CONTRACT BID DOCUMENTS

FOR

REPLACEMENT OF ADDISON ROAD BRIDGE OVER SALMON BROOK GLASTONBURY, CT

PREPARED FOR

TOWN OF GLASTONBURY
2155 MAIN STREET
GLASTONBURY, CT 06033

FEBRUARY 1, 2012

ANCHOR
ENGINEERING SERVICES, INC.

41 Sequin Drive
Glastonbury, CT 06033
T: 860.633.8770
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TOWN OF GLASTONBURY

INVITATION TO BID

BID #	ITEM	DATE & TIME REQUIRED
GL-2012-15	Replacement of Addison Road Bridge over Salmon Brook	**3/20/2012 11:00 a.m.**

The Town of Glastonbury is currently seeking bids for the Replacement of Bridge No. 04212 Addison Road over Salmon Brook.

Only Contractors prequalified by the Connecticut Department of Transportation are eligible to receive the award of this contract. Awards will be made only to bidders prequalified to perform the type of work required by the subject contract, and only if they have sufficient bidding capacity remaining after taking into account all outstanding work to be completed by the bidder.

Bid Forms, Plans, and Specifications may be obtained from the Town's website at www.glastonbury-ct.gov at no cost or at the Office of the Purchasing Agent, Town Hall, 2155 Main Street, Glastonbury, Connecticut 06033, (second level) for a non-refundable fee of $125.

The Town reserves the right to waive informalities or reject any part of, or the entire bid, when said action is deemed to be in the best interests of the Town. All Sealed Bids must be submitted to the Office of the Purchasing Agent no later than the time and date indicated. All bids will be publicly opened and read.

The Town of Glastonbury is an Affirmative Action/Equal Opportunity Employer. Minority / Women / Disadvantaged Business Enterprises are encouraged to bid.

Mary F. Visone
Purchasing Agent

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TAB A

INFORMATION FOR BIDDERS

1. Sealed bids **(one original and one copy)** on the attached Bid Forms will be received at the Office of the Purchasing Agent, Town Hall, 2155 Main Street, Glastonbury, Connecticut 06033 (second level). At the designated time of opening, they will be publicly opened, read, recorded and placed on file.

2. Whenever it is deemed to be in the best interest of the Town, the Town Manager, Purchasing Agent or designated representative shall waive informalities in any and all bids. The right is reserved to reject any bid, or any part of any bid, when such action is deemed to be in the best interest of the Town of Glastonbury.

3. The award will be on the basis of bid total cost unless otherwise specified. The bid total cost shall be arrived at by the mathematical calculation of the unit price multiplied times the number of units specified for each line item, and the total sum of all line items in the bid. In the event that the Town finds computational errors in a respondent's bid proