemplated.
DELIVERY
Inasmuch as this work concerns a needed public improvement, the provisions of this bid relating to
the time of delivery, performance and completion of the work are of the essence of this bid.
Accordingly, the successful bidder shall commence work upon receipt of the signed Purchase
Order unless the Town shall authorize or direct a further delay.

Time of delivery shall be stated as the number of calendar days following receipt of the Purchase
Order by the Bidder to receipt of the goods or services by the Town of Watertown.

Prices quoted must include delivery to the Town of Watertown as specified on the Purchase Order.
No charges will be allowed for parking, crating, freight, express or cartage unless specifically stated
and included in this bid.

Time of delivery may be considered in the award.

PAYMENT
The Town, after inspection and acceptance of workmanship, and in consideration of the faithful
performance by the Bidder of all and singular his covenants, promises, and agreements contained
herein, agrees to pay the Bidder for the full completion by him of the work embraced in this
Contract, within (30) Thirty Days of the receipt of the final invoice. When subcontractors or
suppliers are utilized, the successful Bidder for this project shall be required to submit a Mechanics
Lien Waiver, acceptable to the Town, with each progress payment and/or at time of final payment
prior to any payment being made.

Time, in connection with any discount offered, will be computed from the date of delivery to the
Town or from the date a correct invoice is received by the Town's Finance Department, if the latter
date is later than the date of delivery.

Prices will be considered as NET, if no cash or payment discount is shown.

The successful bidder shall submit invoices to the following address:

Town of Watertown
Public Works Department
61 Echo Lake Rd.
Watertown, CT 06795
IT IS UNDERSTOOD AND AGREED THAT SHOULD A BID BE ACCEPTED, IT WILL AUTOMATICALLY BECOME THE CONTRACT OR AN ADDENDUM TO ANY CONTRACT AGREED UPON.

Notification of the bid award will be made by issuance of a purchase order. Bidders are to list their bids on the appropriate attached sheets. Bidders may attach a letter of explanation. A clear notification should be made on the standard bid sheets at the appropriate point of explanation that there is a letter of explanation attached. All bids must be NET prices.

The successful bidder shall submit an itemized invoice to the Town of Watertown for the work as described herein.

The bidder shall be required to submit a Mechanics Lien Waiver, acceptable to the Town of Watertown, with each progress payment and at time of final payment prior to any payment being made.

At the time of award the successful bidder shall be required to supply the Town of Watertown a Certificate of Good Standing, certifying that the corporation is in fact a valid corporation and presently licensed to conduct business in the State of Connecticut.

SALES TAX
Certain materials and supplies incorporated in the work of this project are exempt from Connecticut Sales Tax. The Bidder shall familiarize himself with current regulations of the State Tax Department. The tax on materials or supplies exempted by such regulations shall not be included as part of the bid. The Town will furnish the successful Bidder sales tax exemption authorization.

CARE AND PROTECTION OF PROPERTY
The Bidder shall take particular care to avoid damages to all private and public property and to private or public improvements within the Town's right of way. He shall make good any damages to the satisfaction of the Town. There shall be no additional compensation for the repair or restoration of private or public property improvements.

COMPLIANCE WITH FEDERAL, STATE AND LOCAL CODES
The Bidder shall be responsible for full compliance with any Federal, State and/or Local codes, laws, regulations and standards, as applicable.
AWARD

As this project has not yet been budgeted and is subject to the approval of funding by the Town Council, the Town of Watertown reserves the right to hold the bids for ninety (90) days before decision.

The Town reserves the right to reject any and all bids (or any part thereof), to waive defects in proposals, or to accept any proposal deemed to be in its best interest.

Exceptions will be considered to the specification provided, providing they are listed and fully explained on a separate page entitled "EXCEPTIONS TO SPECIFICATIONS"

Each exception will be considered as to its degree of impact and total effect on the bid. The purchaser shall determine which (if any taken) exceptions are acceptable, and this determination shall be final.

The Town of Watertown reserves the right:

- To award bids received on the basis of individual items, or groups of items, or on the entire list of items.
- To reject any or all bids, or any part thereof.
- To waive any informality in the bids.
- The Town of Watertown reserves the right to take into account the residency of bidders within the Town of Watertown and/or the location of the bidders business within the Town of Watertown in awarding this bid.
- To accept the bid that is in the best interest of the Town of Watertown. The Purchasing Agent's decision shall be final.

INSURANCE

A. General:
The Bidder shall be responsible for maintaining insurance coverage in force for the life of the contract of the kinds and adequate amounts to secure all of the Bidder's obligations under the contract with an insurance company with an AM Best Rating of A - VII or better licensed to write such insurance in Connecticut and acceptable to the Town of Watertown.

The insurer shall provide the Town of Watertown with Certificates of Insurance signed by an authorized representative of the insurance company(ies) prior to the performance of this contract describing the coverage and providing that the insurer shall give the Town of Watertown written notice at least thirty (30) days in advance of any termination, expiration, or any and all change in
coverage.

Such insurance or renewals or replacements thereof shall remain in force during the Bidder’s responsibility under this agreement.

The Bidder at his own cost and expense shall procure and maintain all insurance required and shall name the Town of Watertown, its employees, departments, boards, committees and commissions, as an additional insured on all contracts except Worker’s Compensation and Professional Errors & Omissions coverage.

In order to facilitate this requirement for insurance, it is recommended that the bidder forward a copy of this exhibit to the bidder’s insurance representative(s).

B. Specific Requirements:

(1) Workers’ Compensation Insurance
The Bidder shall provide Workers’ Compensation Insurance required by law and the Employer’s Liability Insurance for at least the amounts of liability for Bodily Injury by accident of $100,000 each accident; Bodily Injury by Disease each employee of $100,000; Bodily Injury by Disease, policy limit of $500,000.

(2) Commercial General Liability Insurance
The Bidder shall carry Commercial General Liability policy (Insurance Services Office Incorporated Form CG-0001 or equivalent). A per occurrence limit of $1,000,000 is required. The Aggregate Limit will be not less than $1,000,000.

(3) Business Automobile Liability Insurance
The Bidder shall carry Business Automobile Liability Insurance. (Insurance Services Office Incorporated Form CA-00001 or equivalent). A per occurrence limit of $1,000,000 is required. “Any Auto” (symbol 1 or equivalent) is required.

C. Hold Harmless & Subcontractor’s Requirements:
The Bidder shall require the same insurance that it is required to carry by the Town of Watertown to be carried by any subcontractors and independent contractors hired by the Bidder and to obtain Certificates of Insurance before subcontractors and independent contractors are permitted to begin work.

The Bidder shall require that the Town of Watertown, its employees, departments, boards, committees and commissions, be named as Additional Insured on all subcontractor’s and independent contractor’s policies before they are permitted to begin work.

The Bidder and all subcontractors and independent contractors and their insurers shall waive all rights of subrogation against the Town of Watertown, and its officers, agents, servants and employees for losses arising from the work performed by each on this contract.
The Bidder assumes and agrees to hold harmless, indemnify, protect and defend the Town of Watertown against any and all liability for injuries and damages to Bidder and to Bidder's employees, agents, subcontractors and guests, third parties or otherwise incident to or resulting from any and all operations performed by a contractor under any terms of this contract.

D. **Other Data:**

**NOTE 1:** If Bidder is only a vender shipping goods via Common Carrier only, General Liability is required.

**NOTE 2:** If Bidder is a Professional, Errors & Omission coverage will be required.

**NOTE 3:** The Town reserves the right to amend amounts of coverage required and the types of coverage provided based on work or service to be performed.

**PERMITS**

When required all licenses and permits for complying with any applicable Federal, State, and Municipal laws, codes, regulations in connection with the prosecution of the work shall be obtained by the Bidder, at no additional cost to the Town. The cost of local building permits will be assessed at sixteen cents per one thousand dollars of construction value as declared on the building permit application pursuant to State of Connecticut Statute Sec. 29-263 by the Town of Watertown. The successful contractor will be responsible for payment to the Town of Watertown Building Inspection Department.

**NONDISCRIMINATION IN EMPLOYMENT**

The successful bidder shall agree and warrant 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, sex, religion, or national origin in any manner prohibited by State, Federal, County, or Municipal law. A certification of Nonsegregated Facilities and a Certification Regarding Equal Employment Opportunity shall be considered a part of this contract.

**MECHANICS LIEN WAIVERS**

The successful Bidder shall be required to submit a Mechanics Lien Waiver, acceptable to the Town of Watertown, with each progress payment, and/or at time of final payment, prior to any payment made.

For further technical or administrative information contact Jason Warner, Purchasing Agent at (860) 945-5260 or via email at warner@watertownct.org.
TOWN OF WATERTOWN
WATERTOWN, CONNECTICUT

GENERAL REQUIREMENTS

Bassett Road Culvert Replacement
Watertown Public Works Department

Scope of Work
The Contractor shall provide all labor, superintendence, materials, plant, tools and equipment necessary for properly cleaning of the box culvert and all other work necessary for the proper completion of the project as specified herein within the time stipulated.

Standards
Whenever reference is made in this Contract to the Standard of any technical society or other recognized organization, these shall be construed to mean the latest standard adopted and published at the date of the advertisement for bids.

Abbreviations are defined as follows:

ASTM - American Society for Testing and Materials
ANSI - American National Standards Institute
ASA - American Standards Association
ACI - American Concrete Institute
AASHTO - American Association of State Highway and Transportation Officials
ASME - American Society of Mechanical Engineers
IEEE - Institute of Electrical and Electronics Engineers
AWWA - American Water Works Association
ACPA - American Concrete Pipe Association

Lines and Grades
The Engineer will establish all principal benchmarks and lines and grades required for the work and will make the surveys and measurements necessary for determining pay quantities. All intermediate lines, grades, and measurements required for the construction details shall be laid out by the Contractor and he shall be responsible for their accuracy. The Contractor shall provide such facilities and men as may be necessary for the Engineer to check lines and grade points placed by the Contractor. All material required for grade stakes shall be furnished by the Contractor and after the required lines and grades have been established thereon, they shall be properly protected to prevent movement or displacement. The Contractor shall keep a transit and leveling instrument on or near the site at all times and a skilled instrument man, employed or obtained whenever necessary, for layout of all locations, dimensions, and levels, and no data, other than the information contained in the Drawings, Specifications, and written orders of the Engineer, shall justify departure from the
dimensions and levels required by the Drawings.

**Alterations**
The Engineer may make alterations to the line, grade, plan, form, dimension, or materials of the work, or any part thereof, either before or after the commencement of the work. If such alterations increase the quantity of work, such increase will be paid for according to the quantity of such extra work actually done and at the prices stipulated for such work under unit price items of the Contract. In case no unit price is applicable, the alterations will be paid for as extra work defined in the Contract under the section entitled *Extra Work*.

**Planimeter**
The use of the planimeter shall be considered satisfactory for estimating quantities where geometric and analytic methods would be comparatively laborious.

**Contractor’s Schedule of Operations**
The Contractor shall submit, within then (10) days of the date of the Notice to Proceed, a preliminary schedule of operations for the project to the Engineer for approval. The approved preliminary schedule shall be used to prepare a detailed schedule of the principal construction events including all proposed purchase and delivery dates for items with critical delivery times. A supplemental bar graph shall also be prepared based on this construction schedule. The detailed schedule and supplemental bar graph shall be submitted within ten (10) days of the date of the Notice to Proceed.

The status of the project shall be evaluated monthly by the Contractor and shall be compared to the original schedule which shall be revised, if necessary, and reissued.

**Coordination with Other Contractors and Utilities**
During the progress of the work, other contractors and/or utilities may be engaged in performing work in the area. The Contractor shall coordinate the work to be done under this Contract with the work of others.

**Cost Breakdown**
Prior to the first estimate for payment to the Contractor, the Contractor shall submit to the Engineer for approval a detailed cost breakdown of the various amounts to be paid for within each Lump Sum Item, as applicable. It shall also include, but not necessarily be limited to, proportional amounts of bonds, insurance, and miscellaneous works which are to be paid for throughout the life of the Contract, and which are not specifically included for payment under other Items and/or Division of the Contract.

**Estimated Quantities**
To aid the Engineer in determining quantities to be paid for, the Contractor shall, whenever requested, give the Engineer access to the proper invoices, bills of lading, or other pertinent documents and shall provide methods and assistance necessary for weighing or measuring materials.
Payment for Miscellaneous Work

No direct payment will be made to the Contractor for furnishing and providing miscellaneous temporary works, plant, and services, including Contractor's office, sanitary requirements, water supply, power, tools, equipment, lighting, telephone systems, store houses, store yards, safety devices, permits, insurances, bonds, watchmen, clean up, and the like, or other items specified under these General Requirements, unless payment therefor has been specifically provided. Compensation for the same is understood to be included in the scheduled prices hereinbefore given for the various kinds of work contemplated.

Extra Work

The Contractor shall and will do any and all work and furnish any and all materials not herein provided for which, in the opinion of the Director of Public Works, may be found necessary or advisable for the proper completion of the work or the purposes thereof, or any modifications or alterations thereto.

All extra work and materials shall be ordered in writing by the Director of Public Works, and in no case will any work or materials in excess of the amount shown in the Plans and Specifications be paid for unless so ordered. Additionally if the extra work requires additional cost, a purchase order must be issued prior to work commencing, as required by Section 707 of the Watertown Town Charter. If an additional appropriation in excess of $25,000.00 is required, a special town meeting must be held to appropriate the funds in accordance with Section 704 of the Watertown Town Charter. No claim for delay shall be made as a result of this process. No voucher, claim or charge against the Town shall be paid, nor is the Town liable for any voucher, claim or charge unless a purchase order is issued. The Contractor further agrees that he shall accept, as full compensation for such extra work and materials, the unit price bid, in the case of Items covered by unit prices in the Proposal, and no more; and for such Items as are not covered by a unit price, he shall accept as full compensation:

- an agreed upon lump sum price, or
- the reasonable cost, as determined by the Director of Public Works, of all necessary labor, including insurance and payroll taxes, equipment rental, and materials, plus fifteen percent (15%) which covers supervision, the use of tools and plant, and other overhead expenses and profit.

The equipment rental charge shall be at prevailing rates usually paid locally but shall in no case exceed the amount prorated on the basis of the monthly equipment rental rates compiled by the Associated Equipment Distributors.

When extra work is performed by an approved subcontractor, the Contractor shall be entitled to five percent (5%) of the direct cost of the subcontractor's work to cover his overhead expenses and profit.

The Contractor agrees to prosecute such extra work with all reasonable diligence and to employ thereon competent men. The Contractor shall give the Director of Public Works access to all accounts, bills, payrolls, and vouchers relating to extra work not covered by unit prices, and he
agrees that he shall have no claim for compensation for such extra work in the case of items not covered by unit prices, unless a statement in writing of the actual cost of the same, fully itemized as to labor and materials, is presented to the Director of Public Works before the fifteenth (15th) day of the month following that during which each specific order was complied with by him.

**Drawings and Information to be Furnished by the Contractor**

For materials and equipment not supplied by the Owner, the Contractor shall promptly furnish to the Engineer, for his information, three (3) copies of drawings in detail of the materials, equipment, piping, and structural details for any part of the work for which Drawings are not to be issued by the Engineer. Before placing orders for any manufactured item or part of structure, he shall also submit three (3) copies, for approval, of detailed lists and descriptions of the various materials, fixtures, fittings, supplies which he proposes to use in the work, and also the names of individuals or companies who propose to furnish or manufacture the same. Copies of results of all tests of materials and equipment shall be furnished by the Contractor immediately following the performance of required tests.

Prior to the submittal of shop drawings, the Contractor shall check, approve, initial, and date the drawings and shall also indicate by reference the Specification and/or Plan which covers the item. Submittals will be returned to the Contractor if they have not been properly processed by him.

Approval by the Engineer of shop drawings for any material, apparatus, device, and layout shall not relieve the Contractor from the responsibility of furnishing same of proper dimension, size, quality, quantity, and all performance characteristics to efficiently perform the requirements and intent of the Contract Documents. Approval shall not relieve the Contractor from the responsibility for errors of any sort on the shop drawings. If the shop drawings deviate from the Contract Documents, the Contractor shall advise the Engineer of the deviations in writing, including the reasons for the deviation.

In the event the Contractor obtains the Engineer’s approval for the material, manufactured items, or equipment, other than that which is shown on the Plans or specified herein, the Contractor shall, at his own expense, make any changes as required in the structures, buildings, piping, or any other portion of the work necessary to accommodate the approved material, manufactured item, or equipment.

**Contract Limits**

The Contractor shall confine his activities to within street lines, easements, and rights-of-way.

The Contractor shall take particular care to protect trees and shrubs and private personal property. He shall make good any damage to the satisfaction of the Engineer.

The Contractor shall not enter upon or make use of any private property along the line of work, outside the limits of the rights-of-way, except when written permission is secured from the owner of said property and a copy delivered to the Engineer. The Contractor shall be held responsible for all
damages or injury, done by himself or those in his employ, to any private or public property of any character during the prosecution of the work. The Contractor shall restore or repair at his own expense, in a manner satisfactory to the Engineer, such property as may be damaged by his operations during the prosecution of the work.

In case of failure on the part of the Contractor to restore or repair such property in a manner satisfactory to the Owner, the Owner may, upon 48 hours notice to the Contractor, proceed with such restoration or repair. The expense of such restoration or repair shall be deducted from any monies, which are due or may become due the Contractor under this Contract.

The Owner will obtain photographs and/or video tape recordings of the site prior to the start of work under this Contract and Agreement. These photographs and/or recordings will be used to judge the conditions of the site during the course of the work and the adequacy of restoration of the site after completion of the work.

Work in Easements

There is work in easements on this project. These easements have been acquired and access to them is available. Work in the easements is limited to that specified and shown. Contractor shall confine his activity on private property to these easements and any activity outside of these easements shall require approval of the Engineer to be considered only after written permission from the property owner has been acquired by the Contractor.

Cleaning up Site

During the progress of the work, the Contractor shall keep the construction area in a neat condition, free from accumulations of waste materials and rubbish. Lunch papers, bottles, lumber cut-offs, drinking cups, and like rubbish shall be removed from the site daily. No alcoholic beverages will be permitted at the construction site(s).

On or before completion of the work and before acceptance and final payment shall be made, the Contractor shall clean and remove from the site and adjacent property all surplus and discarded materials, rubbish and temporary structures, and restore all property in an acceptable manner and leave the whole area in a neat and presentable condition.

Storage of Materials

Materials shall be stored so as to insure the preservation of their quality and fitness for the work. When considered necessary, they shall be placed on wooden platforms and covered or stored in a suitable building, as directed by the Engineer. Stored materials shall be located so as to facilitate prompt inspections.

Materials and equipment supplied by the Owner shall be jointly inspected by the Owner and the Contractor and shall, upon acceptance by the Contractor, become the Contractor's responsibility to make good any damage to the materials and equipment until they have been incorporated and accepted in the work.
Removal of Condemned Materials
The Contractor shall immediately remove all rejected and condemned materials of any kind brought to or incorporated in the work from the site of the work. No such rejected or condemned materials shall again be offered for use by the Contractor.

Hauling Materials
Before starting any work the Contractor shall arrange for the use of routes of travel for hauling materials, including surplus earth and rock, with the Municipal or State Officials having jurisdiction that will result in minimum inconvenience to the traveling public. Routes of travel so scheduled shall be adhered to throughout the course of the work, unless otherwise approved.

Accommodation of Traffic
During the progress of the work, all streets shall be kept open for the passage of traffic and pedestrians and shall not be obstructed unless authorized by the authority having jurisdiction over same. Driveways, sidewalks, and areas of roadway shall be closed as short a time as possible while work is in progress and passage shall be restored by the close of work every day, by properly placed backfill or approved bridging. The Contractor shall take such measures at his own expense as may be necessary to keep the street open for traffic and shall give advance notice to the Fire and Police Departments, and the Board of Education of his proposed street operations. He further agrees to be responsible for all legal notices to the public concerning the state of the roads while the work is in progress.

Warning signs shall be provided along all streets while work is in progress and, where traffic direction is required, flagmen shall be designated by the Contractor to direct traffic past the equipment, machinery, or construction operations. Barricades and lights shall be provided as required to protect life and property. Where trenches have been cut in streets on which traffic may pass at times, warning signs shall be placed at frequent intervals and maintained until the street is safe for travel. All such work and operations shall be in accordance with requirements of the Owner and the Specification herein. The use of unauthorized or unapproved signs, barricades, or traffic delineators will not be permitted.

The Contractor shall construct and maintain, without extra compensation, such adequate and proper bridges over excavations as may be necessary or directed for the purpose of accommodating pedestrians and vehicles. Ingress and egress to private property, satisfactory to the Engineer, shall be continuously provided.

Should the Contractor or his employees neglect to set out and maintain barricades or lights, as required in the Specifications, the Engineer may immediately and without notice arrange for furnishing, installing and maintaining barricades or lights and any other precaution deemed necessary. The cost thereof shall be borne by the Contractor and may be deducted from any amount due or to become due to the Contractor under this Contract.
The Contractor shall be held responsible for any damages that may have to be paid as a consequence of the Contractor’s failure to protect the public.

The Engineer and the Chief of Police will determine the need for uniformed police officers for traffic control. If uniformed police officers are deemed necessary, the cost of the officers will be borne by the Town, unless otherwise specified.

**Temporary Roads (if required)**

The Contractor shall be responsible for providing and maintaining such temporary access roads, to and along right-of-way, as are necessary for transportation of materials and equipment. Where such roads are on private property he shall obtain permission for their construction and use and pay all costs pertaining thereto.

**Dust Control**

The Contractor shall take all necessary precautions to prevent and abate nuisance caused by dust arising from his operations. Approved methods applicable to various parts of the work, such as application of water spray or calcium chloride, shall be employed. This also applies to maintaining temporary paving nuisance-free until permanent paving is placed. The area of construction along roadways shall be broom swept each day after completion of the day’s work and the application of water as necessary, all at no additional cost to the Owner.

**Working Conditions**

In prosecuting the work of this Contract, the Contractor shall provide working conditions on each operation that shall be as safe and healthful as the nature of the operation permits. He shall comply with all safety and sanitary rules, laws and regulations.

**Work in Inclement Weather**

During freezing, stormy or inclement weather, no work shall be performed except such as can be done satisfactorily and in such manner as to secure first-class construction throughout.

**Working Hours**

The Contractor’s working schedule shall be confined to a five (5) day week, Monday through Friday, and the working day shall be confined between the hours of 7:00 a.m. and 6:00 p.m. current local time.

Unless otherwise especially permitted, no work shall be done between the hours of 6:00 p.m. and 7:00 a.m. except as necessary or the proper care and protection of the work already performed. If it shall become absolutely necessary to perform work at night, the Engineer shall be informed at least 24 hours in advance of the beginning of the performance of such work. Only such work shall be done at night as can be done satisfactorily and in a first-class manner. Good lighting and all other necessary facilities for carrying out and inspecting the work shall be provided and maintained at all points where such work is being done.
Emergency Work
The Contractor shall file, with the Public Works, Fire and Police Departments of the Town of Watertown, the name and telephone number of a person authorized by him who may be contacted regarding emergency work at the job site that may be required during non-working hours for reasons of public safety.

This person shall be readily available and have full authority to deal with any emergency that may occur.

Environmental Compliance
A. General
This section of the Contract is provided to identify those construction activities or other activities under the Town’s control or jurisdiction which may have a negative effect on the environment, including the Town’s native waters and natural resources, and to prevent or minimize any damage to the environment which might result from such activities, both during and following the completion of any transportation project.

This section reinforces those environmental protection requirements which the Contractor is bound to meet under the terms of the Contract, or under Federal, State or Local laws and regulations. If a Contractor fails to comply with environmental provisions of the Contract or law, the Contractor shall be penalized as provided in this Section and as provided elsewhere in this Contract.

B. Compliance with Laws and Regulations.
The Contractor shall at all times conduct his operations in conformity with all Federal, State and Local permit requirements concerning water, air or noise pollution or the disposal of contaminated or hazardous materials. Permit requirements include but are not limited to those established by regulations administered by the United States Coast Guard, the U.S. Army Corps of Engineers and the U.S. Environmental Protection.

Appropriate permits shall be required for all activities associated with or incidental to the Contractor’s operations including, but not limited to, those on the Project site and in all adjacent areas, waste and disposal areas, borrow and gravel banks, storage areas, haul roads, access roads, detours, field offices, and any other temporary staging areas. The Contractor shall be responsible for, and hold the Town harmless from, any penalties or fines which may be assessed by any authority due to the Contractor’s failure to comply with the terms of all applicable permit requirements.

The Town will submit all applications and obtain all permits required for Contract work within the limits shown on the plans or identified elsewhere in the Contract documents. The Contractor shall transfer the Watertown Conservation permit from the name of the Town to his own name. A copy of the permit application and the permit are attached.

Any request by the Contractor for authorization of activities or methods not specifically called for by the Contract, plans, applications submitted or applicable permits issued for the Project must be
submitted by the Contractor in writing to the Engineer, and must include a detailed description of the proposed activities or methods, the justification for those activities and supporting documentation showing the proposed activity or method will not create risks of damage to the environment. If such proposal is accepted by the Engineer, the Town will process an application to the appropriate regulatory agency or agencies for any permit amendment, modification, revision or new permit required for the Contractor to carry out the additional activities or implement the changed methods on the Project. The Town does not, however, guarantee that it will be able to obtain the desired permit amendment, modification or revision, and the Town will not be liable for the effects of any inability to do so. No extension of time will be granted as a result of the contractor’s request to perform work not authorized as part of the established permit requirements. If the amendment, modification, or revision of the permit is not necessary for the Contractor to perform the work as required by the original Contract or as subsequently ordered by the Engineer, then no claim may be made by the Contractor based on the amount of time taken by the Town to review the Contractor’s proposal, or to apply for or secure the permit amendment, modification or revision. No such proposed additional activity shall commence, nor shall such a changed method be implemented until and unless the Engineer approves in writing the Contractor’s request.

In case of failure on the part of the Contractor to perform pollution control work as determined by the Engineer, the Engineer may, upon 24 hours written notice, arrange for the performance of the work by approved forces and the cost thereof will be deducted from any monies due or which may become due to the Contractor under the Contract or under any other State contract.

C. Water Pollution Control
1. The Contractor shall, throughout the life of the contract, control and abate siltation, sedimentation and pollution of all waters, under ground water systems, inland wetlands, and navigable waters for work appearing on the plans. Temporary construction methods proposed by the Contractor shall also conform to all application or permit requirements. The Contractor shall assume responsibility for all obligations and costs incurred under the terms and conditions of such permit applications or permits.

The Contractor shall obtain any permits and pay any fees required for the performance of work which is not included in the original Contract or which is to be done outside the Project limits but which is proposed in the fulfillment of his Contract obligations including, but not limited to, the removal of material from, deposition of materials in, obstruction of, construction within, alteration or pollution of any inland wetland, navigable water, streams, ponds, lakes, water supplies or other water bodies.

2. The following items may be superseded by specific permits from the Connecticut Department of Environmental Protection (DEP) or the Watertown Conservation Agency (WCA). The Contractor shall not make any design changes in the Contract work which requires a variance from the requirements of the following items until and unless the Contractor has first submitted a detailed written proposal for such changes to the Engineer for review by the Department and for transmittal to and review by the DEP and/or the WCA and then received approval from the Town of the proposed variances.
BEST MANAGEMENT PRACTICES

1. No construction shall proceed until erosion and sedimentation control plans, prepared by the Contractor, have been submitted in writing and approved by the Engineer, and until such controls have been installed as the Engineer directs. Such plans shall be consistent with the Connecticut Council on Soil & Water Conservation document “Connecticut Guidelines for Soil Erosion and Sediment Control,” as revised and the 2004 Connecticut Stormwater Quality Manual, which are available from the Connecticut Department of Environmental Protection, and with the Department document “On Site Mitigation for Construction Activities,” as revised.

2. Refueling of equipment or machinery within 8 m of any wetland or watercourse shall be allowed only with the approval of the Engineer.

3. No construction shall proceed until a written proposal of methods to prevent construction debris, paint, spent blast materials, or other materials from entering the wetland or watercourse has been submitted by the Contractor to the Engineer and approved by the Engineer, and such methods have been implemented as the Engineer directs. These materials shall be collected and disposed of in an environmentally safe manner in accordance with all applicable Federal, State and local laws and regulations. The Engineer may order the Contractor to cease such activity temporarily if, in the judgement of the Engineer, wind or storm conditions threaten to cause the deposit of such materials into a waterway.

4. No materials resulting from construction activities shall be placed in or allowed to contribute to the degradation of an adjacent wetland or watercourse. Disposal of any material shall be in accordance with Connecticut General Statutes, including but not limited to Sections 22a-207 though 22a-209.

5. Fording of streams with equipment shall be prohibited, except as approved by the Engineer and as permitted by the WCA. Such equipment travel shall be minimized. Where frequent equipment travel on stream banks and beds is necessary, washed stone shall be placed to minimize erosion, sour, and turbidity, provided no significant grade change will be required for any haul road or temporary structure placed in wetlands or watercourses.

6. All off-site disposal locations for material and debris resulting from the progress of the Project shall be submitted in writing to the Engineer who shall determine whether or not they are acceptable. The Contractor shall ensure that these locations are outside of designated wetlands or watercourses, unless otherwise approved by local, state, or federal agencies with jurisdiction over the matter.

7. A construction sequencing plan and a water handling plan including a contingency plan for flood events must be submitted in writing to the Engineer and approved by the Engineer prior to the commencement of any construction in a waterway. Water shall be kept deep enough in the channel to allow for the passage of fish and the continuous flow of the watercourse as required by the Engineer.

8. When dewatering is necessary, pumps shall not discharge directly into the wetland or watercourse. Prior to dewatering, the Contractor must submit to the Engineer a written proposal for specific methods and devices to be used, and obtain the
Engineer’s approval of such methods and devices to be used for dewatering activities, including, but not limited to, pumping the water into a temporary sedimentation bowl, providing surge protection at the inlet and outlet of pumps, or floating the intake of the pump, or other methods to minimize and retain the suspended solids. If the Engineer determines that the pumping operation is causing turbidity problems, said operation shall cease until such time as a means of controlling turbidity is submitted by the Contractor, approved by the Engineer and implemented by the Contractor.

9. Work within or adjacent to watercourses shall be conducted during periods of low flow, whenever possible. The Engineer shall remain aware of flow conditions during the conduct of such work, and shall cause such activity to cease should flow conditions threaten to cause excessive erosion, siltation or turbidity. The Contractor shall make every effort to secure the work site before predicted major storms. A major storm shall be defined as a storm predicted by NOAA Weather Service with warnings of flooding, severe thunderstorms, or similarly severe weather conditions or effects.

10. All temporary fill shall be stabilized during use to prevent erosion and shall be suitably contained to prevent sediment or other particulate matter from reentering a wetland or watercourse. All areas affected by temporary fills must be restored to their original contours or as directed by the Engineer, and revegetated. The areal extent of temporary fill or excavation shall be confined to that area necessary to perform the work, as approved by the Engineer.

11. Seeding is to be accomplished within 7 days of the Contractor’s reaching an appropriate grading increment as determined by the Engineer. If the Engineer anticipates and notifies the Contractor, or if the Contractor intends, that a grading operation will be suspended for a period of 30 or more consecutive days, the Contractor shall, within the first 7 days of that suspension period, accomplish seeding, or take such other appropriate measures to stabilize the soil as may be required by the Engineer.

12. Dumping of oil, chemicals or other deleterious materials on the ground is forbidden. The Contractor shall provide a means of catching, retaining, and properly disposing of drained oil, removed oil filters, or other deleterious material. All spills of such materials shall be reported immediately by the Contractor to the DEP.

13. No application of herbicides or pesticides within 8 m of any wetland or watercourse will be allowed. All such applications must be done by a Connecticut licensed applicator. The Contractor shall submit to the Engineer the proposed applicator’s name and license number, and must receive the Engineer’s approval of the proposed applicator, before such application is carried out.

14. During spawning seasons, as defined in the Contract, discharges and construction activities in spawning areas of State Waters shall be restricted so as not to disturb or inhibit aquatic species which are indigenous to the waters.
If the Contractor wants to make changes in construction operations or scheduling which would affect the use of or necessity for any pollution controls, before beginning to implement those changes it must submit a written proposal detailing them to the Engineer, and must receive the Engineer's approval of those changes. As part of its submission the Contractor must submit a plan showing what erosion and sedimentation controls above and beyond those called for in the plans and specifications would be necessitated by the changes it proposes to make in the sequence or nature of Project construction activities and related operations.

The Contractor shall inspect temporary and permanent erosion and sedimentation controls immediately after each rainfall and at least daily during prolonged rainfall. The Contractor shall maintain all erosion and sedimentation control devices in a functional condition in accordance with the document “Connecticut Guidelines for Soil Erosion and Sediment Control,” as revised, and the Department’s document “On Site Mitigation for Construction Activities,” as revised. In the event the Contractor fails to maintain such devices in accordance with such documents, and the Contractor does not correct those failures within 24 hours after receipt of written notice of such failures from the Engineer, the Department may proceed with its own or other forces to remedy specified failure and the cost thereof will be deducted from monies due the Contractor under the Contract or under any other State contract.

D. Air Quality Control
The Contractor shall exercise every reasonable precaution throughout the life of the Contract to safeguard the air resources of the State by controlling or abating air pollution in accordance with the DEP’s regulations. These measures shall include the control and abatement of dust, mist, smoke, vapor, gas, aerosol, other particulate matter, odorous substances or any combination thereof arising from construction operations, hauling, storage or manufacture of materials.

E. Noise Pollution
The Contractor shall take measures to control the noise intensity caused by his construction operations and equipment, including but not limited to equipment used for drilling, pile driving, blasting, excavation or hauling.

All methods and devices employed to minimize noise shall be subject to the continuing approval of the Engineer. The maximum allowable level of noise at the nearest residence or occupied building shall be 90 decibels on the “A” weighted scale (dBA). Any operation that exceeds this standard will cease until a different construction methodology is developed to allow the work to proceed within the 90 dBA limit.

F. Contaminated and/or Hazardous Material
The Town will acquire any “Hazardous Waste Generator Permit(s)” required under the Resource Conservation and Recovery Act, for the management and disposal of all contaminated and/or hazardous material known to exist or discovered during construction operations, provided that:

1. such material is within the construction limits defined in the Contract, and;
2. such material is not comprised of waste materials generated by the Contractor.
If the Town has defined an area of known or suspected contamination within the Project limits, and if contaminated material in that area has not been removed prior to the start of the Project, the disposition of such material shall be arranged for with an appropriate party.

In the event that the Contractor encounters or exposes any material, not previously known or suspected to be contaminated, but which exhibits abnormal properties which may indicate the presence of hazardous or contaminated material, the Contractor shall cease all operations in the vicinity of the abnormal condition, and the Engineer shall be notified immediately. The presence of barrels, discolored earth, metal, wood, visible fumes or smoke, abnormal odors or excessively hot earth may indicate the presence of hazardous or contaminated material, and shall be treated with extreme caution. The proper disposition of the material shall be arranged for with an appropriate party.

Unless otherwise provided for under a specific Contract item, direct Contractor involvement with hazardous or contaminated materials, other than those associated with Contract operations, is neither required nor solicited under this Contract.

When the Contractor performs support work incidental to the removal, treatment or disposal of hazardous or contaminated material, payment will be made at the unit prices for applicable pay items in the Contract. When the Contract does not include appropriate pay items, payment will be made in accordance with the section titled EXTRA WORK.

The Contractor shall faithfully observe all security precautions established pursuant to OSHA 239 CFR 1919.120, including all revisions and amendments, and shall not work in any area known to contain or suspected of containing hazardous or contaminated material without prior written approval of the Engineer.

The Contractor will assume sole responsibility for the proper storage, handling, management and disposal of all regulated materials and wastes associated with the Contractor’s operations, including but not limited to; lubricants, antifreeze, engine fluids, paints, and solvents. All costs associated with the Contractor’s failure to properly manage such materials in accordance with federal and state regulations, and all remedial and punitive costs incurred by the Town as a result of such failure will be borne by the Contractor.

Excluded from the requirements under this article are coatings removed by the Contractor for the purpose of painting structural steel or other steel elements. The debris resulting from paint removal shall be tested by the Town to determine whether or not it is contaminated or hazardous material. Once so tested, these materials shall be removed from the site and disposed of by the Contractor in accordance with applicable special provisions.

**Sedimentation and Erosion Control**

Not applicable in this Contract.
Work Near Brook(s) and Stream(s)
Care shall be taken to prevent or reduce to a minimum any damage to any water body from pollution by debris, sedimentation or other material, or from manipulation of equipment and/or materials near such water bodies and on abutting property. Particular care shall be taken to prevent gasoline, diesel fuel, and other oils from entering any water body.

Work Within or Near Areas Designated as Inland Wetlands
Portions of this project are to be constructed in or near wooded areas and areas classified as inland wetlands. The Contractor shall limit disturbance of these areas, to what is absolutely necessary for construction, and restore these areas, as closely as possible, to their original state.

The Contractor shall familiarize himself with permits and maps held by the Town of Watertown indicating the wetlands. The Contractor shall be required to strictly adhere to all requirements and restrictions imposed by said permits.

The Contractor shall not introduce any substantial quantities of fill materials into any areas outside the contract limits.

Soil and Groundwater Conditions
The Owner assumes no responsibility whatsoever with respect to ascertaining for the Contractor such facts concerning physical characteristics at the site of the project. The Contractor agrees that he will make no claim for and has no right to additional payment or extension of time for completion of the work, or any other concession because of any interpretations or misunderstanding on his part of this Contract or because of any failure on his part to fully acquaint himself with all conditions relating to the work.

General Sanitary Requirements
The Contractor shall provide proper sanitary accommodations at a convenient place on or near the work site. They shall be cleaned daily and shall be adequately serviced.

The Contractor shall maintain a safe drinking water supply readily available to all workers.

Water Supply and Electrical Energy
The Contractor shall make his own arrangements for obtaining the electrical energy and water supply necessary for construction purposes at no additional cost to the Owner.

Sheeting, Shoring and Bracing
Where necessary the sides of trenches and excavations shall be supported by adequate sheeting, shoring and bracing. The Contractor shall be held accountable and responsible for the sufficiency of all sheeting, shoring and bracing used and for all damage to persons or property resulting from the improper quality, strength, placing, maintaining, or removing of the same. Where sheeting is removed care shall be taken not to disturb the new work or existing utilities and structures.
No sheeting is to be left in place unless expressly permitted by the Engineer. No direct payment will be made for sheeting, shoring and bracing and compensation for such work and all expenses incidental thereto shall be considered as included in the unit prices bid for the various items of this Contract.

Existing Structures
All known surface and underground structures, except electric and telephone service connections and water, gas and sewer service pipes, on or immediately adjacent to the work are shown on the Plans. Sewer, drainage, water and gas pipes, manholes and similar structures, located in or adjacent to the location of the structures included in this Contract, are shown on the Contract Drawings. This information is shown for the convenience of the Contractor in accordance with the best information available, but is not guaranteed to be correct or complete. The Contractor shall explore the route ahead of trenching and shall uncover all known obstructing pipes sufficient to determine their location. Necessary changes in location may be made by the Engineer to avoid unanticipated obstructions.

Wherever water or gas mains, electric or telephone ducts or electric or telephone poles are encountered and may be in any way interfered with; the Contractor shall keep the utility company involved fully informed in advance. The Contractor shall cooperate with the utility company in the protection, removal, relocation and replacement of such structures.

The Contractor shall, at his own expense, sustain in their places and protect from direct or indirect injury, all utilities, pipes, poles, conduits, walls, buildings, and other structures and property in the vicinity of his work. Such sustaining and protecting shall be done carefully by the Contractor and as required by the party owning or controlling the facility. Before proceeding with such work, the Contractor shall satisfy the Engineer that the methods and procedures to be used have been approved by the party owning said structure. There shall be no additional compensation for this work and all expenses incidental thereto shall be considered as in the unit price bid for the various items of this Contract.

The Contractor shall take all risks attending the presence or proximity of pipes, poles, conduits, walls, buildings, wires or other structures, utilities and property in the vicinity of his work, and he shall be responsible for all damage and assume all expense for direct or indirect injury caused by his work to any of them or to any person or property by reason of injury to them.

Guard rails, posts, guard cables, signs, poles, markers, mailboxes, fences, walls and stone walls, and other private improvements, which are temporarily removed, damaged or destroyed to facilitate installation of the sewer, shall be replaced and restored to a condition as good as or better than existed and to the satisfaction of the Owner or Engineer.

The Contractor shall, at his own expense, retain the services of a licensed surveyor to replace property markers, on or adjacent to privately owned property, which may have been disturbed during the course of construction.
Marking New Underground Plant
All new underground plant shall be marked with warning tape in accordance with State of Connecticut Public Act 16-345 and DPUC Regulations.

Operation of Water Valves
Unless otherwise permitted, existing water valves shall not be operated by the Contractor. Whenever the operation of a water valve is necessary, the Contractor shall make arrangements, at least 24 hours in advance of need, to have the Owner's forces perform the required operations. Contractor must prepare and distribute customer notices to all affected customers at least 24 hours prior to any shutdown of service.

Testing Laboratories
The Contractor shall provide, at no additional cost to the Owner, the services of approved testing laboratories to take samples of materials and perform tests as required under this Contract or as ordered by the Engineer. Payment for these services shall be included under the applicable items of the Contract, unless otherwise specified.
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Bassett Road Culvert Replacement
Watertown, CT

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INTRODUCTION TO THE TECHNICAL SPECIFICATIONS

The following Technical Specifications shall apply to the various items of work which constitute the construction contemplated under this Contract.

Within the Technical Specifications of this Contract, the following definitions shall apply:

1. **Standard Specifications** shall mean the State of Connecticut, Department of Transportation, Bureau of Highways, "Standard Specifications for Roads, Bridges and Incidental Construction, Form 816, dated 2004 and its latest supplements." It should be noted that portions of the Standard Specifications that are referred to in this Contract’s Technical Specifications may be supplemented, revised and/or amended per these Technical Specifications. These Technical Specifications shall govern as modified. Within the referred to portions of the Standard Specifications wherein the following terms are used, they shall mean respectively:

   - **Engineer, State, Department, Commissioner**
   - Town of Watertown acting directly or through a duly-authorized representative

   - **Inspector**
   - Town of Watertown acting directly or through a duly-authorized representative, assigned to make inspections of the work performed and materials furnished by the Contractor.

   - **Laboratory**
   - Laboratory designated by the Town of Watertown


3. **Items**: Items are generally numbered consistent with Connecticut Department of Transportation nomenclature. Please note that these Technical Specifications may be particular to this contract and differ from the Standard Specifications. Technical Specifications are included on the following pages. Sections or Articles referred to with a number refer to the State of Connecticut Department of Transportation, Bureau of Highways, Standard Specifications Sections or Articles.
4. **Regulatory Agency(ies):** Regulatory Agency(ies) shall be defined as the governing body or authority having jurisdiction over or responsibility for a particular activity within the scope of this Contract. They may be as specifically defined within the Special Conditions; otherwise the Contractor shall be responsible to determine same in the local area of the Contract.

5. **"These Specifications"** where used in the text of the Technical Specifications items shall mean the Technical Specifications of this Contract.

6. **Bid Proposal Items:** Payment will only be made for items in the Bid Proposal. Other items may be included in the Standard Specifications but payment for items not listed in the Bid Proposal will be included in the cost of other items of work. Bid Proposal items shall have similar designations as the similar item in the Standard Specifications.
NOTICE TO CONTRACTOR – SALVAGE

The Contractor shall salvage the items listed below:

Metal Beam Rail: Good condition only – rail elements (25-foot bundles double metal banded), posts and hardware.

Items salvaged from roadways owned and maintained by the Town of Watertown shall be delivered by the Contractor to the Town’s Public Works Garage. The contact person for this facility is Roy E. Cavanaugh, P.E., Director of Public Works (860-945-5240).

The Contractor shall notify the contacts noted above at least 48 hours prior to delivery. Deliveries shall be made between the hours of 8:00 a.m. and 3:30 p.m. on Monday through Friday, holidays excluded.

NOTICE TO CONTRACTOR – WORK ON ADJACENT PROJECTS

The Contractor is responsible for coordinating with the Town Engineer for any projects being constructed concurrently within the area of this project. The Contractor is responsible for coordinating with the Town Engineer to minimize disruption to traffic operations within the area. Detour operations on projects will require approval by the Town Engineer.

NOTICE TO CONTRACTOR – PROCUREMENT OF MATERIALS

Upon award, the Contractor shall proceed with shop drawings, working drawings, procurement of materials, and all other submittals required to complete the work in accordance with the Contract Documents. No material shall be delivered to the site prior to approval.

NOTICE TO CONTRACTOR - PERMITS/PERMIT APPLICATIONS

The Contractor is hereby notified that all permits and permit applications contained herein shall be made a part of this Contract, and that the Contractor shall be bound to comply with all requirements of such permits and permit applications as though the Contractor were the permittee. If at the time the permit is received its contents differ from that which is outlined in the application, the permit shall govern. The requirements and conditions set forth in the permit and permit applications shall be binding on the Contractor just as any other specification would be. In the case of a conflict between a provision of the environmental permit or permit application and another provision in the Contract Documents, the former shall govern.
NOTICE TO CONTRACTOR – TRAFFIC DRUMS AND TRAFFIC CONES

Traffic Drums and 42-inch (1 m) Traffic Cones shall have four six-inch (150 mm) wide stripes (two - white and two - orange) of flexible bright fluorescent sheeting.

The material for the stripes shall be one of the following, or approved equal:

- 3M Scotchlite Diamond Grade Flexible Work Zone Sheeting, Model 3910 for the white stripes and Model 3914 for the orange stripes,

- Avery Dennison WR-7100 Series Reboundable Prismatic Sheeting, Model WR-7100 for the white stripes and Model WR-7114 for the orange stripes.

NOTICE TO CONTRACTOR – NCHRP REPORT 350 REQUIREMENTS FOR WORK ZONE TRAFFIC CONTROL DEVICES

CATEGORY 1 DEVICES (traffic cones, traffic drums, tubular markers, flexible delineator posts)

Prior to using the Category 1 Devices on the project, the Contractor shall submit to the Engineer a copy of the manufacturer's self-certification that the devices conform to NCHRP Report 350.

CATEGORY 2 DEVICES (construction barricades, construction signs and portable sign supports)

Prior to using Category 2 Devices on the project, the Contractor shall submit to the Engineer a copy of the Letter of Acceptance issued by the FHWA to the manufacturer documenting that the devices (both sign and portable support tested together) conform to NCHRP Report 350 (TL-3).

Specific requirements for these devices are included in the Special Provisions.

Information regarding NCHRP Report 350 devices may be found at the following web sites:

FHWA: http://safety.fhwa.dot.gov/roadway_dept/road_hardware/index.htm


NOTE: The portable wooden sign supports that have been traditionally used by most contractors in the State of Connecticut do NOT meet NCHRP Report 350 criteria and shall not be utilized on any project advertised after October 01, 2000.

CATEGORY 3 DEVICES (Truck-Mounted Attenuators & Work Zone Crash Cushions)

Prior to using Category 3 Devices on the project, the Contractor shall submit to the Engineer a copy of the Letter of Acceptance issued by the FHWA to the manufacturer documenting that the devices conform to NCHRP Report 350.
NOTICE TO CONTRACTOR – PROTECTION OF EXISTING UTILITIES

Existing utilities shall be protected and maintained during construction except as specifically stated herein and/or noted on the plans and as coordinated with the utilities. The Contractor shall verify the location of underground, structure mounted, and overhead utilities. Construction work within the vicinity of utilities shall be performed in accordance with current safety regulations. The Contractor shall notify "Call Before You Dig", by dialing 811 or going to www.cbyd.com for the location of public utility prior to the beginning of any excavation, in accordance with State regulations.

Coordination with public and private utility custodians/owners will be required at the onset of construction. The Contractor will be required to reset any affected all manhole covers and utility valve/gate boxes encountered within the limits of the work as required. There will be no separate payment for this work.

Representatives of the various utility companies shall be provided access to the work, by the Contractor.

Contractors are cautioned that it is their responsibility to verify locations, conditions, and field dimensions of all existing features, as actual conditions may differ from the information shown on the plans or contained elsewhere in the specifications.

The Contractor shall notify the Engineer prior to the start of work and shall be responsible for all coordination with the Town. The Contractor shall allow the Engineer complete access to the work.

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.

Any damage to any existing private and public utility, as a result of the Contractors operations, shall be repaired to the utilities and Engineer's satisfaction at no cost to the Town or the Utilities, including all materials, labor, etc., required to complete the repairs.

The Contractor's attention is directed to the requirements of Section 1.07.13, Form 816 – "Contractor's Responsibilities for Adjacent Property Facilities and Services".

Prior to opening an excavation, effort shall be made to determine whether underground installations, i.e., water, sanitary, gas, electric ducts, communication ducts, etc., will be encountered and, if so, where such underground installations are located. When the excavation approaches the estimated location of such an installation, the exact location shall be determined by careful probing or hand digging, and when it is uncovered, proper supports shall be provided for the existing installation. Utility companies shall be contacted and advised of proposed work prior to the start of actual excavation, as noted above.

Bassett Road Culvert Replacement
Watertown, CT            TS-5
Buried Water Main

The contractor's attention is drawn to the existing water transmission main which parallels the brook and crosses the roadway within the limits of the work. The approximate location of the water main has been indicated on the plans based on available information. The contractor is hereby warned that the utility has a shallow bury depth. The contractor's operations shall proceed in a manner which will not disturb the water main in any way. Advance coordination with the City of Waterbury's Water Bureau has been conducted during the design phase. The contractor shall establish contact with the Water Bureau prior to beginning work on the project and shall maintain regular communication with the Water Bureau's designated representative throughout the course of the work. There will be no separate compensation for such effort, however the cost for such shall be included among the various pay items comprising the work.

Overhead Utilities

Overhead electric, telephone and cable services span the project area. The contractor is hereby warned that overhead utilities may conflict with construction activities. The contractor shall maintain sufficient clearance from overhead wires in accordance with applicable laws and regulations. The contractor shall establish contact with the utilities prior to starting the work and shall maintain regular communication with the utilities throughout the course of the work. The contractor will be responsible for coordination associated with temporary support and/or relocation of existing utilities as may be necessary to accomplish the work. A utility coordination meeting was conducted on-site during the design phase. The electric company indicated the power lines can be raised temporarily to provide additional overhead clearance, whether on a day basis or for the duration of construction. Other utilities may be raised, temporarily, if necessary. It is the responsibility of the contractor to work with the utilities to determine means and methods.

NOTICE TO CONTRACTOR - DUST CONTROL

It shall be the Contractor's responsibility to keep the existing roadway clean and provide adequate dust control by whatever means are necessary, to the satisfaction of the Town and the Engineer. This shall include any sweeping required either by mechanical means or hand sweeping if the use of a mechanical sweeper is not feasible. No additional compensation shall be made to the Contractor for dust control as the cost of which shall be covered in the general cost of Contract items.

NOTICE TO CONTRACTOR – VERIFICATION OF PLAN DIMENSIONS AND FIELD MEASUREMENTS

The Contractor is responsible for verifying all dimensions before any work is begun. Dimensions of the existing structures shown on the plans are for general reference only; they are not guaranteed. The Contractor shall take all field measurements necessary to assure proper fit of the finished work and shall assume full responsibility for their accuracy. When shop drawings and/or working
drawings based on field measurements are submitted for approval and/or review, the field measurements shall also be submitted for reference by the reviewer.

In the field, the Contractor shall examine and verify all existing and given conditions and dimensions with those shown on the plans. If field conditions and dimensions differ from those shown on the plans, the Contractor shall use the field conditions and dimensions and make the appropriate changes to those shown on the plans as approved by the Engineer. All field conditions and dimensions shall be so noted on the drawings submitted for approval.

There shall be no claim made against the Town by the Contractor for work pertaining to modifications required by any difference between actual field conditions and those shown by the details and dimensions on the contract plans. The Contractor will be paid at the unit price bid for the actual quantities of materials used or for the work performed, as indicated by the various items in the contract.

**NOTICE TO CONTRACTOR – AS-BUILT PLANS**

A complete set of prints shall be maintained at the site at all times and the Contractor shall be responsible for having clearly, neatly, accurately and promptly recorded thereon, as the work is performed, the as-built record of the contract work. Principal dimensions, elevations and such other data as required shall be recorded for all work.

The marked-up prints will be inspected weekly by the Town and shall be corrected immediately if found either inaccurate or incomplete.

At the completion of the project, complete as-built maps showing all improvements shall be prepared by the Contractor, and Certified Plans shall be presented on reproducible 3 mil mylar and shall be submitted to the Owner for final inspection and comment. At a minimum, the plans shall show the following:

1. North Arrow.
2. Bench Mark – Indicate elevation, datum used, with exact location and description noted.
3. Location, size and material of all underground utilities including sanitary sewers, drainage, water, electric, telephone, gas transmission mains, shall be shown with depths indicated at intervals of not more than 500'. Location of manholes, catch basins, end walls, wyes, tees, risers, etc. shall be noted.
4. Scale shall be noted.
5. Date construction was completed (month and year only), and date of finished As-Built map shall be indicated.
6. Revisions shall be noted and redated.
7. As-Built pipe grade in percent shall be shown as well as invert elevations at every structure.
8. The name of the Professional Engineer or Surveyor shall be shown on said plan with the plan sealed by the Professional.
9. Houses or other structure shall be located and noted on the plan along with corresponding house number or lot number, if available.

Bassett Road Culvert Replacement
Watertown, CT

TS-7
10. Location, size and depth of all utilities entering homes shall be shown.
11. All drainage outfalls shall be profiled for a distance of not less than 50' from the outlet structures.

The Contractor shall correct, amplify and do all other work as may be required by the Owner to complete the drawings in a manner satisfactory to the Owner.

This work shall be performed on a continuing basis and shall be included in the general cost of the work. No separate payment will be made for As-Built Drawings. This information will be used by the Municipality and may serve as public information. Final payment will not be made until as-built drawings are furnished and deemed satisfactory by the Engineer.

NOTICE TO CONTRACTOR – MATERIALS CERTIFICATES AND TESTING

This item shall conform to Sections 1.06, Form 816, as amended. The Contractor shall furnish certificates signed and dated by a person in responsible charge of the source of materials furnished that the materials meet the specification requirements contained herein. The Engineer reserves the right to have samples tested independently. If the samples fail to meet the specification requirements, the entire load will be rejected. If the same supplier certifies more than once that a material meets the specification and the samples fail an independent test, then the supplier will be rejected from furnishing any further materials on the project.

The Town is responsible for scheduling all required material testing and paying the cost of the same. There will be no separate payment for materials certificates and tests as specified herein.

Materials Certificates:

For pipe, cement, steel reinforcement, and similar materials which are normally tested in the shop by the manufacturer, the Contractor shall furnish the Engineer certified records of physical, chemical, and other pertinent tests, and/or certified statements from the manufacturer that the materials have been manufactured and tested in conformity with the specifications. Where such a small quantity of material is required as to make physical or chemical analyses impractical, a certificate from the manufacturer stating the results of such tests or analyses of similar material which were concurrently produced, may at the discretion of the Engineer, be considered as the basis for the acceptance of such materials.

Materials Testing:

If the Engineer so requires, either prior to beginning or during the progress of the work, the Contractor shall submit samples of materials for such special tests and analyses as may be necessary to demonstrate that they conform to the specifications. The Town will pay for all testing laboratories to perform such tests and analyses. Such samples shall be furnished, taken, stored, packed, and shipped as directed, at the expense of the Contractor. The Contractor shall pay for all tests, etc. relating to the material used on the work, in accordance with the provisions of the contract item. The Contractor shall submit data and samples, or place his orders,
sufficiently early to permit consideration, inspection, testing and approval before the materials and equipment are necessary for incorporation in the work. Any delays resulting from his failure so to do shall not be used as a basis of a claim against the Town or the Engineer. If the Engineer orders sampling and analyses or tests of materials which are usually accepted on certification of the manufacturer but which appear defective or not conforming to the requirements of the specifications, the Town will bear the costs of tests and analyses if the material is found to be sound and conforming to the specifications; if found defective or not conforming to the specifications, the Contractor shall bear all of the cost.

NOTICE TO CONTRACTOR – SUBMITTALS FOR IMPORTED AGGREGATES

In accordance with the requirements in these special provisions and the CT DOT Form 816, specifically the Materials Section, the contractor is hereby notified of the requirement to provide submittals which include, but may not be limited to, tests on the gradation, abrasion and soundness of the aggregate materials proposed for use on this project. The tests must be current and based on a specific source location/pile. No material shall be imported until the Engineer issues a written approval. The Contractor shall also provide testing and documentation of the imported and stockpiled material to confirm consistency with the approved submittals and compliance with these specifications.
SECTION 1.05 - CONTROL OF THE WORK

Section 1.05, Form 816 shall apply and is supplemented and amended as follows:

Throughout this Section, except as noted, make the following substitutions for all occurrences of the word(s) identified below for substitution:

Substitute "Engineer" for "Department's Assistant District Engineer"
Substitute "Town" for "Department", except in Article 1.05.15.
Substitute "Town" for "State", except in Subarticle 1.05.02(2).

1.05.02(2) – Working Drawings: is amended as follows:

When required by the Contract or when ordered by the Engineer, the Contractor shall prepare and submit three (3) hard copies of the working drawings and calculations to the Town's Contracting Engineer for review prior to implementation:

Glenn Jarvis, P.E.
99 Realty Drive
Cheshire, CT 06410
(203) 271-1773

A copy of the transmittal letter shall be sent to the Town:

Town of Watertown
Roy E. Cavanaugh, P.E.
Director of Public Works
61 Echo Lake Road
Watertown, Connecticut 06795
(860) 945-5240

1.05.02(3) – Shop Drawings: is amended as follows:

Delete the first sentence in the first paragraph and substitute the following:

When required by the Contract or when ordered by the Engineer, the Contractor shall prepare and submit five (5) copies of the shop drawings to the Town's Contracting Engineer for review and approval prior to fabrication:

Glenn Jarvis, P.E.
99 Realty Drive
Cheshire, CT 06410
(203) 271-1773
SECTION 1.05 - CONTROL OF THE WORK

A copy of the transmittal letter shall be sent to the Town:

Town of Watertown
Roy E. Cavanaugh, P.E.
Director of Public Works
61 Echo Lake Road
Watertown, Connecticut 06795
(860) 945-5240

Add the following Subarticle:

1.05.02(4) – Schedule of Submission

Prior to the submission of any working, shop or erection drawings, the Contractor shall prepare and submit to the Engineer, for approval, a schedule for all proposed working and shop drawings. This initial schedule should be submitted within thirty (30) days of contract award and must be submitted before the Notice to Proceed. The Contractor shall coordinate, schedule and control all submittals of working and shop drawings including those of his various subcontractors, suppliers and engineers to provide for an orderly and balanced distribution of the work.

The Contractor shall schedule the submission of shop drawings so that thirty (30) calendar days (beginning on the date of receipt) is allowed for review by the Town for routine work. For work of more complexity, the time for review by the Town will be increased in proportion to the complexity of the work. The Contractor shall adjust their schedules so that an additional fifteen (15) calendar day period is provided for each resubmittal.

It is incumbent upon the Contractor to submit his shop drawings in accordance with the approved working and shop drawing schedule to facilitate expeditious review. Voluminous submittals of shop drawings at one time are discouraged and may result in increased review time. In no case will the Town accept liability for resulting delays, added costs and related damages when the time required for approval extends beyond the approximate times shown herein when the shop drawings are not submitted in conformance with the approved schedule.
SECTION 1.06 - CONTROL OF MATERIALS

1.06.07 – Certified Test Reports and Material Certificates

1. For the materials in the following items a Certified Test Report will be required confirming their conformance to the requirements set forth in these plans or specifications or both. Should the consignee noted on a Certified Test Report be other than the Prime Contractor, the Materials Certificates shall be required to identify the shipment.

Class "A" Concrete
  Materials: Joint Sealer

Precast Concrete Culvert
  Materials: Concrete
  Reinforcing Steel

Metal Beam Rail
  Materials: Rail
  Posts

Construction Signs – Type III Retroreflective Sheeting
  Materials: Sign Face

2. For the materials in the following items a Materials Certificate will be required confirming their conformance to the requirements set forth in these plans or specifications or both.

Class "A" Concrete
  Materials: Joint Sealer

Dampproofing Material

Waterproofing Membrane:
  Materials: Woven Glass Fabric

Turf Establishment
  Materials: Seed

Construction Barricades – Type III
  Materials: Reflective Sheeting

Construction Signs – Type III Retroreflective Sheeting
  Materials: Reflective Sheeting
SECTION 1.07 - LEGAL RELATIONS AND RESPONSIBILITY TO PUBLIC

1.07.13 – Contractor's Responsibility for Adjacent Property and Services: is supplemented with the following:

The Contractor's attention is directed to the fact that there is a large diameter underground water main within the project area. Also, overhead utilities (including utility poles, pole guys and wires) do exist in the immediate vicinity of the project.

The Contractor shall be liable for all damages and 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.

The following companies and their representatives shall be contacted by the Contractor to coordinate the protection of their utilities on the construction site two (2) weeks prior to the start of any work on the project involving their utilities:

Mr. Raymond Puzemis  
Engineering  
Frontier Communications of CT  
1441 North Colony Road  
Meriden, CT 06450  
(203) 238-5657

Mr. Chris Bogucki  
Superintendent  
City of Waterbury Bureau of Water  
21 East Aurora Street  
Waterbury, CT 06708  
(203) 574-8251

Mr. Barry C. Lashley, Msc.  
Supervisor – Construction Engineering  
Eversource Energy – Electrical Dist.  
135 New Road, Madison AWC  
Madison, Connecticut 06443  
(203) 245-5208

Mr. George Rebentisch  
Construction Manager  
Cablevision of Litchfield, Inc.  
122 River Street  
Bridgeport, CT 06604  
(203) 696-4764

Mr. Vincent Caterino  
Superintendent  
Town of Watertown Water & Sewer Department  
747 French Street  
Oakville, CT 06779  
(860) 945-5299

Mr. Michael Tanuis  
Watertown Fire District  
Superintendent  
24 DeForest Street  
Watertown, CT 06795  
860) 274-6332

Bassett Road Culvert Replacement  
Watertown, CT  
TS-13
SECTION 1.07 - LEGAL RELATIONS AND RESPONSIBILITY TO PUBLIC

1.07.14 – Personal Liability of Representatives of the State: is amended as follows:

Replace the word "the Department" with "Engineer."

1.07.15 – No Waiver of Legal Rights: is amended as follows:

Replace the words "Commissioner" and "Department with "Town" throughout this Article.

1.07.17 – Unauthorized Use of Area(s) within Project Limits Prohibited: is amended as follows:

Replace the words "Commissioner" and "State" with "Town" throughout this Article.

Add the following new Subarticle:

1.07.19 – Personal Liability of Representatives of the Town

In carrying out any of the provisions of these specifications, or in exercising any power or authority granted to them by or within the scope of the Contract, the Engineer and his authorized representatives, including consultant engineering firms and their employees, shall be subject to no liability, either personally or as officials of the Town, it being understood that in all such matters they act solely as agents and representatives of the Town.
SECTION 4.06 BITUMINOUS CONCRETE

Section 4.06 is being deleted in its entirety and replaced with the following:

SECTION 4.06 BITUMINOUS CONCRETE & SUPERPAVE

4.06.01—Description
4.06.02—Materials
4.06.03—Construction Methods
4.06.04—Method of Measurement
4.06.05—Basis of Payment

4.06.01—Description: Work under this section shall consist of the production and placement of a smooth and dense bituminous concrete mixture with a uniform texture for (1) a completed base course, (2) the surface of an existing pavement or (3) the surface of an existing pavement which has been brought to proper grade and cross section. Work under this section shall also include sawing and sealing of joints and sealing cracks. Where reference is made to bituminous concrete in this specification, it shall also mean Superpave unless specifically referred to.

4.06.02—Materials: The materials for the bituminous concrete mixture, sources of supply, formula for mix, tack coat, joint seal, mix tolerances, approval of mix formula, and the control of the mixture shall conform to the requirements of Section M.04.

Recycle Option: The Contractor has the option of recycling reclaimed asphalt pavement (RAP). RAP may be recycled in Class 1, Class 2, Class 3, and Class 4. The use of RAP in Superpave 0.25, 0.375, 0.50, 0.75, 1.0 & 1.5 inch shall be limited to 10% of total mix for batch and drum plants.

Crushed Glass Option: The Contractor has the option of adding clean, environmentally acceptable crushed, recycled container glass (CRCG) to Class 1, Class 3, Class 4 and Superpave mixtures (not to be used as surface course).

4.06.03—Construction Methods: The methods employed in performing the work and all equipment, tools, machinery and plant used in handling material and executing any part of the work must be approved by the Engineer prior to their use. If at any time these are unsatisfactory to the Engineer, the Contractor shall change them, as the Engineer requires.

1. Material Documentation: All vendors producing bituminous concrete must have their truck-weighing scales, storage scales, and mixing plant automated to provide a detailed ticket. Delivery tickets must include the following information:
   b. Name of producer, identification of plant, and specific storage bin (silos) if used.
   c. Date and time of day.
   d. Class of material with RAP (must include RAP dry weight, percentage and daily moisture content, if used), Class 3 mixture for machine-placed curbing must state "curb mix only."
   e. Net weight of material loaded into truck.
f. Gross weight or tare weight of truck.
g. Project number, purchase order number, name of contractor (if contractor other than producer)
h. Truck number for specific identification of truck.
i. Individual aggregate, RAP, and asphalt high/target/low weights shall be printed on batch plant tickets. (For drum plants and silo loadings, the plant printouts shall be maintained by the vendor for a period of three years after the completion of the project).

The Contractor must notify the Engineer immediately if, during the production day, there is a malfunction of the recording system in the automated plant or truck-weighing scales. Manually written tickets containing all required information will be allowed for one hour, but for no longer, provided that each load is weighed on State-approved scales. At the Engineer's sole discretion, trucks may be approved to leave the plant if a State inspector is present to monitor weighing. If such a malfunction is not fixed within forty-eight hours, material will not be approved to leave the plant until the system is fixed to the Engineer's satisfaction. No damages will be considered should the State be unable to provide an inspector at the plant.

2. Transportation of Mixture: Trucks with loads of bituminous materials being delivered must not exceed the State legal weight limits. The State reserves the right to check the gross and tare weight of any delivery truck. During any check, a variation of the documented weight from that shown on a producer's ticket of two percent or less shall be considered evidence that the weight shown on the producer's ticket is correct. If the gross or tare weight varies from that shown on the delivery ticket by more than two percent, the Engineer will recalculate the net weight.

If a truck delivers material to the project and the ticket shows that the truck is overweight, the truck must then be unloaded. An adjustment for weight will be taken in accordance with Sub article 4.06.04.

The State reserves the right to have an inspector present to monitor batching and/or weighing operations.

The mixture shall be transported from the mixing plant in trucks that have previously been cleaned of all foreign material and that have no gaps through which material might inadvertently escape. The use of kerosene, gasoline, fuel oil, or similar products for the coating of the inside of truck bodies is prohibited.

Truck body coating and cleaning agents must not have a deleterious effect on the transported materials. If such agents are applied, truck bodies shall be raised immediately prior to loading to remove any excess agent in an environmentally acceptable manner and as pre-approved by the Contractor.

Loaded trucks shall be tightly covered with waterproof covers acceptable to the Engineer. Mesh covers are prohibited. The front and rear of the cover must be fastened to minimize air infiltration.
The Contractor shall assure that all trucks are in conformance with this specification. Trucks found not to be in conformance shall not be allowed to be loaded until re-inspected to the satisfaction of the Engineer.

3. Paving Equipment: The Contractor shall have the paving and compaction equipment at the Project site in a sufficient amount of time before operations so that it can be inspected and approved by the Engineer. The Contractor shall repair or replace any equipment found worn or defective, either before or during paving, to the satisfaction of the Engineer. The use of solvents or fuel oil as a release agent on any paving equipment (i.e., rollers, pavers, transfer devices, etc.) is strictly prohibited.

a. Pavers: Each paver shall have a receiving hopper with sufficient capacity to provide for a uniform spreading operation and a distribution system that places the mix uniformly, without segregation. The paver shall be equipped with and use a vibratory screed system with heaters or burners. The screed system shall be capable of producing a finished surface of the required evenness and texture without tearing, shoving, or gouging the mixture. Pavers with extendible screed units as part of the system shall have auger extensions and tunnel extenders as necessary. Automatic screed controls for grade and slope shall be used unless otherwise approved by the Engineer. The controls shall automatically adjust the screed to compensate for irregularities in the preceding course or existing base. The controls shall maintain the proper transverse slope and be readily adjustable, and shall operate from a fixed or moving reference such as a grade wire or floating beam.

b. Rollers: All rollers shall be self-propelled and designed for compaction of bituminous concrete.

Non-vibratory (static) rollers shall be steel wheel types. These rollers may also be of the type that can be used as vibratory rollers.

Pneumatic tire rollers shall be self-propelled and equipped with wide-tread compaction tires capable of exerting an average contact pressure from 60 to 90 pounds per square inch uniformly over the surface, adjusting ballast and tire inflation pressure as required. The Contractor shall furnish evidence regarding tire size; pressure and loading to confirm that the proper contact pressure is being developed and that the loading and contact pressure are uniform for all wheels.

Vibratory rollers shall be equipped with indicators that provide the operator with amplitude, frequency and speed settings/readouts to measure the impacts per foot during the compaction process.

c. Lighting: For paving operations, which will be performed during hours of darkness, the paving equipment shall be equipped with lighting fixtures as described below, or with approved lighting fixtures of equivalent light output characteristics. A sufficient number of spare lamps shall be available on site as replacements in the event of failures. The Contractor shall provide brackets and hardware for mounting light fixtures and generators.
to suit the configuration of the rollers and pavers. Mounting brackets and hardware shall provide for secure connection of the fixtures, minimize vibration, and allow for adjustable positioning and aiming of the light fixtures. Lighting shall be aimed to maximize the illumination on each task and minimize glare to passing traffic. The Contractor shall provide generators on rollers and pavers of the type, size, and wattage, to adequately furnish 120 V AC electric power to operate the specified lighting equipment. A sufficient amount of fuel shall be available on site. There shall be switches to control the lights. Wiring shall be weatherproof and installed to all applicable codes. The minimum lighting requirements are:

### Paver Lighting

<table>
<thead>
<tr>
<th>Fixture</th>
<th>Quantity</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type A</td>
<td>3</td>
<td>Mount over screed area</td>
</tr>
<tr>
<td>Type B (narrow) or Type C (spot)</td>
<td>2</td>
<td>Aim to auger and guideline</td>
</tr>
<tr>
<td>Type B (wide) or Type C (flood)</td>
<td>2</td>
<td>Aim 25 feet behind paving machine</td>
</tr>
</tbody>
</table>

### Roller Lighting

<table>
<thead>
<tr>
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<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type B (wide)</td>
<td>2</td>
</tr>
<tr>
<td>Type B (narrow)</td>
<td>2</td>
</tr>
</tbody>
</table>

OR

<table>
<thead>
<tr>
<th>Fixture</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type C (flood)</td>
<td>2</td>
</tr>
<tr>
<td>Type C (spot)</td>
<td>2</td>
</tr>
</tbody>
</table>

All fixtures shall be mounted above the roller. Aim floodlights and wide beam lights 50 feet in front of and behind roller; aim spotlights and narrow beam lights 100 feet in front of and behind roller.

**Type A:** Fluorescent fixture shall be heavy-duty industrial type. It shall be enclosed and gasketed to seal out dirt and dampness. It shall be UL listed as suitable for wet locations. The fixture shall contain two 4-foot long lamps - Type "F48T12CWHO." The integral ballast shall be a high power factor, cold weather ballast, and 120 volts for 800 MA HO lamps. The housing shall be aluminum, and the lens shall be acrylic with the lens frame secured to the housing by hinging latches. The fixture shall be horizontal surface mounting, and be made for continuous row installation.

**Type B:** The floodlight fixture shall be heavy-duty cast aluminum housing, full swivel and tilt mounting, tempered-glass lens, gasketed door, reflector to provide a wide distribution or narrow distribution as required, mogul lamp socket for 250 watt Metal Halide lamp, 120 volt integral ballast, suitable for wet locations.

**Type C:** The power beam holder shall have ribbed die cast aluminum housing, and a clear tempered-glass lens to enclose the fixture. There shall be an arm fully adjustable for aiming, with a male-threaded mount with serrated teeth and lock nuts. There shall be a 120-volt heatproof socket with extended fixture wiring for an "Extended Mogul End Prong" lamp base. The fixture shall have gaskets, and shall be UL listed as suitable for wet
locations. The lamps shall be 1000-watt quartz PAR64, both Q1000PAR64MFL (flood) and Q1000PARNSP (spot) will be required.

4. Placing of Mixture: Prior to the placement of the bituminous concrete, the underlying base course shall be brought to the plan grade and cross section within the allowable tolerance. Immediately before placing the mixture, the area to be surfaced shall be cleaned by sweeping or by other means acceptable to the Engineer.

Weather and Seasonal Limitations: The bituminous concrete mixture shall not be placed whenever the surface is wet or frozen or when the temperature is outside the limitations stated in Table 1. Bituminous concrete mixtures shall only be placed if the Contractor has a Cold Weather Paving Procedure (CWPP) approved by the Engineer.

Seasonal paving limitations will be in effect between the period of November 15 and the following April 15 for day paving and the period of October 15 and the following April 30 for night paving. At least two weeks prior to a paving operation that will occur within the seasonal limitation period, the Contractor must submit a CWPP to the Engineer for approval. Paving operations will not be allowed during the seasonal paving limitation period unless specifically authorized by the Engineer and the CWPP has been approved.

In no case shall the final course of bituminous concrete be placed during the paving limitation period unless specifically authorized by the Engineer.

Cold Weather Paving Procedure: The procedure shall be project specific and at a minimum shall include the contractor's proposed methodology to achieve the following requirements:

a. The minimum material temperature for all bituminous concrete mixtures in the delivery truck prior to discharge into the paver or transfer device hopper shall be 275°F. Bituminous concrete mixtures below the minimum temperature shall not be placed in the hopper and shall be removed from the project.

b. The Contractor must provide and submit production rates, rolling patterns, and other operational characteristics to ensure that the compaction requirements stated in Article 4.06.03 are met. The submittal shall also describe remedial measures that will be implemented by the Contractor if compaction requirements are not met. The Contractor shall be required to use a minimum of three rollers with operators for paving lengths greater than 1000 linear feet unless otherwise approved by the Engineer. The submittal shall also describe remedial measures that will be implemented by the Contractor if compaction requirements are not met.

c. The mat surface temperature at which compaction efforts shall cease will be specified in the submittal. Each roller operator shall be equipped with an infra-red thermometer, or other approved device, to determine the surface temperature of the compacted bituminous concrete mat. Rolling patterns shall be adjusted based upon the temperature readings.
During the paving limitation period defined herein, the Contractor shall be prepared to comply with the approved Cold Weather Paving procedure if the forecasted low temperatures for the hours of paving are expected to be within 5°F of the minimum temperatures in Table 1.

<table>
<thead>
<tr>
<th>Lift thickness (Inches)</th>
<th>Minimum Air and Surface Temperatures - Degree F</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Final Course</td>
</tr>
<tr>
<td>Less than 1 - 1/2 in.</td>
<td>50</td>
</tr>
<tr>
<td>1-1/2 to 2-1/2 in.</td>
<td>40</td>
</tr>
<tr>
<td>Over 2-1/2 in.</td>
<td>40</td>
</tr>
</tbody>
</table>

Table 1 - ** Air and surface temperatures are taken in the shade. The surface is defined as the surface on which the new bituminous concrete pavement layer is to be placed.

**Placing and Compacting Mixture:** The mixtures shall be placed and compacted to provide a smooth and dense surface with a uniform texture. When overtaken by sudden storms, the Engineer may permit placement of the bituminous concrete to continue up to the quantity of material that is in transit from the plant.

The mixture shall be placed at a temperature that is within 25°F of the approved job mix formula.

Before rolling is started, the mat shall be checked for defects in material or placement. Such defects shall be corrected to the satisfaction of the Engineer. Where it is impracticable due to physical limitations to operate the paving equipment, the Engineer may permit the use of other methods or equipment. Where hand spreading is permitted, the mixture shall be placed by means of suitable shovels and other tools, and in a uniformly loose layer at a depth that will result in a completed pavement having the designed depth. Any deviation from standard crown or section shall be immediately remedied by placing additional material or removing surplus as directed by the Engineer. The Engineer may direct that other means of spreading be used to ensure a better control of the depths of material and the finished surface.

A thin uniform coating of tack coat shall be applied to the pavement immediately before overlaying and be allowed sufficient time to break (set). All surfaces that have been in place longer than five (5) calendar days shall have an application of tack coat and for those less than five (5) calendar days; it shall be at the sole discretion of the Engineer. The tack coat shall be applied to all contact surfaces such as gutters, manholes and concrete barriers. The tack coat shall be applied by a non-gravity pressurized spray system that results in uniform overlapping coverage at a target application rate of 0.05± 0.02 gallons per square yard for a non-milled surface and a target application rate of 0.10± 0.02 gallons per square yard for a milled surface. For areas where both milled and un-milled surfaces occur, the tack coat shall be 0.05± 0.02 gallons per square yard. Gravity-fed systems are not acceptable for tack coat application. The Engineer must approve the equipment and the method of measurement prior to use. The material for tack coat shall not be heated in excess of 160°F and shall not be further diluted.
Refueling of equipment is prohibited in any location on the paving project where fuel might come in contact with bituminous concrete mixtures already placed or to be placed. Solvents for use in cleaning mechanical equipment or hand tools shall be stored clear of areas paved or to be paved. Before any such equipment and tools are cleaned, they shall be moved off the paved or to-be-paved area; and they shall not be returned for use until after they have been allowed to dry.

Immediately before placing bituminous concrete on a waterproofing membrane, the membrane shall be swept clean. If the membrane is damaged, it shall be repaired by patching as directed by the Engineer.

Temporary and permanent transverse joints shall be formed by saw-cutting a sufficient distance back from the previous run, existing bituminous concrete pavement, or bituminous concrete driveways to expose the full depth of the course. On any cold joint, immediately prior to additional bituminous concrete materials being placed, a brush of tack coat shall be used on all contact surfaces.

The longitudinal joint shall be offset at least six inches from the joint in the course immediately below. The joint in the final surface shall be at the centerline or at lane lines.

5. Compaction: In general, rolling shall consist of initial or breakdown rolling, intermediate rolling and final or finish rolling. The contractor shall furnish a sufficient number and type(s) of rollers for each paving machine to properly compact the mat. When operating the roller in the vibratory (dynamic) mode, the operator shall maintain a minimum of twelve impacts per foot. All vibratory rollers shall be shut off from the vibrating mode when reversing directions and be equipped with automatic reversing eccentrics (weights). The use of a vibratory roller in the dynamic or vibratory mode is prohibited on concrete structures such as bridges and catch basins, and other locations as directed by the Engineer. This requirement will not relieve the Contractor from meeting pavement compaction requirements, as specified herein.

In advance of paving, traffic control requirements shall be set up daily, maintained throughout placement, and shall not be removed until all compaction testing is completed by the Engineer.

If the Engineer determines that the use of vibratory compaction equipment may damage highway components, utilities, or adjacent property, the Contractor shall provide alternate compaction equipment to meet specification requirements unless otherwise approved by the Engineer. The completed pavement course on roadways and bridges will have the mat and longitudinal joints tested for compaction in accordance with the "Density Testing Procedure" established by the DRM. Each course placed at a depth of one and one-half inches or greater shall have the mat and longitudinal joints compacted to 94.5±2.5 percent density as determined by AASHTO T-209 (modified). Class 4 and Superpave 1.0 and 1.5 inch bituminous concrete are excluded from the joint density requirements.

6. Surface Tolerance: The Contractor shall perform random spot-checks with a Contractor-supplied ten-foot straightedge placed parallel to the centerline of the road to verify surface tolerances at a minimum of five locations per day. The Contractor shall submit the data obtained to the Engineer for review. The final surface course will not vary more than 1/4 inch from a ten-
foot straightedge and 3/8 inch for all other courses. Such tolerance will apply to all paved areas including bridge approaches, headers, and existing pavement. Any irregularity of the surface exceeding these limits shall be corrected.

7. **Protection of the Work:** All sections of the newly finished pavement shall be protected by the Contractor from damage by the Contractor's equipment and traffic.

8. **Corrective Work Procedures:** Any portion of the completed pavement determined by the Engineer to be defective in surface texture, density or composition, or that does not comply with the requirements of the specifications shall be corrected at the expense of the Contractor. Any corrective courses placed as the final wearing surface shall not be less than one and one-half inches in depth after compaction.

If pavement placed by the Contractor does not meet the specifications, and the Engineer requires its replacement or correction, the Contractor shall:

a. Propose a corrective procedure to the Engineer for review and approval prior to any corrective work commencing. The proposal shall include:
   1. Limits of pavement to be replaced or corrected, indicating stationing or other landmarks that are readily distinguishable.
   2. Schedule.
   3. Construction method and sequence of operations.
   4. Methods of maintenance and protection of traffic.
   5. Material sources.
   6. Names and telephone numbers of supervising personnel.

b. Perform all corrective work in accordance with the Contract and the approved corrective procedure.

9. **Joints and Cracks in Bituminous Concrete Pavement:** Work under this section shall consist of constructing new joints and repairing existing joints and cracks.
   a. **Equipment:** All equipment shall be approved by the Engineer prior to its use.
      1) **Kettle:** The unit shall be a combination melter and pressurized applicator of a double-boiler type with space between the inner and outer shells filled with oil or other material not having a flash point of less than 600° F. The kettle shall include a temperature control indicator and mechanical agitator. The kettle shall be capable of maintaining the material at a temperature within 15° F of the manufacturer's specified temperature.
      2) **Compressor:** The compressor shall have a sufficient capacity and length of hose to enable a continuous sealing operation.
      3) **Saw:** The saw shall be capable of providing a straight cut of uniform depth and width.

b. **Control of Joint Seal Material:** Material that is heated or cooled beyond the manufacturer's specified temperature range shall be discarded.

c. **Sawing and Sealing Joints in Bituminous Concrete Pavement:** Work under this item shall consist of making a straight-line saw cut transversely across the final course of bituminous
concrete pavement directly over the new and existing Portland Cement concrete (PCC) transverse joints. The sawing and sealing of joints shall be completed for bituminous concrete pavements with a total depth of three inches or greater. The saw cut shall be immediately cleaned and sealed with a joint seal material. The sawing and sealing shall commence within one week of the completion of any final course of pavement and be a continuous operation until all joints have been completed.

Prior to the paving operation, the Contractor shall establish sufficient controls to locate each transverse joint. This work shall include setting markers at each joint to reference its location and alignment, and having each of these markers tied and referenced. A written procedure for this work shall be submitted to the Engineer for review prior to commencement of such work.

The saw cut will be made by using diamond saw blades with a gang blade arrangement in order to achieve the joint detail as shown on the plans. The saw cut will be in a straight line across the pavement directly over the joint. Transverse joints shall extend to a point two feet beyond the underlying PCC pavement. The sawed joints shall be cleaned with compressed air to the satisfaction of the Engineer.

Immediately following the cleaning, the joint seal material shall be installed. When cooled, the top of the sealant material shall be recessed a minimum of 1/16 inch but not greater than 1/8 inch below the adjacent pavement surface. The roadway shall not be opened to traffic until the material has become tack free. Any depression in the sealer greater than 1/8 inch shall be brought up to the specified limit by further addition of joint seal material. Care shall be taken during the sealing operation to ensure that overfilling and spilling of material is avoided.

Any reflective cracking attributable to improper joint referencing or construction shall be repaired at the expense of the Contractor, in a manner approved by the Engineer for a period of one year from the date of completion of any sawed and sealed portion of final pavement.

d. **Cleaning and Sealing Joints and Cracks in Pavement:** Work under this item shall consist of cleaning existing joints and cracks of all dirt, dust, loose joint material, and all deleterious matter with compressed air to the satisfaction of the Engineer. After a sufficient number of joints and cracks have been cleaned so as to ensure a continuous operation, all joints and cracks shall be sealed with joint seal material. Sealing of the joints shall be done as described in Sub article 4.06.03-9c.

e. **Cutting and Sealing Joints in the Bituminous Concrete Shoulder:** When PCC pavement is the final wearing surface a longitudinal saw cut at the interface of the bituminous concrete shoulder and PCC pavement shall be made. The saw cut shall be made in the bituminous concrete shoulder to expose the abutting edge of the PCC pavement. The size of the saw cut shall be 1/2 inch wide by 1-1/2 inches deep. Cleaning and sealing of the joints shall be done as described in Sub article 4.06.03-9c.
f. **Kerf Cut in Bituminous Concrete Pavement:** If the final course of pavement will not be completed prior to winter shutdown, each exposed course shall have a $\frac{3}{8}$ inch by $\frac{1}{4}$ inch kerf cut above the new and existing transverse joints. The kerf shall be cut with a saw or abrasive wheel approved by the Engineer. The kerf cut shall not be sealed.

10. **Cut Bituminous Concrete Pavement:** Work under this item shall consist of making a straight-line cut in the bituminous concrete pavement to the lines delineated on the plans or as directed by the Engineer. The cut shall provide a straight, clean, vertical face with no cracking, tearing or breakage along the cut edge.

11. **Contractor Mix Design and Quality Control of HMA Plant Production:** For Superpave materials, the Contractor shall submit mix designs and perform all QC testing at the plant during production for all contracts as specified in Section M.04 and as stated herein. The DRM will perform all verification testing during production in accordance with the procedures stated in the "Materials Testing Manual" published by the Department's Division of Materials Testing.

12. **Transitions for Roadway Surface:** Transitions shall be formed at any point on the roadway where the pavement surface deviates, vertically, from the uniform longitudinal profile as specified on the plans. Whether formed by milling or by bituminous concrete material, all transition lengths shall conform to the criteria below unless otherwise specified.

   a. **Permanent Transitions:** A permanent transition is defined as any transition that remains as a permanent part of the work. All permanent transitions shall meet the following length requirements:

      1) Transitions (bi-directional) - Limited Access Highways and Secondary Roadways greater than 35 MPH
         
         | Depth (vertical change) | Length |
         |-------------------------|--------|
         | 1 inch                  | 30 feet|

      2) Transitions (bi-directional) - Secondary Roadways 35 MPH or less
         
         | Depth (vertical change) | Length |
         |-------------------------|--------|
         | 1 inch                  | 15 feet|

      3) Transitions at bridge overpasses
         
         i. When approaching bridge overpasses the transition shall be completed 75 feet before the bridge expansion joint.

         ii. When leaving bridge overpasses the transition shall begin 75 feet after the bridge expansion joint.

         iii. When approaching bridge underpasses the transition shall be completed 75 feet before the parapet face of the above overpass.

         iv. When leaving bridge underpasses the transition shall begin 75 feet after the parapet face of the above overpass.
In areas where it is impractical to use the above described permanent transition lengths the use of a shorter permanent transition length may be permitted when approved by the Engineer.

The installation of permanent transitions shall be paid for under the appropriate item used in the formation of the transition.

b. Temporary Transitions: A temporary transition is defined as a transition that does not remain a permanent part of the work. All temporary transitions shall meet the following length requirements:

1) Leading Transitions - Limited Access Highways

<table>
<thead>
<tr>
<th>Depth (vertical change)</th>
<th>Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 inch</td>
<td>15 feet</td>
</tr>
</tbody>
</table>

2) Trailing Transitions - Limited Access Highways

<table>
<thead>
<tr>
<th>Depth (vertical change)</th>
<th>Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 inch</td>
<td>6 feet</td>
</tr>
<tr>
<td>1.5 inches</td>
<td>8 feet</td>
</tr>
<tr>
<td>2 inches</td>
<td>10 feet</td>
</tr>
<tr>
<td>2.5 inches</td>
<td>12 feet</td>
</tr>
</tbody>
</table>

3) Transitions (bi-directional) - Secondary Roadways

<table>
<thead>
<tr>
<th>Depth (vertical change)</th>
<th>Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 inch</td>
<td>4 feet</td>
</tr>
<tr>
<td>1.5 inches</td>
<td>6 feet</td>
</tr>
<tr>
<td>2 inches</td>
<td>8 feet</td>
</tr>
<tr>
<td>2.5 inches</td>
<td>10 feet</td>
</tr>
</tbody>
</table>

The installation of temporary transitions shall be paid for under the appropriate item used in the formation of the transition. The installation and removal of a bond breaker, if used shall be included in the general cost of the work.

The removal and disposal of any temporary transition, formed by milling or with bituminous concrete pavement shall be included in the cost of the work.

Note: Any temporary transition to be in-place over the winter shutdown period, holidays, or during extended periods of inactivity (more than 7 days) shall conform to the "Permanent Transition" requirements shown above.
4.06.04—Method of Measurement:

1. Bituminous Concrete Class () or Superpave (): The quantity of bituminous concrete mixture measured for payment will be determined by the documented net weight in tons, in accordance with Sub article 4.06.03-1 and shall be subject to the following:
   a. Theoretical Yield: A theoretical yield is the amount of material (tons) required for placement over a given area at a planned thickness and will be calculated by the Engineer and recorded in the project records. The formula to determine theoretical yield is:

   \[
   \frac{[L \times W]}{9} \times PT \times 0.0575 \text{ Tons/SY/inch} = \text{Theoretical Yield (TY)}
   \]
   Where: \( L \) = Length in Feet \( W \) = Width in Feet \( PT \) = Planned thickness in inches

   b. Measured Weight Adjustments: The material in all courses of bituminous concrete except leveling courses; wedge courses and one-course applications will be subject to thickness and area adjustments.

   1) Thickness Adjustment: The average measured thickness (MT) of each lift will be determined by measurements taken by the Engineer. The total thickness of the class of material will be the sum of the average thickness of each lift. In the event the total thickness of any course of material varies from those specified on the plans beyond the tolerances shown in Table 2, the longitudinal limits of such variation will be determined by the Engineer. The locations and intervals of the measurements and all information relative thereto will be recorded in the project records by the Engineer.

   If a class of material is to be placed in multiple lifts, the tolerance shown in Table 2 shall be divided by the number of lifts and the resulting tolerance will be applied to each lift. Notwithstanding, the Contractor shall only be allowed a total tolerance of \( \pm 1/2 \) inch from final grade elevation.

   Where the total thickness of the class of material exceeds that shown on the plans beyond the tolerances shown in Table 2, an adjustment will be applied. The quantity of bituminous concrete representing the adjustment will be determined using the theoretical yield formula in Sub article 4.06.04-1a substituting MT in lieu of PT to determine the Actual Yield (AY), and will be deducted from the tons measured for payment.

   Where the thickness of the class of material is less than that shown on the plans beyond the tolerances shown in Table 2, the Contractor, with the approval of the Engineer, shall take corrective action in accordance with Sub article 4.06.03-8. The areas where a corrective course of bituminous concrete is placed or reconstruction of pavement is performed will be measured as though originally constructed. No compensation will be made to the Contractor for the material removed or removal of materials and disposal thereof, or for restoration of affected supporting base or adjacent construction.
TABLE 2 - Thickness Tolerances

<table>
<thead>
<tr>
<th>Class of Material</th>
<th>Tolerance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class 4 and Superpave 1.0 &amp; 1.5 inch</td>
<td>+/- 3/4 inch</td>
</tr>
<tr>
<td>Class 1, 2 and 12 and Superpave # 4, 0.375, 0.50 &amp; 0.75 inch</td>
<td>+/- 1/2 inch</td>
</tr>
</tbody>
</table>

2) Area Adjustment: The horizontal limits for each course of material will be determined by measurements taken by the Engineer. The locations and intervals of the measurements and all information relative thereto will be recorded in the project records by the Engineer.

Where the horizontal limit of the course of material exceeds that shown on the plans by more than the planned depth of each course, an adjustment will be applied. The longitudinal limits representing the adjustment will be determined by the Engineer. The quantity of tons representing the excess area will be calculated using the theoretical yield in Sub article 4.06.04-1a and deducted from the tons measured for payment.

3) Over weight Adjustments: An adjustment to the net weight will be made when a truck delivers material to the Project and the delivery ticket shows that the truck exceeds the allowable gross weight for the vehicle type. The deduction will be taken even if the excess is not discovered until after its incorporation into the project. The quantity of tons representing the over weight will be deducted from the tons measured for payment.

c. Material Deficiency Adjustment (MDA): Ten percent of the total quantity of material determined by the Engineer that exceeds one or more of the tolerances shown in Table 3 for Marshall and Table 3A for Superpave will be used for purposes of determining MDA. The tons will be calculated as follows: MDA Tons = DM x .10

Where: DM = Total tons of deficient material exceeding tolerance.

TABLE 3- MARSHALL
JOB MIX FORMULA TOLERANCES FOR CONSECUTIVE TESTS

<table>
<thead>
<tr>
<th>Classes</th>
<th>Criteria</th>
<th>% Tolerances (+/-)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,2,4</td>
<td>#200</td>
<td>2.0</td>
</tr>
<tr>
<td>1,2,4</td>
<td>#50</td>
<td>4.0</td>
</tr>
<tr>
<td>1,2</td>
<td>#30</td>
<td>5.0</td>
</tr>
<tr>
<td>1,2,4</td>
<td>#8</td>
<td>6.0</td>
</tr>
<tr>
<td>1,2,4</td>
<td>#4</td>
<td>7.0</td>
</tr>
<tr>
<td>1,2,4</td>
<td>3/8&quot;, 1/2&quot; &amp; 3/4&quot;</td>
<td>8.0</td>
</tr>
</tbody>
</table>
TABLE 3A - SUPERPAVE

<table>
<thead>
<tr>
<th>Superpave Classes</th>
<th>Criteria</th>
<th>% Tolerances (+/-)</th>
</tr>
</thead>
<tbody>
<tr>
<td>#4, 0.375, 0.50, 0.75, 1.0 &amp; 1.5 inch</td>
<td>Bitumen</td>
<td>0.4</td>
</tr>
<tr>
<td>#4, 0.375, 0.50, 0.75, 1.0 &amp; 1.5 inch</td>
<td>#200</td>
<td>2.0</td>
</tr>
<tr>
<td>#4, 0.375, 0.50, 0.75 &amp; 1.0 inch</td>
<td>#100</td>
<td>3.0</td>
</tr>
<tr>
<td>#4, 0.375, 0.50, 0.75, 1.0 &amp; 1.5 inch</td>
<td>#50</td>
<td>3.0</td>
</tr>
<tr>
<td>#4, 0.375, 0.50, 0.75, 1.0 &amp; 1.5 inch</td>
<td>#30</td>
<td>4.0</td>
</tr>
<tr>
<td>#4, 0.375, 0.50, 0.75, 1.0 inch</td>
<td>#16</td>
<td>4.0</td>
</tr>
<tr>
<td>#4, 0.375, 0.50, 0.75, 1.0 &amp; 1.5 inch</td>
<td>#8</td>
<td>6.0</td>
</tr>
<tr>
<td>#4, 0.375, 0.50, 0.75, 1.0 &amp; 1.5 inch</td>
<td>#4</td>
<td>6.0</td>
</tr>
<tr>
<td>#4, 0.375, 0.50, 0.75, 1.0 &amp; 1.5 inch</td>
<td>3/8 inch</td>
<td>6.0</td>
</tr>
<tr>
<td>0.50, 0.75, 1.0 &amp; 1.5 inch</td>
<td>1/2 inch</td>
<td>6.0</td>
</tr>
<tr>
<td>0.75, 1.0 &amp; 1.5 inch</td>
<td>3/4 inch</td>
<td>6.0</td>
</tr>
<tr>
<td>0.75, 1.0 &amp; 1.5 inch</td>
<td>1.0 inch</td>
<td>6.0</td>
</tr>
<tr>
<td>1.5 inch</td>
<td>1.5 inch</td>
<td>6.0</td>
</tr>
</tbody>
</table>

d. Density Adjustment:

1) **Sampling and Testing:** All density testing will be done in accordance with the "Materials Testing Manual" published by the Department's Division of Materials Testing. The density for the lot will be the average of the percent densities from the sub-lots. The density for the lot will be used to determine whether any adjustments for density apply.

a) **Bridge Lot:** For bridge deck pavement, a bridge lot is defined as that amount of bituminous concrete in tons placed in a continuous paving operation and will be the number of linear feet for each structure paved. For testing purposes, a single paver pass is a sub-lot and the length of the structure will determine the number of tests per sub-lot as shown in Table 4. A test is defined as the average of two (2) density measurements. All tests from the sub-lots will be averaged to determine the density for the bridge lot.

### TABLE 4 - TESTING REQUIREMENT FOR BRIDGE LOT

<table>
<thead>
<tr>
<th>Length of Each Structure Feet</th>
<th>MAT No. of Tests per Sub-lot</th>
<th>JOINT No. of Tests per Joint</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 1000</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>1000-1500</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>Greater than 1500</td>
<td>4 plus 2 add'l tests for every 500' over 1500'</td>
<td>4 plus 2 add'l tests for every 500' over 1500'</td>
</tr>
</tbody>
</table>

b) **Non-Bridge Lot:** A non-bridge lot is defined as that amount of bituminous concrete placed for each lift of material in a continuous paving operation excluding bridge lots as determined by the Engineer. A lot shall be divided into equal sub-lots as indicated in Table 5. Each sub-lot will have at least one test taken. A test is
defined as the average of two (2) density measurements. All tests from the sublots will be averaged to determine the density for the non-bridge lot.

**TABLE 5 - SUB-LOTS FOR DENSITY TESTING**

<table>
<thead>
<tr>
<th>Daily Production- tons</th>
<th>MAT No. of Sub-lots</th>
<th>JOINT No. Sub-lots per joint</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 500</td>
<td>1 per 100</td>
<td>1 per 100</td>
</tr>
<tr>
<td>500-1500</td>
<td>10</td>
<td>5</td>
</tr>
<tr>
<td>Greater than 1500</td>
<td>20</td>
<td>10</td>
</tr>
</tbody>
</table>

2) **Adjustment Schedule**: The adjustment will be applied where the compacted depth of pavement is 1-1/2 inches or greater. Separate density adjustments will be made for each lot and will not be combined to establish one density adjustment.

The Contractor may request additional testing if: 1) the tests result in a negative adjustment and 2) the Contractor contends the test results are not representative of the entire continuous paving operation. If the Engineer agrees, he will establish the limits of a second lot which will only represent the material not previously tested. Additional testing will be in accordance with Sub article 4.06.04-ld-1. Any adjustment for density will be based on the average of the test results for both lots.

For purposes of making density adjustments, the following apply: the average of the theoretical maximum specific gravity (Gmm) calculations for the material placed during a continuous paving operation will be used to establish the average percent density for any adjustment in accordance with Table 6. If none is available, the average of the Gmm calculation for the last ten days of production will be used. If more than one source of supply is used, then a weighted average will be computed using the Gmm calculation from each source of supply.

**TABLE 6 - MAT AND LONGITUDINAL JOINT ADJUSTMENTS**

<table>
<thead>
<tr>
<th>Average % Density</th>
<th>% Adjustment (PA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>97.1 – 100</td>
<td>-2.5</td>
</tr>
<tr>
<td>94.0 – 97.0</td>
<td>+2.5</td>
</tr>
<tr>
<td>92.0 – 93.9</td>
<td>0.0</td>
</tr>
<tr>
<td>91.0 – 91.9</td>
<td>-2.5</td>
</tr>
<tr>
<td>89.1 – 90.9</td>
<td>-5.0</td>
</tr>
<tr>
<td>87.0 – 89.0</td>
<td>-30</td>
</tr>
<tr>
<td>6.9 or less</td>
<td>-50 or rejection</td>
</tr>
</tbody>
</table>

The amount of tons representing the density adjustment (DA) for each lot will be calculated as follows:

\[
DA \text{ tons} = \{ [PA_M \times .40] + [PA_J \times .60] \} \times \text{Tons}
\]

Where: \( PA_M \) = Mat density percent adjustment from Table 6
PA_j = Joint density percent adjustment from Table 6

2. Cut Bituminous Concrete Pavement: The quantity of bituminous concrete pavement cut will be measured in accordance with Article 2.02.04.

3. Sawing and Sealing Joints: The quantity of sawed and sealed joints measured for payment will be the actual number of linear feet of joints sawed and sealed in the bituminous concrete pavement surface accepted by the Engineer.

4. Kerf Cut in Bituminous Concrete Pavement: The quantity of kerf cuts measured for payment will be the actual number of linear feet of kerf cuts in the bituminous concrete pavement surface accepted by the Engineer.

5. Cleaning and Sealing Joints and Cracks: The quantity of cleaned and sealed joints and cracks measured for payment will be the actual number of pounds of joint seal material accepted by the Engineer. Weights as marked on the shipping containers shall be used; or if directed by the Engineer, scales shall be furnished by and at the expense of the Contractor, and the joint seal material weighed in a manner satisfactory to the Engineer.

6. Cutting and Sealing Joint in the Bituminous Concrete Shoulder: The quantity of cut and sealed joints measured for payment will be the actual number of linear feet of joints cut and sealed in the bituminous concrete shoulder and accepted by the Engineer.

7. Material for Tack Coat: The quantity of tack coat will be measured for payment by the number of gallons furnished and applied on the Project and accepted by the Engineer.

There are two methods of measurement allowed:
1) Material furnished in a container will be measured to the nearest one-half gallon. The volume will be determined by either measuring the volume in the original container by a method approved by the Engineer or using a separate graduated container capable of measuring the volume to the nearest one-half gallon. The container in which the material is furnished must include the description of material, including lot number or batch number and manufacturer or product source.

2) The Engineer will establish a weight per gallon of the bituminous material based on the specific gravity at 60°F for the material furnished. The number of gallons furnished will be determined by weighing the material on scales furnished by and at the expense of the Contractor.

4.06.05—Basis of Payment:

1. Bituminous Concrete Class ( ), Superpave ( ): The furnishing and placing of bituminous concrete will be paid for at the Contract unit price per ton for "Bituminous Concrete, Class ( )." Or "Superpave ( )." The cost for providing lighting for the purpose of illuminating the work area and equipment shall be considered part of the Contractor's equipment and tools, and will not be measured for payment, but will be included in the general cost of the work.
No payment will be made for any work related to the replacement or correction of defective pavement. Related work includes items such as the removal and replacement of bituminous concrete, maintenance and protection of traffic, density testing, pavement repairs, replacement of bridge joints, pavement markings and any other work that is deemed necessary by the Engineer to provide an acceptable pavement.

2. Adjustments: Contract items will be incorporated by construction order for material deficiency and density adjustments as measured in Sub article 4.06.04-1c and 1d.
   a. Material Deficiency Adjustment (MDA): The quantity of MDA tons measured in Sub article 4.06.04-1c will be used to determine the adjustment value and will be calculated as follows:

   \[ \text{MDA tons} \times \text{Net Price per ton} = \text{MDA Adjustment} \]

   *Net Price per ton is the F.O.B. price at the material vendor's plant furnishing the material as shown in the most recent Annual Bid Contract Award entitled "1304- Bituminous Concrete Materials and Bituminous Materials with Fibers." In the event a vendor has not bid on the above contract award, the price per ton will be computed by averaging the bid price of three vendors closest to the non-bidding vendor's plant.

   b. Density Adjustment (DA): The quantity of DA tons measured in Sub article 4.06.04-1d will be used to determine the adjustment value and will be calculated as follows:

   \[ \text{DA Tons} \times \text{Contract Unit Price} = \text{DA Adjustment} \]

3. The cutting of bituminous concrete pavement will be paid in accordance with Article 2.02.05.

4. The sawing and sealing of joints will be paid for at the Contract unit price per linear foot for "Sawing and Sealing Joints."

5. Kerf cuts will be paid for at the Contract unit price per linear foot for "Kerf Cut in Bituminous Concrete Pavement."

6. The cleaning and sealing of joints and cracks will be paid for at the Contract unit price per pound for "Cleaning and Sealing Joints and Cracks."

7. The cutting and sealing of joints in the bituminous concrete shoulders will be paid for at the Contract unit price per linear foot for "Cutting and Sealing Joint in the Bituminous Concrete Shoulder."

8. Material for tack coat will be paid for at the Contract unit price per gallon for "Material for Tack Coat."

Payment will be for the items completed and accepted by the Engineer, the price of which shall include all labor, materials, and equipment incidental thereto.

<table>
<thead>
<tr>
<th>Pay Item</th>
<th>Pay Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bituminous Concrete, Class ( )</td>
<td>ton</td>
</tr>
</tbody>
</table>

Bassett Road Culvert Replacement
Watertown, CT

TS-31
SECTION 12.08 – SIGN FACE-SHEET ALUMINUM

Work under this item shall conform to the requirements of Section 12.08 amended as follows:

General: Delete all references to parapet mounted sign supports.

Article M.18.15 – Sign Mounting Bolts: Replace with the following:

Bolts used for sign mounting shall be stainless steel and conform to ASTM F593, Group 1 or 2 (Alloy Types 304 or 316). Locking nuts shall be stainless steel and shall conform to ASTM F594 (Alloy Types 304 or 316). Washers shall also be stainless steel and shall conform to ASTM A240 (Alloy Types 304 or 316).
ITEM #0204151A – HANDLING WATER

Description: Work under this item shall consist of the construction of such temporary flow diversions and bypass culvert, excavation, fill, barriers or other such protective facilities and methods as are necessary for the conduction of water beyond the limits of construction; the dewatering of the site; and the removal of such temporary facilities upon the completion of the permanent work or as required. The handling of water shall be in accordance with the requirements of Section 1.10. For the purposes of this specification, such work shall be understood to mean any temporary type of protective facility which the Contractor elects to build or use to satisfy, and which does satisfy, the condition that the permanent structures be placed and built in the dry. The handling of flood flows and the protection of existing structures, and any or all of the finished construction during high water, are included in the scope of the work under this item.

Included in this work shall be any pumping necessary for dewatering excavations. All pumping shall be discharged to an approved temporary settling basin.

Materials: As required.

Construction Methods: The Contractor shall investigate and verify existing stream conditions, and evaluate the need for, and the type of protection and facilities required. Before commencing construction, the Contractor shall furnish the Engineer with details of the plan and methods he proposes to use for handling water and accomplishing the work. The Contractor shall furnish pipe strength calculations prepared by a State of Connecticut licensed professional engineer for all pipes used for haul roads. The furnishing of such plans and methods shall not relieve the Contractor of any of his responsibility for the safety of the work and for the successful completion of the project.

No separate payment will be made for temporary sheet piling for the containment of the main stream channel flow or for flow diversion. The height of any other sheet piling, flow diversions and barriers shall be elected by the Contractor to provide reasonable protection from flooding and provide minimum protection as shown on the plans. All such temporary structures or facilities shall be safely designed, extended to sufficient depth and be of such dimensions and water-tightness so as to assure construction of the permanent work in the dry. They shall not interfere with proper performance of the work. Their construction shall be such as to permit excavation for the permanent work to the limits shown on the plans. Interior dimensions shall give sufficient clearance for construction and inspection of forms. Movements or failures of the temporary protection facilities, or any portions thereof, which prevents proper completion of the permanent work, shall be corrected at the sole expense of the Contractor.

Any pumping from within the areas of construction shall be done in such a manner as to prevent the possibility of movement of water through any fresh concrete. No pumping will be permitted during placing of concrete or for a period of 24 hours thereafter, unless it be done from a suitable sump properly located and with sufficient pumping capacity to protect against damage from
sudden rising of water. Any pumped water must be discharged in accordance with the requirements of Section 1.10.

Unless otherwise provided, or directed, all such temporary protective work shall be removed and disposed of in an approved manner when no longer required.

The Contractor shall be responsible for the scheduling of work under this item so as not to interfere with any sequence of operations developed for this project. Delays as a result of work required under this item shall not constitute a claim for an extension of contract time.

**Method of Measurement:** This item, being paid for on a lump sum basis, will not be measured for payment.

**Basis of Payment:** Payment for this item will be made at the contract lump sum price for "Handling Water," complete and accepted, which price shall include all tools, material, equipment, labor and work incidental to the construction; reconstruction; if required; dewatering, including pumping, handling of the stream flow during construction; the removal and disposal of all protective works or facilities; disposal of water removed from the construction; damages incurred by the Contractor; and any damages to existing facilities and to the work in progress, materials or equipment from flows or high stages of the stream. The lump sum payment for "Handling Water: shall also include all excavation and filling required for temporarily relocating watercourse.
ITEM #0213051A CHANNEL BED MATERIAL

**Description:** Work under this item covers the furnishing of all labor, materials, testing, submittals, tools, and equipment necessary to properly place and compact channel bed material to correct grades at all locations where shown on the drawings or as directed by the Engineer. Channel bed material shall be placed within the culvert and extend a distance downstream of the culvert to the limits shown on the plans. Channel bed material shall be a mixture of riprap, sand, and gravel such that the gravel and sand material fill the void spaces created by the riprap.

**Materials:** Channel bed riprap shall conform to the CT DOT Standard Specifications Form 816, Section M12.02 (2) Intermediate Riprap. Native bed material gravel shall conform to the gradation and material specification shown on the Channel Armoring Plan in the Contract Plans.

**Construction Methods:** Work under this technical specification shall conform to Form 816, Section 7.03.03 Riprap Construction Method with the following exceptions:

The channel bed material shall be placed to the depth shown on the plans. The intermediate riprap shall be first placed, followed by the native bed material. The native bed material shall be mechanically worked in to the riprap layer to fill the void spaces. Sufficient native bed material shall be placed and mechanically worked in to the riprap to fill the void spaces in the riprap up to the top surface.

**Method of Measurement:** The quantity of channel bed material measured for payment shall be the number of cubic yards whose length, width, and depth are measured in place to the pay limits shown on the plans.

**Basis of Payment:** This work will be paid for at the contract unit price per cubic yard for the channel bed material indicated, complete in place, including all materials, equipment, tools, and labor incidental thereto.

Channel excavation will be measured and paid for under its particular pay item.

Payment will be made under:

<table>
<thead>
<tr>
<th>Pay Item</th>
<th>Pay Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Channel Bed Material</td>
<td>CY</td>
</tr>
</tbody>
</table>
ITEM #0601125A – 14' x 7'-0" PRECAST CONCRETE BOX CULVERT

Description:

Work under this item shall consist of designing, furnishing and installing a precast concrete box culvert of the type, size and length shown on the plans including reinforcing, lifting inserts or devices, structure excavation, culvert damp-proofing, grout and all other necessary materials and equipment to complete the work.

Materials:

Materials shall conform to the following requirements:

1. Concrete

   The concrete for the members shall conform to the requirements of Section M.03 and as follows:

   Concrete shall be air entrained composed of Portland cement, fine and course aggregates, admixtures and water. The air-entraining feature may be obtained by the use of either air entraining Portland cement or an approved air-entraining admixture. The entrained air content shall not be less than 4 percent or more than 6 percent.

   The Contractor shall design and submit to the Engineer a concrete mix which shall attain a minimum 28-day strength (fc') as shown on the plans. The Contractor shall further provide a certificate stating that the mix submitted shall meet this strength.

   (a) Coarse Aggregate shall consist of broken stone having a maximum size of 3/4 inches.

   (b) Type III or Type IIIA Portland cement may be used at no additional cost to the State.

   (c) Water Reducing Admixture:

       The Contractor may submit, for approval of the Engineer, water-reducing admixture for the purpose of increasing workability and reducing the water requirement for the concrete.

   (d) Calcium Chloride

       The addition to the mix of calcium chloride or admixtures containing calcium chloride will not be permitted.
2. Reinforcing Steel and Tie Wire

All deformed bars, stirrups, dowels and tie wire shall conform to the requirements of Article M.06.01. Top reinforcement in top slab shall be epoxy coated. Coated material shall conform to the requirements of Article 3. "Coating Materials" of AASHTO Specification M 284 or ASTM D 3963.

The Contractor shall furnish the Department with an 8-ounce sample from each batch or lot of the powdered epoxy resin used in coating the bars. The samples shall be packaged in airtight containers and identified by product name and by batch or lot number.

Epoxy material for tough up and repair work shall be subject to approval by the Engineer. It shall be furnished by the epoxy manufacturer, shall be compatible with the coating material and insert in concrete, and shall also be suitable for use in the field by the Contractor installing the coated bars.

All wire clips, chair and bar supports, and other metallic materials used for the installation of the epoxy coated reinforcing bars shall be either (1) coated with the powdered epoxy resin, (2) coated with an acceptable plastic materials, or (3) be made of rust proof material or coated material approved in writing by the Engineer.

Construction methods shall be in conformance with Article 6.02.03 and the methods of coating and testing of reinforcing bars shall conform to Article 5 through 15 and Annex A1 of AASHTO specification M 284 or ASTM D 3963.

Quality Control

The coating applicator shall be responsible for performing quality control, test and repairs of coated reinforcing steel bars in accordance with the requirements listed in the AASHTO Specification M 284 or ASTM D 3963.

The Contractor shall furnish a Certified Test Reports in conformance set forth in Article 1.06 from the coating applicator with each shipment of coated bars.

The Department’s authorized representative shall have free access to the plant of the coating applicator and shall be permitted, at his option, to have any or all the work specified above performed in his presence. The inspector shall be furnished with check samples of the coated bars on a random basis as he deems necessary for testing by the Department. If access, is denied, the work shall be automatically rejected.

Handling of Coated Bars

All systems for handling coated bars shall have padded contact areas for the bars wherever possible. All bundling bands shall be padded and all bundles shall be lifted with strong back, multiple supports, or a platform bridge so as to prevent bar-to-bar
abrasion from sags in the bar bundle. Special attention shall be given to loading and unloading procedures and equipment so that damage to the coating will not occur.

The epoxy coated steel bars shall be carefully unloaded and stored on the project site in a manner to avoid damage or contamination. The bars shall be installed as the Engineer on the project may deem necessary in order to protect and preserve the epoxy coating.

During and after the installation of the bars, the contractor shall repair all significant cuts, nicks, and abraded places in the coating on the bars with the epoxy repair material supplied by the manufacturer of the powdered epoxy resin. Any damaged metallic accessories shall also be repaired with a suitable material.

Damaged caused during shipment of epoxy bars or by installation procedures or both need to be repaired in cases where the damaged area is 1/8 by 1/8 inch or smaller and the sum of all damaged areas in each 1 foot length of bar does not exceed two (2) percent of the bar surface area. All damaged areas larger than 1/8 inch square shall be repaired and all bars with total damage greater than 2 percent of bar surface shall be rejected and removed. The total bar surface area covered by patching material shall not exceed three (3) percent.

The Contractor shall exercise care to ensure that the coated bars, when incorporated into the work are reasonably free from dirt, paint, oil, grease, or other foreign substance, and when deemed necessary, the bars shall be cleaned to the satisfaction of the Engineer. The placing of the concrete in the deck shall be performed with methods and equipment which will not damage the coated material.

Since the epoxy coating is flammable, the coated bars shall not be exposed to any fire or flame. Cutting coated bars by burning will not be permitted.

3. Lifting Hooks and Threaded Inserts

Devices and attachments shall be of the size indicated on the plans or of a design satisfactory for the purpose intended.

4. Gaskets shall be plastic, rubber or neoprene that shall form and maintain a water tight and flexible joint.

5. Damp-proofing: Material for damp-proofing shall conform to the requirements of Article M12.05.
**Construction Methods:**

1. **Working Drawings**

   Before fabrication, the Contractor shall submit working drawings and complete design calculations to the Engineer for approval in accordance with Article 1.05.02 (a). These drawings shall include complete details of the methods, materials and equipment he proposes to use. Drawings and calculations shall be stamped by a Professional Engineer registered in the State of Connecticut.

2. **Load Rating Computation**

   The fabrication shall also provide computations which give the operating and inventory rating for the HS-20 and P-204 vehicles.

3. **Form**

   The forms used in manufacture shall be sufficiently rigid and accurate to maintain the arch section dimensions within the permissible variations given below under "Quality Control." All casting surfaces shall be of smooth non-porous material.

4. **Mixing and Placing Concrete**

   The concrete mix as designed and submitted by the Contractor shall be proportioned and mixed in a batch mixer to produce a homogenous concrete conforming to the requirements. The transporting, placement and compaction of concrete shall be by methods that will prevent the segregation of the concrete materials and the displacement of the reinforcement steel from its proper position in the form. There shall be no interruption in the pouring of any unit. Truck mixed or transit mixed concrete will to be allowed.

5. **Curing**

   Precast units shall be cured by a method or combination of methods approved by the Engineer, which will give satisfactory results. Curing shall be for a sufficient length of time so that the concrete will develop the specified compressive strength at 28 days or less.

6. **Patching**

   No patching of the complete units will be allowed unless permitted by the Engineer. The Contractor's proposal for methods and materials to be used in the patching operation shall be submitted to the Engineer for his approval.
7. Joints

The precast reinforced concrete box section shall be produced with male and female ends and a 1"-0 neoprene rubber gasket. The ends shall be of such design and so formed that when the sections are laid together, they will make a continuous line of box sections with a smooth interior free of irregularities.

8. Test Cylinders

During the casting of the units, the Contractor shall make test cylinders under the supervision of a representative of the Department. A minimum of four (4) cylinders shall be taken during each production run or as ordered by the Engineer. Cylinders shall be cured under laboratory control conforming to the requirements of ASTM C 92 and shall be used to determine the 28 day compressive strength requirements (fc's). Failure of any of the 28 day test cylinders to meet 90 percent of the minimum compressive strength or failure of the average to meet the full minimum compressive strength requirement may be cause for rejection. The Engineer also reserves the right to request the test core specimens from the units to determine their adequacy.

9. Quality Control

The dimensional tolerance of the units shall conform to the following:

(a) Internal dimension and finish

The internal dimensions shall not vary more than 1 percent from the design dimensions. The haunch dimensions shall not vary more than ¼ inch from the design dimensions. The interior shall be smooth and free of irregularities.

(b) Slab and Wall Thickness

The slab and wall thickness shall not be less than that shown in the design by more than 5 percent or 3/16 inch, whichever is greater. A thickness more than that required in the design will not be a cause for rejection.

(c) Length of Opposite Surfaces

Variations in laying lengths of two opposite surfaces of the section shall not be more that 1/8 inch/foot of span with a maximum of 5/8 inch in any box section except where beveled ends are specified.

(d) Length of Section

The underrun in length of a section shall not be more than 1/8 inch/foot of length with a maximum of ½ inch in any box section.
(e) Position of Reinforcement

The maximum variation in the spacing of reinforcement shall be ± 1/2 inch. Cover shall be 1-1/2 inches in walls and bottom of top slab. Cover shall be 2 inches for top of slab.

10. Marking

The following information shall be clearly marked on each section by indentation, waterproof paint or other approved means:

(a) Precast concrete box section span and rise

(b) Date of manufacture

(c) Name or trademark of manufacturer

(d) An identification number or letter on top of each section (to insure proper placement).

11. Handling and Storage

Handling devices shall be provided in each arch section for the purpose of handling and placing. Care shall be taken during storage, transporting, hoisting and handling all units to prevent cracking or damage. Units damaged by improper storing, transporting or handling shall be replaced by the Contractor at his expense.

12. Inspection and Rejection

The quality of materials, the process of manufacture, and the finished units shall be subject to inspection by the Engineer. Precast units shall be subject to rejection on account of failure to conform to any of the specification requirements. Individual units may be rejected because of any of the following:

(a) Fractures or cracks passing through the wall, except for a single end crack that does not exceed the depth of the joints.

(b) Defects that indicate imperfect proportioning, mixing and molding.

(c) Honeycombed or open texture.

(d) Damaged ends, where such damage would prevent making a satisfactory joint.
13. Installation

The precast units shall be installed in accordance with the details and notes as shown on the plans and in conformance with these specifications. Precast units shall be placed in a manner to best accommodate and facilitate the building of the cast-in-place structures as shown on the plans.

Any unit which is not in true alignment, or which shows any settlement, displacement, misfit or distortion after installation, shall be taken up and reinstalled or corrected, to the satisfaction of the Engineer without additional compensation.

In case of conflict and actual field construction cannot proceed according to proposed construction, the Engineer may direct special construction as may be deemed necessary for the completion of the work in a satisfactory and acceptable manner.

14. Backfilling

Methods of backfilling shall be in conformance with the requirements of the plans and Section 2.16 except that fill placed around the box culvert sections shall be deposited on both sides to approximately the same elevation at the same time.

**Method of Measurement:**

This item, being paid for on a lump sum basis, will not be measured for payment.

**Basis of Payment:**

Payment for this work will be made at the contract lump sum price bid for "14' x 7'-0" Precast Concrete Box Culvert" as shown on the plans, completed and accepted, which price shall include, threaded inserts, threaded dowels, gaskets, epoxy coated reinforcing steel, damp-proofing and all materials, equipment, tools, and labor incidental thereto and without differentiations as to interior or exterior units.
ITEM #0651012A 24” R.C. Pipe (Complete)

Description:

This item shall consist of furnishing and installing new storm piping of the types and sizes shown and detailed on plans and to the lines, grades, and locations shown on the plans or as directed by the Engineer. This work shall also include the excavation, backfill, and bedding material, as necessary for the complete construction and installation of the storm drainage piping in accordance with the plans and details.

Materials:

Materials for culverts, piping, and bedding shall be those indicated on the plans or as ordered by the Engineer and shall conform to Section 6.51.02 and applicable materials sections of Form 816.

Construction Methods:

Shall conform to Section 6.51.03 of Form 816.

Method of Measurement:

The work which conforms to this Specification will be measured by the actual number of linear feet of pipe of the type and size specified, installed and accepted and measured in place along the invert.

Excavation, backfill, and bedding material will not be measured for payment, but shall be included in the contact prices for this item.

Basis of Payment:

This work will be paid for at the Contract unit price per linear foot for pipe of the type specified, installed complete in place, trenching, excavation, backfill, and bedding, including all materials, equipment, tools and labor incidental thereto.

Pay Item
24” R.C. Pipe (Complete)  
Pay Unit
LF
ITEM #0703028A RANDOM BOULDERS

**Description:** Work under this item covers the furnishing of all labor, materials, submittals, tools, and equipment necessary to properly place the random boulders at all locations where shown on the drawings or as directed by the Engineer.

**Materials:** Random boulders shall be comprised of 18-inch to 30-inch stone. Stone shall be sound, tough, durable, and semi-angular. Stone shall be free of organic matter and other defects impairing its durability and shall be of similar shape, color, and type to the native stone found at the site. Broken concrete or partially decomposed, damaged, or cracked stones shall not be acceptable. Shale, sandstone, or friable rock shall not be acceptable.

**Construction Methods:** Place boulders in each of the channel width sections of the culvert, as shown on the detail on the Contract Plans. Position boulders with the long axis of each boulder parallel to the channel flow direction. Bury boulders to 1/3 to 1/2 their total height. Top of stones should extend 9 to 16 inches above the finished channel grade. Finished elevation of the boulders shall be determined in the field by the Engineer or Owner's Representative. Place boulders greater than 1 foot apart in the downstream direction. Place one random boulder along the channel edge every 10 to 20 feet. Placement of boulders should not block more than 1/4 (3.5') of total 14' channel width inside culvert.

**Method of Measurement:**

This item, being paid for on a lump sum basis, will not be measured for payment.

**Basis of Payment:** This work will be paid for at the contract lump sum price for the random boulders as indicated on plans, complete in place, including all materials, equipment, tools, and labor incidental thereto.

Payment will be made under:

<table>
<thead>
<tr>
<th>Pay Item</th>
<th>Pay Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Random Boulder</td>
<td>LS</td>
</tr>
</tbody>
</table>
ITEM #0714050A - TEMPORARY EARTH RETAINING SYSTEM

Description: Temporary earth retaining system shall be any type of adequately braced temporary retaining wall such as temporary sheet piling which the Contractor elects to build to satisfy, and which does satisfy, the condition that existing facilities be properly retained during excavation or fill for the placement of substructure or other facilities. Temporary earth retaining system shall be designed by the Contractor and constructed where shown on the plans. This system shall be removed upon completion of the permanent work, except that some sections may be left in place when so ordered by the Engineer.

Materials: Materials of steel sheet piling shall conform to the requirement of ASTM A 328. Timber sheet piling shall conform to the requirements of Subarticle M.09.01-1. Materials other than steel or timber, or a combination of these may be used provided they are properly designed for the purpose intended. Systems utilizing other material(s) shall conform to the manufacturer’s specifications and project specifications. The parts list shall be furnished for the proprietary system and the Contractor shall provide the material certificates for the parts.

Construction Methods: Temporary earth retaining system shall be safely designed and shall be carried to adequate depths and braced as necessary for proper performance of the work. Construction shall be such as to permit excavation or fill as required. Interior dimensions shall be such as to give sufficient clearance for construction of forms and their inspection and for battered pile clearance when necessary. Movements of the system or bracing which prevent the proper completion of the substructure shall be corrected at the sole expense of the Contractor. No part of the temporary earth retaining system or bracing shall be allowed to extend into the substructure without written permission of the Engineer.

Working drawings and design calculations for temporary earth retaining system shall be submitted in accordance with the requirements of Article 1.05.02(2). The working drawings and design calculations shall be prepared, sealed, and signed by a Professional Engineer, licensed in the State of Connecticut. The furnishing of such plans shall not serve to relieve the Contractor of any part of his responsibility for the safety of the work or for the successful completion of the project.

Unless otherwise ordered by the Engineer, all parts of the temporary earth retaining system shall be removed upon completion of the work for which it was provided. The excavation shall be backfilled and properly compacted, prior to removal of the system unless otherwise permitted by the Engineer. Temporary earth retaining system may be left in place at the option of the Contractor if so permitted by the Engineer, provided that it is cut off at an elevation as directed by the Engineer and the cutoffs removed from the site.

Method of Measurement:

This item, being paid for on a lump sum basis, will not be measured for payment.
Basis of Payment:

Payment for this work will be made at the contract lump sum price for "Temporary Earth Retaining System" as described above, which price shall include all design, materials, equipment and labor incidental to the construction and removal of the temporary earth retaining system required at the locations specified on the plans; including removal of obstructions, repair and correction, adjustments or reconstruction required by the plans. Any common earth retaining system required for staged construction will be measured for payment only once.

Pay Item                                      Pay Unit

Temporary Earth Retaining System               LS
ITEM #0971001A – MAINTENANCE AND PROTECTION OF TRAFFIC

Article 9.71.01 – Description is supplemented by the following:

The work shall also include furnishing, placing, maintaining, and removing all signs, construction barricades, drums, cones, and concrete barriers necessary and as shown on plans to accomplish the work per the detour plan.

BASSETT ROAD

Bassett Road shall be closed during construction.

Emergency services shall be notified at least 14 days in advance of any road closure.

The Roadway Detour Plan must be implemented prior to any construction activity. The Contractor shall provide a smooth transition between all disturbed and undisturbed areas.

ALL OTHER ROADWAYS

The Contractor shall maintain and protect one lane of through traffic in each direction, each lane on a paved travel path not less than 11 feet in width.

Excepted therefrom will be those periods, during the allowable periods, when the Contractor is actively working, at which time the Contractor will be allowed to maintain and protect at least an alternating one-way traffic operation on a paved travel path not less than 12 feet in width. The length of the alternating one-way traffic operation shall not exceed 300 feet.

COMMERCIAL AND RESIDENTIAL DRIVEWAYS

The Contractor shall maintain access to and egress from all commercial and residential driveways throughout the project limits. The Contractor will be allowed to close said driveways to perform the required work during those periods when the businesses are closed unless permission is granted from the business owner to close the driveway during business hours. If a temporary closure of a residential driveway is necessary, the Contractor shall coordinate with the owner to determine the time period of the closure.

Article 9.71.03 - Construction Method is supplemented as follows:

SIGNING

The Contractor shall maintain all existing signs throughout the project limits during the duration of the project. The Contractor shall temporarily relocate existing signs and sign supports as many times as deemed necessary and install temporary sign supports and foundations if necessary and as directed by the Engineer. The temporary relocation of any existing signs and supports, and the furnishing, installation and removal of any temporary supports and foundations, shall be paid for under the item "Maintenance and Protection of Traffic."

Bassett Road Culvert Replacement
Watertown, CT

TS-47

ITEM #0971001A
When all work is completed, the Contractor shall remove existing signs and install new signs as shown on the Signing and Pavement Marking Plans contained in the contract plans.

**REQUIREMENTS FOR WINTER**

The Contractor shall schedule a meeting with representatives of the Engineer, and Representatives of the City to determine what interim traffic control measures the Contractor must accomplish for the winter to provide safety to the motorist and permit adequate snow removal procedures.

**SIGNING PATTERNS**

The Contractor shall erect and maintain all signing patterns in accordance with the traffic control plans contained herein. Proper distances between advance warning signs and proper taper lengths are mandatory.

**Article 9.71.05 – Basis of Payment is supplemented by the following:**

The contract lump sum price for "Maintenance and Protection of Traffic" shall also include furnishing, installing, and removing the material for the temporary traversable slope in those areas where a longitudinal drop-down exists.

The contract lump sum price for "Maintenance and Protection of Traffic" shall also include furnishing, placing, maintaining, and removing all signs, construction barricades, drums, cones, and concrete barriers necessary and as shown on plans to accomplish the work per the detour plan.

The contract lump sum price for "Maintenance and Protection of Traffic" shall also include temporarily relocating existing signs and sign supports as many times as deemed necessary and furnishing, installing, and removing temporary sign supports and foundations if necessary during construction of the project.
ITEM #0974001A – REMOVAL OF EXISTING MASONRY

Article 09.74.01-Description is supplemented as follows:

This work shall also include the removal of the existing culvert at the Fenn Brook crossing, including but not limited to headwalls, wingwalls, foundations, and concrete splash pad.

Article 09.74.03-Construction Methods is supplemented as follows:

The existing headwalls shall be removed to the limits shown on the plans or as directed by the Engineer.

09.74.04-Method of Measurement:

This item, being paid for on a lump sum basis, will not be measured for payment.

09.74.05-Basis of Payment:

Payment for removing existing masonry will be made at the contract lump sum price for "Removal of Existing Masonry," which price shall include all equipment, tools and labor incidental to the removal of the material and the disposal thereof as directed by the Engineer.

<table>
<thead>
<tr>
<th>Pay Item</th>
<th>Pay Unit</th>
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<tbody>
<tr>
<td>Removal of Existing Masonry</td>
<td>LS</td>
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</table>
ITEM #0979003A - CONSTRUCTION BARRICADE TYPE III

Description:

Under this item the Contractor shall furnish all construction barricades required on the Project to comply with the requirements of NCHRP Report 350 (TL-3), or the AASHTO MASH, and the requirements stated in the item "Maintenance and Protection of Traffic," as shown on the plans and as directed by the Engineer.

Materials:

Materials for Construction Barricade Type III shall conform to Section 9.79.02 of Form 816.

Construction Methods:

Shall conform to Section 9.79.03

Article 9.79.04 - Method of Measurement: Construction Barricade Type III will not be measured for separate payment. The number of construction barricades required and used shall be included under the contract lump sum price for “Maintenance and Protection of Traffic”.

Article 9.79.05 - Basis of Payment: "Construction Barricade Type III" required and used will be paid for under the Contract lump sum price for “Maintenance and Protection of Traffic”.
ITEM #1220011A - CONSTRUCTION SIGNS – TYPE III REFLECTIVE SHEETING

Description:
The Contractor shall furnish, install and remove construction signs with Type III reflective sheeting and their required portable supports or metal sign posts that comply with the requirements of NCHRP Report 350 (IL-3) or MASH for Category 2 Devices. The construction signs and their required portable supports or metal sign posts shall comply with the signing requirements stated in the item "Maintenance and Protection of Traffic," as shown on the plans and/or as directed by the Engineer. The Contractor shall furnish a sufficient number of signs to provide the signing patterns for all operations which are being undertaken concurrently.

Materials:
Materials for shall conform to Section 12.20.02 of Form 816.

Construction Methods:
Shall conform to Section 12.20.03 of Form 816 and the following:
The following types of construction signs shall not be used: mesh, non-rigid, roll-up.

The following portable sign support systems or equivalent systems that meet the Form 816 requirements may be used:

- Korman Model #SS548 flexible sign stand with composite aluminum sign substrate (APOLIC)
- Traffix "Little Buster" dual spring folding sign stand with corrugated polyethylene (0.4 in. thick) sign substrate (InteCel)

Article 12.20.04 – Method of Measurement: Construction Signs - Type III Reflective Sheeting will not be measured for payment. The cost of square feet of sign face shall be included under the contract lump sum price for “Maintenance and Protection of Traffic”. Sign supports will not be measured for payment.

Article 12.20.05 – Basis of Payment: "Construction Signs – Type III Reflective Sheeting" required and used on the project will be paid for under the Contract lump sum price for “Maintenance and Protection of Traffic”. This price shall include the furnishing and maintenance of the signs, portable sign supports, metal sign posts and all hardware. Each sign and support or posts will be paid for once, regardless of the number of times it is used.
PERMITS
Sent by certified mail

November 19, 2013

Roy Cavanaugh, Director
Department of Public Works
61 Echo Lake Road
Watertown Connecticut 06795

Dear Mr. Cavanaugh:

The Conservation Commission/Inland Wetland Agency of the Town of Watertown at a regular meeting held on October 10, 2013 voted to approve application #875 subject to conditions to conduct regulated activities associated with the reconstruction of 240 linear foot of Bassett Road and replace existing box culvert east of Linkfield Road, Watertown, CT.

Legal Notice of Approval appeared in the Town Times on October 17, 2013. Your permit is enclosed. Please feel free to contact this office if you have any questions concerning this permit.

Sincerely,

Moosa M. Rayey
Wetlands Enforcement Officer
Conservation Commission/Inland Wetland Agency Permit #875
Located at 810 Bassett Road East of Linkfield Road, Watertown Connecticut

This approval permit refers to your application to conduct regulated activities in the Town of Watertown.

The Conservation Commission/Inland Wetland Agency of the Town of Watertown has considered application #875 with due regard for the matters listed in Section 10 of the Inland Wetlands and Watercourses Regulations of the Town of Watertown. The Commission has found that the proposed activities as shown on a site plan entitled “Roadway Plan Bassett Road Culvert Replacement Bassett Road Watertown Connecticut Sheets PLN-01, STR-01, WH-01, and SE-01 dated August 2013 prepared by Milone and MacBroom” as specified and conditioned below conform to the purpose and provision of said section.

The regulated activities consist of the following:

1. Remove an existing box culvert under Bassett Road and install 47 linear foot of 14’W X 7’H precast concrete box culvert and end walls
2. Reconstruct 240 linear foot of roadway
3. Install 760 Sq. Ft (38’ X 20”) standard rip rap in streambed
4. Install erosion and sediment control measures within regulated area.

The permit is issued subject to the following conditions and/or modifications:

1. The permittee shall notify Wetlands Enforcement Officer, in writing at least three business days prior to the commencement of work onsite and upon its completion.

2. If the approved activities are not initiated on or before October 17, 2018, said activities shall cease and, if not previously revoked or specifically renewed or extended, this permit shall be null and void. Any request to renew or extend the expiration date of a permit should be filed in accordance with Section 11 of the Inland Wetlands and Watercourses Regulations of the Town of Watertown. Expired permits may not be renewed and the wetland agency may require a new application for regulated activities.

3. All work and all regulated activities conducted pursuant to this approval shall be consistent with the terms and conditions of this permit. Any structures,
excavation, fill, obstructions, encroachment, or regulated activities not specifically identified and approved herein shall constitute a violation of this permit and may result in its modification, suspension, or revocation.

4. This permit is not transferable without the written consent of the Conservation Commission/Inland Wetland Agency.

5. In evaluating this application, the wetland agency has relied on information provided by the applicant. The Agency has also relied on the State Department of Environmental Protection and Department of Transportation review of the project plans. If such information is subsequently proved to be false, incomplete, or misleading, this permit may be modified, suspended, or revoked and the permittee may be subject to any other remedies or penalties provided by law.

6. No equipment or material including without limitation fill, construction materials, or debris, shall be deposited, placed or stored in any wetland or watercourse and upland review area on or off site unless specifically approved by this permit.

7. This permit is subject to and does not derogate any rights or powers of the Town of Watertown, conveys no property rights or exclusive privileges, and is subject to all public and private rights and to all applicable federal, state and local laws. In conducting and maintaining any activities approved herein, the permittee may not cause pollution, impairment, or destruction of the inland wetlands and watercourses of the Town of Watertown.

8. If the activity approved by the inland wetlands permit also involves activity or a project that requires State DEEP, zoning approval, special permit, variance, or special exception, no work pursuant to the wetlands permit may begin until such approval is obtained.

9. The permittee shall install and maintain erosion and sediment control measures at the site in such an operable condition as to prevent the pollution of wetlands and watercourses. Said controls are to be inspected by the permittee for deficiencies at least once per week and immediately after rains. The permittee shall correct any such deficiencies within 24 hours of said deficiency being found.

10. All regulated activities shall be conducted during low stream flow and contractor shall follow all the details provided on the site plan.

This authorization constitutes the permit required by Section 22a-42 of the Connecticut General Statute, as amended.
Robert DeSista, Chief
Regulatory and Enforcement Branch
U.S. Army Corps of Engineers
New England District
696 Virginia Road
Concord, MA 01742-2751

Mr. Roy Cavanaugh, Public Works Director
Town of Watertown
61 Echo Lake Road
Watertown, CT 06795

Re: Application for Department of the Army General Permit - State of Connecticut Category 2 Screening for Section 401 Water Quality Certification

Dear Mr. DeSista & Mr. Cavanaugh:

The following application submitted for screening under the above referenced General Permit has been reviewed by staff of the Connecticut Department of Energy and Environmental Protection (DEEP), Inland Water Resources Division (the “Division”).

Category 2 Eligible

The Division has determined that the project/activities are eligible for section 401 water quality certification under Category 2.C. of the General Permit subject to any conditions specified herein, and that an individual application to the DEEP is not required, provided that the project receives approval from the U.S. Army Corps of Engineers under Category 2 of the General Permit and that the authorized activities proceed as described in the application documentation.


PROJECT DESCRIPTION. Complete replacement of a cast in place culvert with a 14' x 7' precast concrete box culvert and concrete wingwalls at Bassett Road over Fenn Brook. Requires removal of the existing culvert and the placement of fill in this location to protect the existing water line. Structural bedding material, rip rap, erosion protection and stream boulders will be placed in the wetland and watercourse.
Conditions:

1. All activities shall be constructed in accordance with the application documentation and plans entitled, "Bassett Road Culver Replacement," dated February 2015 and prepared by Milone and MacBroom.

If you have any questions or need additional information, please contact Linda Brunza at (860) 424-3739, Linda.Brunza@ct.gov. Any correspondence submitted regarding this project should be directed to Linda Brunza at the Inland Water Resources Division and should reference the application number.

8/21/2015

Date

Cheryl A. Chase, Director
Inland Water Resources Division
Bureau of Water Protection and Land Reuse

CC: LB

cc:

Michael Marsh, US Environmental Protection Agency, marsh.mike@epamail.epa.gov
Nathan Margason, US Environmental Protection Agency, Margason.Nathan@epa.gov
Susan Lee, Project Manager, USACE Regulatory Division 696 Virginia Road Concord MA 01742
Anthony Cirillo Jr., Milone and MacBroom email: tonyc@miloneandmacbroom.com
Steve Gephard, DEEP Inland Fisheries (Marine HQ- Old Lyme)
Bob Gilmore, DEEP IWRD
Jeff Caiola, DEEP IWRD
Regulatory Division  
CENAE-R-PEB  
Permit Number: NAE-2015-416

Attn: Mr. Roy Cavanaugh, Public Works Director  
Town of Watertown  
61 Echo Lake Road  
Watertown, CT 06795

Dear Mr. Cavanaugh:

We have reviewed your application to excavate/place fill/grade below ordinary high water in approximately 0.023 acres of Fenn Brook and adjacent wetlands in association with replacement of the Bassett Road culvert on Fenn Brook in Watertown, Connecticut. The work is described and shown on the enclosed plans entitled “BASSETT ROAD CULVERT REPLACEMENT”, on twenty-one (21) sheets, all sheets dated “FEBRUARY 2015”.

The existing culvert will be replaced with a 14’ W X 7’ H X 58’ L precast concrete box culvert with cast-in-place concrete wing walls. The new culvert will be relocated to the northeast of the existing culvert crossing under Bassett Road. Fill in areas of Fenn Brook and wetlands is associated with backfill of the existing culvert and portions of Fenn Brook upstream and downstream of the existing culvert, concrete for new wing walls, fill/grading within the existing stream bed areas upstream and downstream of the existing culvert associated with the new wing walls/road slope support at the new culvert crossing, structural bedding for the new culvert, riprap and natural material backfill on the culvert bottom, riprap for erosion control at the culvert inlet/outlet, boulder placement embedded within the riprap bed in Fenn Brook, and temporary cofferdams in the stream. The project includes approximately 250 LF of roadway reconstruction due to the culvert construction.

Based on the information you have provided, we have determined that the proposed activity, which includes a discharge of dredged or fill material into waters or wetlands, will have only minimal individual and cumulative impacts on waters of the United States, including wetlands. Therefore, this work is authorized as a Category 2 activity under the enclosed Federal permit known as the Connecticut General Permit (GP). This work must be performed in accordance with the terms and conditions of the GP.

You are responsible for complying with all of the GP’s requirements. Please review the enclosed GP carefully; in particular the GP conditions, to be sure you understand its requirements. You should ensure that whoever does the work also fully understands the requirements and that a copy of the permit document and this authorization letter are at the project site throughout the time the work is being performed.
The Connecticut Department of Energy & Environmental Protection (DEEP) has issued a Water Quality Certification (WQC) for this project, as required under Section 401 of the Clean Water Act, based on their review of the project.

This authorization expires on July 15, 2016, unless the GP is modified, suspended, or revoked before then. You must commence or be under contract to commence the work authorized herein by that expiration date and complete the work by July 15, 2017. If not, you must contact this office to determine the need for further authorization before beginning or continuing the activity. We recommend you contact us before this permit expires to discuss a permit reissuance.

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

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

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

This authorization presumes that the work as described above and as shown on your plans noted above is in waters of the U.S. Should you desire to appeal our jurisdiction, please submit a request for an approved jurisdictional determination in writing to this office.

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

Please contact Susan Lee of my staff at (978) 318-8494 if you have any questions.

Sincerely,

[Signature]

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

Enclosures
Copy Furnished (via email): Bob Gilmore, CT DEEP- IWRD; Nate Margason, US EPA; Charles Berger/Town of Watertown, CT
Corps of Engineers Permit No. NAE-2015-416 was issued to the Town of Watertown, 61 Echo Lake Road, Watertown, CT 06795 on September 14, 2015. This work is located in Fenn Brook at the Bassett Road culvert in Watertown, CT. The permit authorized the permittee to excavate/place fill/grade below ordinary high water in approximately 0.023 acres of Fenn Brook and adjacent wetlands in association with replacement of the Bassett Road culvert on Fenn Brook in Watertown. The existing culvert will be replaced with a 14' W X 7'H X 58' L precast concrete box culvert with cast-in-place concrete wing walls. The new culvert will be relocated to the northeast of the existing culvert crossing under Bassett Road. Fill in areas of Fenn Brook and wetlands is associated with backfill of the existing culvert and portions of Fenn Brook upstream and downstream of the existing culvert, concrete for new wing walls, fill/grading within the existing stream bed areas upstream and downstream of the existing culvert associated with the new wing walls/road slope support at the new culvert crossing, structural bedding for the new culvert, riprap and natural material backfill on the culvert bottom, riprap for erosion control at the culvert inlet/outlet, boulder placement embedded within the riprap bed in Fenn Brook, and temporary cofferdams in the stream. The project includes approximately 250 LF of roadway reconstruction due to the culvert construction.

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

PLEASE PRINT OR TYPE

Name of Person/Firm: ______________________________________________

Business Address: ________________________________________________

Telephone Numbers: ( ) ____________________________ ( ) ____________________________

Proposed Work Dates: Start: ____________________________ Finish: ____________________________

Permittee/Agent Signature: ____________________________ Date: ____________________________

Printed Name: ____________________________ Title: ____________________________

Date Permit Issued: September 14, 2015 Date Permit Expires: July 15, 2016

FOR USE BY THE CORPS OF ENGINEERS

PM: Susan Lee Submittals Required: no

Inspection Recommendation: yes
COMPLIANCE CERTIFICATION FORM

Permit Number: NAE-2015-416

Project Manager: Susan Lee

Name of Permittee: Town of Watertown

Permit Issuance Date: September 14, 2015

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

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

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

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

Signature of Permittee

Date

Printed Name

Date of Work Completion

(_____) Telephone Number

(_____) Telephone Number
Effective Date: July 15, 2011

Expiration Date: July 15, 2016

Applicant: General Public in the State of Connecticut & Lands Located within the Boundaries of an Indian Reservation

DEPARTMENT OF THE ARMY
GENERAL PERMIT

STATE OF CONNECTICUT

&

LANDS LOCATED WITHIN THE BOUNDARIES OF AN INDIAN RESERVATION

The New England District of the U.S. Army Corps of Engineers (Corps) hereby issues a General Permit (GP) for activities in waters of the United States (U.S.) that have minimal individual and cumulative impacts on the aquatic environment within the State of Connecticut and lands located within the exterior boundaries of an Indian reservation.

This GP is separated into sections. Section 1 is for activities occurring within Inland Waters and Wetlands within the State of Connecticut. Section 1A is for activities occurring within Inland Waters and Wetlands located within the boundaries of Mashantucket. Section 2 is for activities occurring within Tidal, Coastal and Navigable Waters.

In order for activities to qualify for this GP, they must meet the GP’s terms and eligibility criteria and stipulations listed in the Definition of Categories (Appendices 1 and 2) as well as the GP’s general conditions.

\[1\] Indian reservation lands are considered a sovereign nation, and are therefore acknowledged separately from the State of Connecticut for purposes of this General Permit.
CONNECTICUT GENERAL PERMIT
General Conditions

The following conditions, as well as Appendices 1 and 2 apply to ALL activities authorized under this GP unless otherwise specified.

1. Other Permits. Authorization under this General Permit does not obviate the need to obtain other federal, state, or local authorizations required by law.

2. Federal Jurisdictional Boundaries. Applicability of this GP shall be evaluated with reference to Federal jurisdictional boundaries. Applicants are responsible for ensuring that the boundaries depicted satisfy the Federal criteria defined at 33 CFR 328-329. Wetland boundaries need to be delineated for all wetlands on the subject parcel(s), including isolated wetlands and/or vernal pools. This requirement can be waived by the Corps and Connecticut Department of Energy & Environmental Protection, (CT DEEP) on a case-by-case basis and after coordination with the resource agencies. Wetland boundaries shall be delineated in accordance with the applicable Corps of Engineers Wetlands Delineation Manual and regional supplement. For Corps Wetland Delineation Manual, regional supplements and data sheets, and the National List of Plant Species that Occur in Wetlands, visit our website at www.nae.usace.army.mil/reg and then click on “Jurisdictional Limits and Wetlands”. The Natural Resources Conservation Service (NRCS) publishes the current hydric soil definition, criteria and lists which can be found at http://soils.usda.gov/use/hydric. For the Field Indicators for Identifying Hydric Soils in New England, visit: www.neiwpcc.org/hydricsoils.asp.


   a. Projects authorized by this general permit shall have no more than minimal direct, secondary and cumulative adverse environmental impacts. Applicants shall provide information on secondary and cumulative impacts.

   b. Secondary impacts to waterway and/or wetland areas, (e.g., areas drained, flooded, cleared, excavated or fragmented) shall be added to the total fill area when determining whether the project qualifies for Category 1 or 2. Site clearing, grading and construction activities in the upland habitat within 750 feet surrounding vernal pools are secondary impacts. (NOTE: Not applicable for activities within the exterior boundaries of the Mashantucket Reservation—see additional criteria specified within Appendix 1)

   c. Cumulative impacts are the changes in an aquatic ecosystem that are attributable to the collective effect of a number of individual discharges of dredged or fill material. Although the impact of a particular discharge may constitute a minor change in itself, the cumulative effect of numerous such piecemeal changes can result in a major impairment of the water resources and interfere with the productivity and water quality of existing aquatic ecosystems. Mitigation will generally be required to offset unavoidable direct, secondary and temporary impacts in accordance with the April 10, 2008 Mitigation Rule 33 CFR 332. See General Condition 15 below for additional information regarding mitigation.
4. **Discretionary Authority.** Notwithstanding compliance with the terms and conditions of this permit, the Corps retains discretionary authority to require an Individual Permit review based on concerns for the aquatic environment or for any other factor of the public interest [33 CFR 320.4(a)]. This authority is invoked on a case-by-case basis whenever the Corps determines that the potential consequences of the proposal warrant Individual Permit review based on the concerns stated above. This authority may be invoked for projects with cumulative environmental impacts that are more than minimal, or if there is a special resource or concern associated with a particular project. Whenever the Corps notifies an applicant that an Individual Permit may be required, authorization under this GP is voided and no work may be conducted until a Corps Individual Permit is obtained or until the Corps notifies the applicant that further review has demonstrated that the work may be reviewed under this GP.

5. **Single and Complete Projects** means the total project proposed or accomplished by one owner/developer or partnership or other association of owners/developers.

   a. This GP shall not be used for piecemeal work and shall be applied to single and complete projects. When determining eligibility for a single and complete project, proponents must include any permanent historic fill placed since August 1993 that is associated with that project and all currently proposed temporary and permanent impact areas.

   b. For non-linear projects, a single and complete project must have independent utility. Portions of a multi-phase project that depend upon other phases of the project do not have independent utility. Phases of a project that would be constructed, even if the other phases were not built, can be considered as separate single and complete projects with independent utility.

   c. Unless the Corps determines the activity has independent utility:

      (1) This GP shall not be used for any activity that is part of an overall project for which an Individual Permit is required.

      (2) All components of a single project and/or all planned phases of a multi-phased project shall be treated together as constituting one single and complete project.

   d. For linear projects such as power lines or pipelines with multiple crossings, a "single and complete project" is all crossings of a single water of the U.S. (i.e. single waterbody) at a specific location. For linear projects crossing a single waterbody several times at separate and distant locations, each crossing is considered a single and complete project. However, individual channels in a braided stream or river, or individual arms of a large, irregularly-shaped wetland or lake, etc., are not separate waterbodies, and crossings of such features cannot be considered separately. If any crossing requires a Category 2 review or an individual permit, then the entire linear project shall be reviewed as one project under Category 2 or the individual permit procedures.

6. **Permit On-Site.** For Category 2 projects, the permittee shall ensure that a copy of this GP and the accompanying authorization letter are at the work site (and the project office) authorized by this GP whenever work is being performed, and that all personnel with operational control of the site ensure that all appropriate personnel performing work are fully aware of its terms and conditions. The entire permit authorization shall be made a part of any and all contracts and sub-contracts for work that
affects areas of Corps jurisdiction at the site of the work authorized by this GP. This shall be achieved by including the entire permit authorization in the specifications for work. The term “entire permit authorization” means this GP, including General Conditions and the authorization letter (including its drawings, plans, appendices and other attachments) and also includes permit modifications. If the authorization letter is issued after the construction specifications, but before receipt of bids or quotes, the entire permit authorization shall be included as an addendum to the specifications. If the authorization letter is issued after receipt of bids or quotes, the entire permit authorization shall be included in the contract or sub-contract as a change order. Although the permittee may assign various aspects of the work to different contractors or sub-contractors, all contractors and sub-contractors shall be obligated by contract to comply with all environmental protection provisions contained within the entire GP authorization, and no contract or sub-contract shall require or allow unauthorized work in areas of Corps jurisdiction.

7. Historic Properties. Any activity authorized by this GP shall comply with Section 106 of the National Historic Preservation Act. Information on the location and existence of historic resources can be obtained from the Connecticut Commission on Culture and Tourism, Historic Preservation and Museum Division, the National Register of Historic Places and the Tribal Historic Preservation Officer (THPO) of both the Mashantucket Pequot Tribe and the Mohegan Tribe. Project proponents shall apply to the Corps for all projects that would otherwise qualify for Category 1 if the authorized activity may have the potential to cause effects to any historic properties listed, determined to be eligible for listing on, or potentially eligible for listing on the National Register of Historic Places, including previously unidentified properties. These projects may be eligible under Category 2. If the permittee, while accomplishing the activity authorized by this permit, encounters a previously unidentified archaeological or other cultural resource that might be eligible for listing in the National Register of Historic Places, he/she shall immediately notify the District Engineer. The historic properties contacts can be found on Appendix 4.

8. National Lands. Any of the following is not eligible under Category 1:

   a. Activities that impinge upon the value of any National Wildlife Refuge, National Forest, National Marine Sanctuary or any area administered by the National Park Service, U. S. Fish and Wildlife Service (USFWS) or U.S. Forest Service.

   b. Work on Corps properties and/or Corps-controlled easement. Contact the Corps Real Estate Division at (978)318-8585 to initiate reviews about both Corps holdings and permit requirements.

   c. Any proposed temporary or permanent modification or use of a federal project (including but not limited to a levee, dike, floodwall, channel, seawall, bulkhead, jetty, wharf pier, or other work built by the United States), which would obstruct or impair the usefulness of the federal project in any manner, and/or would involve changes to the authorized federal project’s scope, purpose, and/or functioning that go beyond minor modifications required for normal operations and maintenance and is not eligible for Category 1 and requires review and approval by the Corps pursuant to 33 USC 408.

a. No activity may be authorized under this GP (Category 1 or 2) which would:

(1) Be "likely to adversely affect" a threatened or endangered species, a proposed species, designated or proposed critical habitat (all herein referred to as "listed species or habitat") as identified under the federal Endangered Species Act (ESA),

(2) Result in a "take" of any federally-listed, threatened or endangered species of fish or wildlife, or

(3) Result in any other violation of Section 9 of the ESA protecting threatened or endangered species of plants.

b. No activity may be authorized under Category 1 if any listed species or designated critical habitat might be affected or is in the vicinity of the project, or if the project is located in designated critical habitat (see (c) below). The following USFWS and NMFS sites must be referenced to ensure that listed species or critical habitat are not present in the action area or to provide information on federally-listed species or habitat: www.fws.gov/newengland/EndangeredSpe-Consultation_Project_Review.htm and www.nero.noaa.gov/prot_res/esp/ListE&Tspec.pdf.

c. Proponents must submit an application if any of the activities in (a) or (b) may occur and provide information on federally-listed species or habitat to allow the Corps to conduct any required consultation under Section 7 of the ESA. The Endangered Species Act Consultation Handbook – Procedures for Conducting Section 7 Consultations and Conferences, defines action areas as "all areas to be affected directly or indirectly by the federal action and not merely the immediate area involved in the action". [50 CFR 402.02]

10. Essential Fish Habitat. As part of the GP reviewing process, the Corps will coordinate with the NMFS in accordance with the 1996 amendments to the Magnuson-Stevens Fishery Conservation and Management Act (MSA) to protect and conserve the habitat of marine, estuarine and anadromous finfish, mollusks, and crustaceans. This habitat is termed "Essential Fish Habitat," (EFH) and is broadly defined to include "those waters and substrate necessary to fish for spawning, breeding, feeding and growth to maturity." All species managed under the MSA have had EFH designations. There are 61 species with EFH in the coastal waters of southern New England. Applicants may be required to describe and identify potential impacts to EFH. For instance, in Connecticut, this act protects Atlantic salmon (Salmo salar) habitat. Any work in the main stem or tributary streams of the Connecticut River watershed that are being managed for Atlantic salmon are NOT be eligible for authorization under Category 1 of this GP because the activity requires screening for potential impacts to designated EFH. Conservation recommendations regarding the protection of EFH for species managed under the MSA made by NMFS will normally be included as special conditions to any permit issued by the Corps. Information on the location of EFH can be obtained from NMFS. The NMFS has established a web site at www.nero.nmfs.gov/RO/DOC/appguide1.html.
11. **Wild and Scenic Rivers.** Any activity that occurs in the designated main stem of, within 0.25 miles up or downstream of the designated main stem of, or in tributaries within 0.25 miles of the designated main stem of a National Wild and Scenic River, or that has the potential to alter flows within a river within the National Wild and Scenic River System is not eligible for Category 1, regardless of the size of the impacts. This condition applies to both designated Wild and Scenic Rivers and rivers officially designated by Congress as study rivers for possible inclusion while such rivers are in official active study status.

The Corps will consult with the National Park Service (NPS) with regard to potential impacts of the proposed work on the resource values of the wild and scenic river. The culmination of this coordination will be a determination by the NPS and the Corps that the work: (1) may proceed as proposed; (2) may proceed with recommended conditions; or (3) could pose a direct and adverse effect on the resource values of the river and an Individual Permit is required. If preapplication consultation between the applicant and the NPS has occurred whereby NPS has made a determination that the proposed project is appropriate for authorization under this GP (with respect to Wild and Scenic River issues), this determination should be furnished to the Corps with submission of the application.

As of May 31, 2011, affected rivers in Connecticut include: the West Branch of the Farmington River from Colebrook to Canton (designated river); the Eightmile River and tributaries in Salem, Lyme and East Haddam (designated river); and the Lower Farmington River from Canton to Windsor (study river – including its tributary Salmon Brook).

Additional information can be found at: [http://www.rivers.gov/wildriverslist.html](http://www.rivers.gov/wildriverslist.html) and scrolling down to “Connecticut”.

12. **Federal Navigation Project.** Any structure or work that extends closer to the horizontal limits of any Corps navigation project than a distance of three times the project’s authorized depth shall be subject to removal at the owner’s expense prior to any future Corps dredging or the performance of periodic hydrographic surveys.

13. **Navigation.**

   a. There shall be no unreasonable interference with navigation by the existence or use of the activity authorized herein, and no attempt shall be made by the permittee to prevent the full and free use by the public of all navigable waters at or adjacent to the activity authorized herein.

   b. The permittee understands and agrees that, if future operations by the U.S. require the removal, relocation, or other alteration of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the U.S. No claim shall be made against the U.S. on account of any such removal or alteration.

14. **Federal Liability.** In issuing this permit, the Federal Government does not assume any liability for the following:

   a. damages to the permitted project or uses thereof as a result of other permitted or unpermitted activities or from natural causes;
b. damages to the permitted project or uses thereof as a result of current or future activities undertaken by or on behalf of the U.S. in the public interest;

c. damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by this permit; and

d. design or construction deficiencies associated with the permitted work; (e) damage claims associated with any future modification, suspension, or revocation of this permit.

15. Avoidance, Minimization and Compensatory Mitigation.

a. Discharges of dredged or fill material into waters of the U.S., including wetlands, shall be avoided and minimized to the maximum extent practicable. Compensatory mitigation of unavoidable direct and indirect impacts (including temporal loss) is expected for all Category 2 projects. The mitigation will need to be sufficient to replace the suite of aquatic resource functions and services lost as a result of the permitted activity (see the NAE Mitigation Guidance and Recommended Ratios at http://www.nae.usace.army.mil/reg/Mitigation/CompensatoryMitigationGuidance.pdf.

Applicants can also pursue minimization by the implementation of low impact development (LID) practices to reduce impervious cover and better manage stormwater. Examples of LID best management practices include, but are not limited to: replacing curbs and gutters with swales; using an open space design for subdivisions; using permeable, pervious or porous pavements; constructing bio-retention systems; and/or, adding a green roof or rain garden. For additional information on these best management practices, including applicability and maintenance and cost considerations, please see http://cfpub.epa.gov/npdes/stormwater/menuofbmps/index.cfm and click on post construction.

For additional information see the Corps website at http://www.nae.usace.army.mil/reg and click on “Mitigation” to view the April 10, 2008 “Final Compensatory Mitigation Rule” (33 CFR 332) and related documents. The Q&A document states: “In order to reduce risk and uncertainty and help ensure that the required compensation is provided, the rule establishes a preference hierarchy for mitigation options. The most preferred option is mitigation bank credits, which are usually in place before the activity is permitted. In-lieu fee (ILF) program credits are second in the preference hierarchy, because they may involve larger, more ecologically valuable compensatory mitigation projects as compared to permittee-responsible mitigation. Permittee-responsible mitigation is the third option, with three possible circumstances: (1) conducted under a watershed approach, (2) on-site and in kind, and (3) off-site/out-of-kind. While Connecticut is lacking In-Lieu-Fee and Mitigation Bank choices, mitigation will be required on a case-by-case basis. However, when such choices are available, mitigation will be required for all Category 2 projects. Mitigation will become more practical as additional ILF and Banking choices become available in Connecticut.

b. For coastal structures such as piers and docks, the height above the marsh at all points should be equal to or exceed the width of the deck. The height shall be measured from the marsh substrate to the bottom of the longitudinal support beam. This will help ensure sunlight reaches the area beneath the structure.
c. Coastal floats must be supported at least 18” above the intertidal and shallow sub-tidal substrate during all tidal cycles.

16. Heavy Equipment in Wetlands. Operating heavy equipment other than fixed equipment (drill rigs, fixed cranes, etc.) within wetlands shall be minimized, and such equipment shall not be stored, maintained or repaired in wetlands, to the maximum extent practicable. Where construction requires heavy equipment operation in wetlands, the equipment shall either have low ground pressure (typically <3 psi), or it shall be placed on swamp/construction/timber mats (herein referred to as “construction mats”) that are adequate to support the equipment in such a way as to minimize disturbance of wetland soil and vegetation. Construction mats are to be placed in the wetland from the upland or from equipment positioned on swamp mats if working within a wetland. Dragging construction mats into position is prohibited. Other support structures that are capable of safely supporting equipment may be used with written Corps authorization. Similarly, the permittee may request written authorization from the Corps to waive use of mats during frozen or dry conditions (see General Condition 17 below). An adequate supply of spill containment equipment shall be maintained on site.

17. Temporary Fill. Fill placed into waters of the U.S. (including wetlands) totaling greater than or equal to 5,000 square feet in total area (i.e., the sum of permanent and temporary fill areas) exceeds the Category 1 threshold and may not be discharged without written authorization from the Corps. When temporary fill is used (e.g., access roads, swamp mats, cofferdams), it shall be stabilized and maintained during construction in such a way as to prevent its eroding into portions of waters of the U.S. where it is not authorized and shall be removed immediately following construction. The following criteria must also be met:

a. Unconfined temporary fill authorized for discharge into flowing water (rivers and streams) shall consist only of clean stone.

b. Temporary fill authorized for discharge into wetlands shall be placed on geotextile fabric laid on the pre-construction wetland grade. (Swamp and timber mats are excluded from this requirement.)

c. Temporary fill shall be removed as soon as it is no longer needed, and it shall be disposed of at an upland site and suitably contained to prevent its subsequent erosion into waters of the U.S.

d. Waters of the U.S. where temporary fill was discharged shall be restored (see General Condition 18).

e. No temporary work shall drain a water of the U.S. by providing a conduit for water on or below the surface.

18. Restoration of Inland Wetland Areas.

a. Upon completion of construction, all disturbed wetland areas (the disturbance of these areas must be authorized) shall be stabilized with a wetland seed mix containing only plant species native to New England and shall not contain any species listed in the “Invasive and Other Unacceptable Plant Species” Appendix in the “New England District Compensatory Mitigation Guidance”.

7
b. The introduction or spread of invasive plant species in disturbed areas shall be controlled. If swamp or timber mats are to be used, they shall be thoroughly cleaned before re-use.

c. In areas of authorized temporary disturbance, if trees are cut they shall be cut at or above ground level and not uprooted in order to prevent disruption to the wetland soil structure and to allow stump sprouts to revegetate the work area, unless otherwise authorized.

d. Wetland areas where permanent disturbance is not authorized shall be restored to their original condition and elevation, which under no circumstances shall be higher than the pre-construction elevation. Original condition means careful protection and/or removal of existing soil and vegetation, and replacement back to the original location such that the original soil layering and vegetation schemes are approximately the same, unless otherwise authorized.

19. Coastal Bank Stabilization. Projects involving construction or reconstruction/maintenance of bank stabilization structures within Corps jurisdiction should be designed to minimize environmental effects, effects to neighboring properties, scour, etc. to the maximum extent practicable. For example, vertical bulkheads should only be used in situations where reflected wave energy can be tolerated. This generally eliminates bodies of water where the reflected wave energy may interfere with or impact on harbors, marinas, or other developed shore areas. A revetment is sloped and is typically employed to absorb the direct impact of waves more effectively than a vertical seawall. It typically has a less adverse effect on the beach in front of it, abutting properties and wildlife. For more information on this topic, go to the Corps Coastal Engineering Manual (supersedes the Shore Protection Manual), located at http://ohl.erdc.usace.army.mil. Select “Products/ Services,” “Publications.” Part 5, Chapter 7-8, a (2) c is particularly relevant.

20. Sedimentation and Erosion Control. Adequate sedimentation and erosion control management measures, practices and devices, such as phased construction, vegetated filter strips, geotextile silt fences, hay bales or other devices, shall be installed and properly maintained to reduce erosion and retain sediment on-site during and after construction. These measures shall be capable of preventing erosion, of collecting sediment, suspended, and floating materials, and of filtering fine sediment. These devices shall be removed upon completion of work and the disturbed areas shall be stabilized. The sediment collected by these devices shall be removed and placed at an upland location, in a manner that will prevent its later erosion into a waterway or wetland. All exposed soil and other fills shall be permanently stabilized at the earliest practicable date.


a. All temporary and permanent crossings of waterbodies shall be suitably culverted, bridged, or otherwise designed to withstand and to prevent the restriction of high flows, and to maintain existing low flows, and so as not to obstruct the movement of aquatic life indigenous to the waterbody beyond the actual duration of construction.

b. Open bottom arches, bridge spans or embedded culverts are generally preferred over traditional culverts and are required for Category 1 projects. However, site constraints (e.g., placing footings) may make use of an open bottom arch, bridge span or embedded culverts impractical, and in these cases well-designed culverts may actually perform better. Project proponents shall consult with the Corps if an open bottom arch, bridge span or embedded culvert is impractical.
c. No projects involving open trench excavation in flowing waters are allowed in Category 1 unless the permittee utilizes management techniques such as temporary flume pipes, culverts, cofferdams, etc. and maintains normal flows within the stream boundary's confines so the work does not occur in flowing waters. Projects utilizing these management techniques must meet the other Category 1 requirements and all of this GP's terms and conditions. If not, they will require review under the Category 2 screening procedures.

d. Temporary bridges, culverts, or cofferdams shall be used for equipment access across streams. (Note: areas of fill and/or cofferdams must be included in total waterway/wetlands impacts to determine applicability of this GP).

e. Projects using slip lining (retrofitting an existing culvert by inserting a smaller diameter pipe), plastic pipes, and High Density Polyethylene Pipes (HDPP) are not authorized under Category 1, either as new work or maintenance activities.

f. For projects that otherwise meet the terms of Category 1, unconfined in-stream construction work shall be conducted during the low flow period June 1 through September 30 in any year except in instances where a specific written exception has been issued by the Connecticut Department of Energy & Environmental Protection. All other projects shall be screened pursuant to Category 2, regardless of the waterway and wetland fill and/or impact area.

g. All temporary fill must be removed as soon as it is no longer needed and all disturbed areas must be returned to their pre-construction conditions

22. Discharge of Pollutants. All activities involving any discharge of pollutants into waters of the U.S. authorized under this GP shall be consistent with applicable water quality standards, effluent limitations, standards of performance, prohibitions, and pretreatment standards and management practices established pursuant to the CWA (33 U.S.C. 1251), and applicable state and local laws. If applicable water quality standards, limitations, etc., are revised or modified during the term of this permit, the authorized work shall be modified to conform with these standards within 6 months of the effective date of such revision or modification, or within a longer period of time deemed reasonable by the District Engineer in consultation with the Regional Administrator of the EPA. Applicants may presume that state water quality standards are met with issuance of the Section 401 WQC (Applicable only to the Section 404 activity).

23. Spawning Areas. Discharges of dredged or fill material, and/or suspended sediment-producing activities in fish and shellfish spawning or nursery areas and amphibian and waterfowl breeding areas shall be avoided. During all times of year, impacts to these areas shall be avoided to the maximum extent practicable.

24. Storage of Seasonal Structures. Coastal structures, such as pier sections and floats, that are removed from the waterway for a portion of the year (often referred to as seasonal structures) shall be stored in an upland location, located above mean high water (MHW) and not in tidal wetlands. These seasonal structures may be stored on the fixed, pile-supported portion of the structure that is seaward of MHW. This is intended to prevent structures from being stored on the marsh substrate and the substrate seaward of MHW.
25. Environmental Functions and Values. The permittee shall make every reasonable effort to carry out the construction or operation of the work authorized herein in a manner that minimizes any adverse impacts on existing fish, wildlife, and the environmental to the extent practicable. The permittee will discourage the establishment or spread of plant species identified as non-native invasive species by any federal or state agency.

26. Protection of Vernal Pools. Wetland boundaries for vernal pools and isolated wetlands on the subject parcel(s) must be delineated in accordance with Federal criteria defined at 33 CFR 328-329. For all inland Category 2 projects, the applicant must complete a vernal pool survey of the entire site, not just for the areas being directly impacted. The applicant must report the results of the survey to the Corps. If no vernal pools are found on the site, the applicant must confirm that in writing and also identify the party that conducted the survey and the survey date. This requirement may be waived by the Corps, in writing, on a case-by-case basis. Impacts to uplands in proximity (within 750 feet) to the vernal pools referenced in the Definitions of Categories shall be minimized to the maximum extent possible.

27. Invasive Species.

a. The introduction, spread, or the increased risk of invasion of invasive plant or animal species on the project site, into new or disturbed areas, or areas adjacent to the project site caused by the site work shall be avoided. Hence, swamp and timber mats shall be thoroughly cleaned before reuse.

b. Unless otherwise directed by the Corps, all applications for Category 2 inland projects proposing fill in Corps jurisdiction shall include an Invasive Species Control Plan (ISCP).

Additional information can be found at: www.hort.uconn.edu/cipwg/

28. Inspections. The permittee shall allow the Corps to make periodic inspections at any time deemed necessary in order to ensure that the work is being or has been performed in accordance with the terms and conditions of this permit. The Corps may also require post-construction engineering drawings for completed work or post-dredging survey drawings for any dredging work. To facilitate these inspections, the permittee shall complete and return to the Corps:

a. For Category 1 Inland projects, the Category 1 Form (Appendix 1A), and the Compliance Certification Form (Appendix 5).

b. For Category 2 projects, the Work-Start Notification Form and the Compliance Certification Form. Both are provided as attachments with each Category 2 authorization letter.

29. Maintenance. The permittee shall maintain the activity authorized by this GP in good condition and in conformance with the terms and conditions of this permit. This does not include maintenance of dredging projects. Maintenance dredging is subject to the review thresholds in Appendix 2 - Coastal Definition of Categories (attached) and/or any conditions included in a written Corps authorization. Maintenance dredging includes only those areas and depths previously authorized and dredged. Some maintenance activities may not be subject to regulation under Section 404 in accordance with 33 CFR 323.4(a)(2). Information on mosquito ditching and maintenance is provided at www.nae.usace.army.mil. Go to “Regulatory/Permitting,” and then “Other.”
30. Property Rights. This permit does not convey any property rights, either in real estate or material, or any exclusive privileges, nor does it authorize any injury to property or invasion of rights or any infringement of federal, state, or local laws or regulations.

31. Modification, Suspension, and Revocation. This permit and any individual authorizations issued thereof may either be modified, suspended, or revoked in whole or in part pursuant to the policies and procedures of 33 CFR 325.7; and any such action shall not be the basis for any claim for damages against the United States.

32. Restoration. The permittee, upon receipt of a notice of revocation of authorization under this permit, shall restore the wetland or waterway to its former conditions, without expense to the United States and as directed by the Secretary of the Army or his authorized representative. If the permittee fails to comply with such a directive, the Secretary or his designee may restore the wetland or waterway to its former condition, by contract or otherwise, and recover the cost from the permittee.

33. Special Conditions. The Corps may impose other special conditions on a project authorized pursuant to this general permit that are determined necessary to minimize adverse environmental effects or based on any other factor of the public interest. These may be based on concerns from CT DEEP or a Federal resource agency. Failure to comply with all conditions of the authorization, including special conditions, will constitute a permit violation and may subject the permittee to criminal, civil, or administrative penalties or restoration.

34. False or Incomplete Information. If the Corps makes a determination regarding the eligibility of a project under this permit, and subsequently discovers that it has relied on false, incomplete, or inaccurate information provided by the permittee, the permit will not be valid, and the U.S. government may institute appropriate legal proceedings.

35. Abandonment. If the permittee decides to abandon the activity authorized under this general permit, unless such abandonment is merely the transfer of property to a third party, he/she may be required to restore the area to the satisfaction of the District Engineer.

36. Enforcement cases. This GP does not apply to any existing or proposed activity in Corps jurisdiction associated with an on-going Corps or EPA enforcement action, until such time as the enforcement action is resolved or the Corps determines that the activity may proceed independently without compromising the enforcement action.

37. Duration of Authorization. This GP expires five years from the effective date listed at the top of Page 1 of this GP. Activities authorized by this GP that have either commenced (i.e., are under construction) or are under contract to commence in reliance upon this authorization will have an additional year from this GP's expiration date to complete the work. The permittee must be able to document to the Corps' satisfaction that the project was under construction or under contract by the appropriate date. If work is not completed within the one year extended timeframe, the permittee must contact the Corps. The Corps may issue a new authorization provided the project meets the terms and conditions of the CT GP current at the time.
Activities authorized under this GP will remain authorized, unless:

a. the GP is either modified or revoked, or

b. discretionary authority has been exercised on a case-by-case basis to modify, suspend, or revoke the authorization in accordance with 33 CFR 325.2(e)(2).

Activities completed under the Category 1 or Category 2 authorizations of this GP will continue to be authorized by this GP after its expiration date.

38. Previously Authorized Activities:

a. Activities completed under the authorizations of past GPs that were in effect at the time the activity was completed will continue to be authorized by those GPs.

b. Projects that have received written verification or approval from the Corps, based on applications made to the Corps prior to issuance of this GP, regional general permits, or letters of permission shall remain authorized as specified in each authorization.

c. Activities authorized pursuant to 33 CFR Part 330.3 ("Activities occurring before certain dates") are not affected by this GP.

d. If the permittee sells the property associated with a General Permit authorization, the permittee may transfer the General Permit authorization to the new owner by submitting a letter to the Corps to validate the transfer. A copy of the General Permit authorization letter must be attached to the letter, and the letter must include the following statement: "The terms and conditions of this General Permit, including any special conditions, will continue to be binding on the new owner(s) of the property". This letter should be signed by both the seller and new property owner(s).

\[signature\] DISTRICT ENGINEER  \[date\]
CALL (860) 263-6790
If you have questions regarding your wages

CT General Statutes Section 31-53

Prevailing Wage Law

Covered by the

This is a Public Works Project

[Logos and icons]
Project: Bassett Road Culvert Replacement

Minimum Rates and Classifications for Heavy/Highway Construction

Connecticut Department of Labor
Wage and Workplace Standards Division

ID#: H 21724

By virtue of the authority vested in the Labor Commissioner under provisions of Section 31-53 of the General Statutes of Connecticut, as amended, the following are declared to be the prevailing rates and welfare payments and will apply only where the contract is advertised for bid within 20 days of the date on which the rates are established. Any contractor or subcontractor not obligated by agreement to pay to the welfare and pension fund shall pay this amount to each employee as part of his/her hourly wages.

Project Number: Project Town: Watertown
FAP Number: State Number:
Project: Bassett Road Culvert Replacement

<table>
<thead>
<tr>
<th>CLASSIFICATION</th>
<th>Hourly Rate</th>
<th>Benefits</th>
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<tbody>
<tr>
<td>01) Asbestos/Toxic Waste Removal Laborers: Asbestos removal and</td>
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<td>encapsulation (except its removal from mechanical systems which are</td>
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<td>not to be scrapped), toxic waste removers, blasters. **See</td>
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<td>Laborers Group 5 and 7**</td>
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<tr>
<td>1) Boilermaker</td>
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<td>34% + 8.96</td>
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<tr>
<td>1a) Bricklayer, Cement Masons, Cement Finishers, Plasterers,</td>
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<td>28.34</td>
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<tr>
<td>Stone Masons</td>
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<tr>
<td>2) Carpenters, Piledrivermen</td>
<td>31.45</td>
<td>23.54</td>
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As of: Monday, February 22, 2016
<table>
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<th>Project: Bassett Road Culvert Replacement</th>
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<tbody>
<tr>
<td>2a) Diver Tenders</td>
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<td>3) Divers</td>
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<td>03a) Millwrights</td>
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<tr>
<td>4) Painters: (Bridge Construction) Brush, Roller, Blasting (Sand, Water, etc.), Spray</td>
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<td>4a) Painters: Brush and Roller</td>
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<td>4d) Painters: Blast and Spray</td>
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<tr>
<td>4e) Painters: Tanks, Tower and Swing</td>
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_As of:_ Monday, February 22, 2016
Project: Bassett Road Culvert Replacement

| 5) Electrician (Trade License required: E-1,2 L-5,6 C-5,6 T-1,2 L-1,2 V-1,2,7,8,9) | 37.62 | 23.00 + 3% of gross wage |
| 6) Ironworkers: Ornamental, Reinforcing, Structural, and Precast Concrete Erection | 34.47 | 31.09 + a |
| 7) Plumbers (Trade License required: P-1,2,6,7,8,9 J-1,2,3,4 SP-1,2) and Pipefitters (Including HVAC Work) (Trade License required: S-1,2,3,4,5,6,7,8 B-1,2,3,4 D-1,2,3,4 G-1, G-2, G-8, G-9) | 40.62 | 28.91 |

---LABORERS---

| 8) Group 1: Laborer (Unskilled), Common or General, acetylene burner, concrete specialist | 27.85 | 18.30 |
| 9) Group 2: Chain saw operators, fence and guard rail erectors, pneumatic tool operators, powdermen | 28.10 | 18.30 |
| 10) Group 3: Pipayers | 28.35 | 18.30 |

As of: Monday, February 22, 2016
<table>
<thead>
<tr>
<th>Group</th>
<th>Description</th>
<th>Rate</th>
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<tr>
<td>11)</td>
<td>Group 4: Jackhammer/Pavement breaker (handheld); mason tenders, catch basin builders, asphalt rakers, air track operators, block paver, curb setter and forklift operators</td>
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<tr>
<td>12)</td>
<td>Group 5: Toxic waste removal (non-mechanical systems)</td>
<td>29.85</td>
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<tr>
<td>13)</td>
<td>Group 6: Blasters</td>
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<td>7)</td>
<td>Group 7: Asbestos/lead removal, non-mechanical systems (does not include leaded joint pipe)</td>
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<td>8)</td>
<td>Group 8: Traffic control signalmen</td>
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<td>9)</td>
<td>Group 9: Hydraulic Drills</td>
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---LABORERS (TUNNEL CONSTRUCTION, FREE AIR). Shield Drive and Liner Plate Tunnels in Free Air.----

As of: Monday, February 22, 2016
Project: Bassett Road Culvert Replacement

13a) Miners, Motormen, Mucking Machine Operators, Nozzle Men, Grout Men, Shaft & Tunnel Steel & Rodmen, Shield & Erector, Arm Operator, Cable Tenders

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<thead>
<tr>
<th>Rate</th>
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13b) Brakemen, Trackmen

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<tr>
<td>31.28</td>
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---CLEANING, CONCRETE AND CAULKING TUNNEL---

14) Concrete Workers, Form Movers, and Strippers

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<tr>
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<tr>
<td>31.28</td>
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15) Form Erectors

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<tr>
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---ROCK SHAFT LINING, CONCRETE, LINING OF SAME AND TUNNEL IN FREE AIR:---

16) Brakemen, Trackmen, Tunnel Laborers, Shaft Laborers

<table>
<thead>
<tr>
<th>Rate</th>
<th>Hourly Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>31.28</td>
<td>18.30 + a</td>
</tr>
</tbody>
</table>

As of: Monday, February 22, 2016
<table>
<thead>
<tr>
<th></th>
<th>Description</th>
<th>Hours</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>17</td>
<td>Laborers Topside, Cage Tenders, Bellman</td>
<td>31.17</td>
<td>18.30 + a</td>
</tr>
<tr>
<td>18</td>
<td>Miners</td>
<td>32.22</td>
<td>18.30 + a</td>
</tr>
<tr>
<td>18a</td>
<td>Blaster</td>
<td>38.53</td>
<td>18.30 + a</td>
</tr>
<tr>
<td>19</td>
<td>Brakemen, Trackmen, Groutman, Laborers, Outside Lock Tender, Gauge Tenders</td>
<td>38.34</td>
<td>18.30 + a</td>
</tr>
<tr>
<td>20</td>
<td>Change House Attendants, Powder Watchmen, Top on Iron Bolts</td>
<td>36.41</td>
<td>18.30 + a</td>
</tr>
<tr>
<td>21</td>
<td>Mucking Machine Operator</td>
<td>39.11</td>
<td>18.30 + a</td>
</tr>
</tbody>
</table>

---TUNNELS, CAISSON AND CYLINDER WORK IN COMPRESSED AIR: ----

As of: Monday, February 22, 2016
Project: Bassett Road Culvert Replacement

---TRUCK DRIVERS---(*see note below)

<table>
<thead>
<tr>
<th>Two axle trucks</th>
<th>28.58</th>
<th>20.24 + a</th>
</tr>
</thead>
<tbody>
<tr>
<td>Three axle trucks; two axle ready mix</td>
<td>28.68</td>
<td>20.24 + a</td>
</tr>
<tr>
<td>Three axle ready mix</td>
<td>28.73</td>
<td>20.24 + a</td>
</tr>
<tr>
<td>Four axle trucks, heavy duty trailer (up to 40 tons)</td>
<td>28.78</td>
<td>20.24 + a</td>
</tr>
<tr>
<td>Four axle ready-mix</td>
<td>28.83</td>
<td>20.24 + a</td>
</tr>
<tr>
<td>Heavy duty trailer (40 tons and over)</td>
<td>29.03</td>
<td>20.24 + a</td>
</tr>
</tbody>
</table>

*As of: Monday, February 22, 2016*
Project: Bassett Road Culvert Replacement

Specialized earth moving equipment other than conventional type on-the road trucks and semi-trailer (including Euclids)  

<table>
<thead>
<tr>
<th>Group 1: Crane handling or erecting structural steel or stone, hoisting engineer (2 drums or over), front end loader (7 cubic yards or over), Work Boat 26 ft. &amp; Over, Tunnel Boring Machines. (Trade License Required)</th>
</tr>
</thead>
<tbody>
<tr>
<td>37.55</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Group 2: Cranes (100 ton rate capacity and over); Excavator over 2 cubic yards; Piledriver ($3.00 premium when operator controls hammer); Bauer Drill/Caisson. (Trade License Required)</th>
</tr>
</thead>
<tbody>
<tr>
<td>37.23</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Group 3: Excavator/Backhoe under 2 cubic yards; Cranes (under 100 ton rated capacity), Gradall; Master Mechanic; Hoisting Engineer (all types of equipment where a drum and cable are used to hoist or drag material regardless of motive power of operation), Rubber Tire Excavator (Drott-1085 or similar); Grader Operator; Bulldozer Fine Grade (slopes, shaping, laser or GPS, etc.). (Trade License Required)</th>
</tr>
</thead>
<tbody>
<tr>
<td>36.49</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Group 4: Trenching Machines; Lighter Derrick; Concrete Finishing Machine; CMI Machine or Similar; Koehring Loader (Skooper)</th>
</tr>
</thead>
<tbody>
<tr>
<td>36.10</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Group 5: Specialty Railroad Equipment; Asphalt Paver; Asphalt Spreader; Asphalt Reclaiming Machine; Line Grinder; Concrete Pumps; Drills with Self Contained Power Units; Boring Machine; Post Hole Digger; Auger; Founder; Well Digger; Milling Machine (over 24&quot; Mandrell)</th>
</tr>
</thead>
<tbody>
<tr>
<td>35.51</td>
</tr>
</tbody>
</table>

As of: Monday, February 22, 2016
<table>
<thead>
<tr>
<th>Group 5 continued: Side Boom; Combination Hoe and Loader; Directional Driller.</th>
<th>35.51</th>
<th>23.05 + a</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group 6: Front End Loader (3 up to 7 cubic yards); Bulldozer (rough grade dozer).</td>
<td>35.20</td>
<td>23.05 + a</td>
</tr>
<tr>
<td>Group 7: Asphalt Roller; Concrete Saws and Cutters (ride on types); Vermeer Concrete Cutter; Stump Grinder; Scraper; Snooper; Skidder; Milling Machine (24&quot; and Under Mandrel).</td>
<td>34.86</td>
<td>23.05 + a</td>
</tr>
<tr>
<td>Group 8: Mechanic, Grease Truck Operator, Hydroblaster, Barrier Mover, Power Stone Spreader; Welder; Work Boat under 26 ft.; Transfer Machine.</td>
<td>34.46</td>
<td>23.05 + a</td>
</tr>
<tr>
<td>Group 9: Front End Loader (under 3 cubic yards), Skid Steer Loader regardless of attachments (Bobcat or Similar); Fork Lift, Power Chipper; Landscape Equipment (including hydroteeeder).</td>
<td>34.03</td>
<td>23.05 + a</td>
</tr>
<tr>
<td>Group 10: Vibratory Hammer, Ice Machine, Diesel and Air Hammer, etc.</td>
<td>31.99</td>
<td>23.05 + a</td>
</tr>
<tr>
<td>Group 11: Conveyor, Earth Roller; Power Pavement Breaker (whiphammer), Robot Demolition Equipment.</td>
<td>31.99</td>
<td>23.05 + a</td>
</tr>
</tbody>
</table>

*As of: Monday, February 22, 2016*
<table>
<thead>
<tr>
<th>Group</th>
<th>Description</th>
<th>Rate</th>
<th>Pay Scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group 12</td>
<td>Wellpoint Operator.</td>
<td>31.93</td>
<td>23.05 + a</td>
</tr>
<tr>
<td>Group 13</td>
<td>Compressor Battery Operator.</td>
<td>31.35</td>
<td>23.05 + a</td>
</tr>
<tr>
<td>Group 14</td>
<td>Elevator Operator; Tow Motor Operator (Solid Tire No Rough Terrain).</td>
<td>30.21</td>
<td>23.05 + a</td>
</tr>
<tr>
<td>Group 15</td>
<td>Generator Operator; Compressor Operator; Pump Operator; Welding Machine Operator; Heater Operator.</td>
<td>29.80</td>
<td>23.05 + a</td>
</tr>
<tr>
<td>Group 16</td>
<td>Maintenance Engineer/Oiler</td>
<td>29.15</td>
<td>23.05 + a</td>
</tr>
<tr>
<td>Group 17</td>
<td>Portable asphalt plant operator; portable crusher plant operator; portable concrete plant operator.</td>
<td>33.46</td>
<td>23.05 + a</td>
</tr>
<tr>
<td>Group 18</td>
<td>Power Safety Boat; Vacuum Truck; Zim Mixer; Sweeper; (minimum for any job requiring CDL license).</td>
<td>31.04</td>
<td>23.05 + a</td>
</tr>
</tbody>
</table>

*As of:* Monday, February 22, 2016
### Project: Bassett Road Culvert Replacement

**NOTE: SEE BELOW**

---LINE CONSTRUCTION----(Railroad Construction and Maintenance)----

<table>
<thead>
<tr>
<th>Job Description</th>
<th>Rate</th>
<th>Wage</th>
</tr>
</thead>
<tbody>
<tr>
<td>20) Lineman, Cable Splicer, Technician</td>
<td>45.43</td>
<td>6.25%+19.20</td>
</tr>
<tr>
<td>21) Heavy Equipment Operator</td>
<td>40.89</td>
<td>6.25%+17.18</td>
</tr>
<tr>
<td>22) Equipment Operator, Tractor Trailer Driver, Material Men</td>
<td>38.62</td>
<td>6.25%+16.68</td>
</tr>
<tr>
<td>23) Driver Groundmen</td>
<td>24.99</td>
<td>6.25%+10.87</td>
</tr>
<tr>
<td>23a) Truck Driver</td>
<td>34.07</td>
<td>6.25%+15.41</td>
</tr>
</tbody>
</table>

*As of:* Monday, February 22, 2016
## Project: Bassett Road Culvert Replacement

---LINE CONSTRUCTION---

<table>
<thead>
<tr>
<th></th>
<th>Description</th>
<th>Hours</th>
<th>Rate</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>24)</td>
<td>Driver Groundmen</td>
<td>30.92</td>
<td>6.5% + 9.70</td>
<td></td>
</tr>
<tr>
<td>25)</td>
<td>Groundmen</td>
<td>22.67</td>
<td>6.5% + 6.20</td>
<td></td>
</tr>
<tr>
<td>27)</td>
<td>Linemen, Cable Splicers, Dynamite Men</td>
<td>41.22</td>
<td>6.5% + 12.20</td>
<td></td>
</tr>
<tr>
<td>28)</td>
<td>Material Men, Tractor Trailer Drivers, Equipment Operators</td>
<td>35.04</td>
<td>6.5% + 10.45</td>
<td></td>
</tr>
</tbody>
</table>

*As of:* Monday, February 22, 2016
Project: Bassett Road Culvert Replacement

Welders: Rate for craft to which welding is incidental.
*Note: Hazardous waste removal work receives additional $1.25 per hour for truck drivers.

**Note: Hazardous waste premium $3.00 per hour over classified rate

**ALL Cranes: When crane operator is operating equipment that requires a fully licensed crane operator to operate he receives an extra $2.00 premium in addition to the hourly wage rate and benefit contributions:

1) Crane handling or erecting structural steel or stone; hoisting engineer (2 drums or over)

2) Cranes (100 ton rate capacity and over) Bauer Drill/Caisson

3) Cranes (under 100 ton rated capacity)

   Crane with 150 ft. boom (including jib) - $1.50 extra
   Crane with 200 ft. boom (including jib) - $2.50 extra
   Crane with 250 ft. boom (including jib) - $5.00 extra
   Crane with 300 ft. boom (including jib) - $7.00 extra
   Crane with 400 ft. boom (including jib) - $10.00 extra

All classifications that indicate a percentage of the fringe benefits must be calculated at the percentage rate times the “base hourly rate”.

Apprentices duly registered under the Commissioner of Labor’s regulations on "Work Training Standards for Apprenticeship and Training Programs" Section 31-51-d-1 to 12, are allowed to be paid the appropriate percentage of the prevailing journeymen hourly base and the full fringe benefit rate, providing the work site ratio shall not be less than one full-time journeyperson instructing and supervising the work of each apprentice in a specific trade.

~~Connecticut General Statute Section 31-55a: Annual Adjustments to wage rates by contractors doing state work~~

The Prevailing wage rates applicable to this project are subject to annual adjustments each July 1st for the duration of the project.

Each contractor shall pay the annual adjusted prevailing wage rate that is in effect each July 1st, as posted by the Department of Labor.

It is the contractor's responsibility to obtain the annual adjusted prevailing wage rate increases directly from the Department of Labor's website.

The annual adjustments will be posted on the Department of Labor's Web page: www.ct.gov/dol.

The Department of Labor will continue to issue the initial prevailing wage rate schedule to the Contracting Agency for the project.

All subsequent annual adjustments will be posted on our Web Site for contractor access.

Contracting Agencies are under no obligation pursuant to State labor law to pay any increase due to the annual adjustment provision.

As of: Monday, February 22, 2016
Effective October 1, 2005 - Public Act 05-50: any person performing the work of any mechanic, laborer, or worker shall be paid prevailing wage

All Person who perform work ON SITE must be paid prevailing wage for the appropriate mechanic, laborer, or worker classification.

All certified payrolls must list the hours worked and wages paid to All Persons who perform work ON SITE regardless of their ownership i.e.: (Owners, Corporate Officers, LLC Members, Independent Contractors, et. al)

Reporting and payment of wages is required regardless of any contractual relationship alleged to exist between the contractor and such person.

~Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clause (29 CFR 5.5 (a) (1) (ii)).

Please direct any questions which you may have pertaining to classification of work and payment of prevailing wages to the Wage and Workplace Standards Division, telephone (860)263-6790.

As of: Monday, February 22, 2016
PLEASE

IT IS A REQUIREMENT OF THIS BID THAT EACH PROPOSAL SUBMITTED MUST HAVE A DUPLICATE COPY ATTACHED.

YOUR COOPERATION IS APPRECIATED
BID PROPOSAL

TO: Town of Watertown, CT
   Office of the Assistant Town Manager
   Town Hall Annex
   424 Main Street
   Watertown, CT 06795

PROPOSAL OF:  NAME: ____________________________________________

                       STREET: _________________________________________

                       CITY: _____________________________________________

FOR: BASSETT ROAD CULVERT REPLACEMENT

The undersigned Bidder, in compliance with the invitation for bids for the "Bassett Road Culvert Replacement" in Watertown, Connecticut, having examined the Contract Plans and Contract Specifications dated February 26, 2016 with related documents, and the site of the proposed work, and being familiar with the conditions surrounding the construction related to the project, hereby proposes to furnish all labor, materials and supplies, and to construct the project in accordance with the Contract Documents, within the time set forth therein. He/she will contract with the Town to perform all the work required by the Bidding Documents after notification of award of the contract and he/she will take in full payment, therefore, the unit price applicable to each item of the work as stated in the following schedule.

The respondent hereby acknowledges receipt of the Addenda listed below and further acknowledges that the provisions of each Addendum have been included in the preparation of this Bid:

<table>
<thead>
<tr>
<th>Addendum No.</th>
<th>Dated</th>
<th>Addendum No.</th>
<th>Dated</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

Bassett Road Culvert Replacement
Watertown, CT

BPF-1
# BID SCHEDULE

**BIDDER'S NAME:**

**BID NO.**

The Contractor shall provide unit prices for the following items which may be associated with the Bid:

<table>
<thead>
<tr>
<th>ITEM NO.</th>
<th>EST. QTY</th>
<th>ITEM DESCRIPTION (Unit Price in Words)</th>
<th>UNIT PRICE</th>
<th>AMOUNT BID</th>
</tr>
</thead>
<tbody>
<tr>
<td>0201001</td>
<td>1</td>
<td>Clearing and Grubbing per LS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0202000</td>
<td>320</td>
<td>Earth Excavation per CY</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0202200</td>
<td>50</td>
<td>Channel Excavation per CY</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0202529</td>
<td>42</td>
<td>Cut Bituminous Concrete Pavement per LF</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0203205</td>
<td>575</td>
<td>Structure Excavation – Earth (Excludes Handling Water) per CY</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0204151A</td>
<td>1</td>
<td>Handling Water per LS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0209001</td>
<td>720</td>
<td>Formation of Subgrade per SY</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0212000</td>
<td>240</td>
<td>Subbase per CY</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Bassett Road Culvert Replacement  
Watertown, CT  

BPF-2
<table>
<thead>
<tr>
<th>ITEM NO.</th>
<th>EST. QTY</th>
<th>ITEM DESCRIPTION (Unit Price in Words)</th>
<th>UNIT PRICE</th>
<th>AMOUNT BID</th>
</tr>
</thead>
<tbody>
<tr>
<td>0213051A</td>
<td>135</td>
<td>Channel Bed Material</td>
<td>per CY</td>
<td></td>
</tr>
<tr>
<td>0213100</td>
<td>60</td>
<td>Granular Fill</td>
<td>per CY</td>
<td></td>
</tr>
<tr>
<td>0216000</td>
<td>360</td>
<td>Pervious Structure Backfill</td>
<td>per CY</td>
<td></td>
</tr>
<tr>
<td>0219001</td>
<td>240</td>
<td>Sedimentation Control System</td>
<td>per LF</td>
<td></td>
</tr>
<tr>
<td>0406010-1</td>
<td>150</td>
<td>Bituminous Concrete – Class 1</td>
<td>per TON</td>
<td></td>
</tr>
<tr>
<td>0507001</td>
<td>2</td>
<td>Type ‘C’ Catch Basin</td>
<td>per Ea</td>
<td></td>
</tr>
<tr>
<td>0601000</td>
<td>60</td>
<td>Class &quot;A&quot; Concrete</td>
<td>per CY</td>
<td></td>
</tr>
<tr>
<td>0601125A</td>
<td>1</td>
<td>14' x 7'-0&quot; Precast Concrete Box Culvert</td>
<td>per LS</td>
<td></td>
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<tr>
<td>0602006</td>
<td>7850</td>
<td>Deformed Steel Bars – Epoxy Coated</td>
<td>per LB</td>
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</tr>
<tr>
<td>0651012A</td>
<td>30</td>
<td>24&quot; R.C. Pipe (Complete)</td>
<td>per LF</td>
<td></td>
</tr>
<tr>
<td>0703011</td>
<td>15</td>
<td>Intermediate Riprap (On Slopes Outside of Channel)</td>
<td>per CY</td>
<td></td>
</tr>
</tbody>
</table>

Bassett Road Culvert Replacement
Watertown, CT
<table>
<thead>
<tr>
<th>ITEM NO.</th>
<th>EST. QTY</th>
<th>ITEM DESCRIPTION (Unit Price in Words)</th>
<th>UNIT PRICE</th>
<th>AMOUNT BID</th>
</tr>
</thead>
<tbody>
<tr>
<td>0703012</td>
<td>30</td>
<td>Modified Riprap</td>
<td>per CY</td>
<td></td>
</tr>
<tr>
<td>0703028A</td>
<td>1</td>
<td>Random Boulders</td>
<td>per LS</td>
<td></td>
</tr>
<tr>
<td>0707001</td>
<td>120</td>
<td>Membrane Waterproofing (Woven Glass Fabric)</td>
<td>per SY</td>
<td></td>
</tr>
<tr>
<td>0708001</td>
<td>100</td>
<td>Damp-proofing</td>
<td>per SY</td>
<td></td>
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<tr>
<td>0714050</td>
<td>1</td>
<td>Temporary Earth Retaining System</td>
<td>per LS</td>
<td></td>
</tr>
<tr>
<td>0728008</td>
<td>45</td>
<td>3/8&quot; Crushed Stone</td>
<td>per CY</td>
<td></td>
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<tr>
<td>0755010</td>
<td>80</td>
<td>Geotextile (Separation – Medium Survivability)</td>
<td>per SY</td>
<td></td>
</tr>
<tr>
<td>0815001</td>
<td>268</td>
<td>Bituminous Concrete Lip Curbing</td>
<td>per LF</td>
<td></td>
</tr>
<tr>
<td>0905019</td>
<td>1</td>
<td>Rebuild Stone Wall</td>
<td>per LS</td>
<td></td>
</tr>
<tr>
<td>0910170</td>
<td>12</td>
<td>Metal Beam Rail (Type RB-350)</td>
<td>per LF</td>
<td></td>
</tr>
</tbody>
</table>

Bassett Road Culvert Replacement
Watertown, CT
<table>
<thead>
<tr>
<th>ITEM NO.</th>
<th>EST. QTY</th>
<th>ITEM DESCRIPTION (Unit Price in Words)</th>
<th>UNIT PRICE</th>
<th>AMOUNT BID</th>
</tr>
</thead>
<tbody>
<tr>
<td>0910185</td>
<td>2</td>
<td>Metal Beam Rail (Type RB-350) Span Type III</td>
<td></td>
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</tr>
<tr>
<td></td>
<td></td>
<td>per Ea</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0911923</td>
<td>3</td>
<td>R-B End Anchorage (Type I)</td>
<td></td>
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</tr>
<tr>
<td></td>
<td></td>
<td>per EA</td>
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<td></td>
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<tr>
<td>0911924</td>
<td>1</td>
<td>R-B End Anchorage (Type II)</td>
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<tr>
<td></td>
<td></td>
<td>per EA</td>
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<td></td>
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<tr>
<td>0912531</td>
<td>92</td>
<td>Remove Metal Beam Rail (Type R-B)</td>
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</tr>
<tr>
<td></td>
<td></td>
<td>per LF</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0922502</td>
<td>30</td>
<td>Processed Aggregate Base Surfaced Driveway</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>per SY</td>
<td></td>
<td></td>
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<tr>
<td>0944000</td>
<td>700</td>
<td>Furnishing and Placing Topsoil</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>per SY</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0950005</td>
<td>700</td>
<td>Turf Establishment</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>per SY</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0971001A</td>
<td>1</td>
<td>Maintenance &amp; Protection of Traffic</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>per LS</td>
<td></td>
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<td>0974001A</td>
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<td>Removal of Existing Masonry</td>
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<td>per LS</td>
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<tr>
<td>0975002</td>
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<td>Mobilization</td>
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<td>per LS</td>
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<tr>
<td>0980001</td>
<td>1</td>
<td>Construction Staking</td>
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<td>per LS</td>
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Bassett Road Culvert Replacement
Watertown, CT

BPF-5
<table>
<thead>
<tr>
<th>ITEM NO.</th>
<th>EST. QTY</th>
<th>ITEM DESCRIPTION (Unit Price in Words)</th>
<th>UNIT PRICE</th>
<th>AMOUNT BID</th>
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<tr>
<td>1208906</td>
<td>27</td>
<td>Sign Face - Sheet Aluminum (Bright Wide Angle Retro-Reflective) per SF</td>
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BILL TOTAL (IN WORDS)

$____

Item numbers generally correspond to the State of Connecticut Department of Transportation Bid Description Master File and the Standard Specifications.

The pay items as indicated on the bid forms are intended to represent ALL aspects of the work shown on the plans and described in the specifications. Prospective bidders shall prepare their bid proposals accordingly. For any aspects of the work where a specific or individual pay item is not provided, payment for such work shall be included in the other items of work.

In the event of mathematically incorrect extensions of individual items totals, the mathematically correct amount using the estimated quantities unit prices (in words) shall govern in determining the BILL TOTAL.

The award of Contract will be made to the lowest responsible bidder based on the BILL TOTAL, which may be combined with any combination of Bid Alternate Totals that the Town determines is in its own best interests to select. By submission of this Bid, each bidder certifies that his Bid has been arrived at independently, without consultation, communication, or agreement as to any matter related to this Bid with any other Bidder or with any competitor.

By

(Signature and Title of Authorized Representative)

(Type or Print Name)

(Business Name)

(Street)

(City, State and Zip Code)

Basset Road Culvert Replacement
Watertown, CT

BPF-6
(Telephone Number) ____________________________ (Fax Number) ____________________________

Date ________________________________________

The Bidder is:

1. Corporation, licensed in the State of ____________________________

2. Partnership

3. Individual

*Note: If the Bidder is a corporation, affix corporate seal and give below the names of its president, treasurer, and general manager, if any; if a partnership, give full names and residential addresses of all partners; and if an individual, give residential address if different from business address.*
PROPOSED SUBCONTRACTORS

FIRM ____________________________________________

Name __________________________________________

Street _________________________________________

City __________________________________________

State _________________________________________

Zip Code ______________________________________

CONTACT ______________________________________

Please Print TELEPHONE _________________________

TYPE OF WORK TO BE PERFORMED _______________________

___________________________________________________

FIRM ____________________________________________

Name __________________________________________

Street _________________________________________

City __________________________________________

State _________________________________________

Zip Code ______________________________________

CONTACT ______________________________________

Please Print TELEPHONE _________________________

TYPE OF WORK TO BE PERFORMED _______________________

___________________________________________________

FIRM ____________________________________________

Name __________________________________________

Street _________________________________________

City __________________________________________

State _________________________________________

Zip Code ______________________________________

CONTACT ______________________________________

Please Print TELEPHONE _________________________

TYPE OF WORK TO BE PERFORMED _______________________

___________________________________________________
REFERENCES
Please list a minimum of three references of similar work performed within the last three years.

FIRM

Name

Street

City State Zip Code

CONTACT

Please Print

TELEPHONE

TYPE OF WORK TO BE PERFORMED


FIRM

Name

Street

City State Zip Code

CONTACT

Please Print

TELEPHONE

TYPE OF WORK TO BE PERFORMED


FIRM

Name

Street

City State Zip Code

CONTACT

Please Print

TELEPHONE

TYPE OF WORK TO BE PERFORMED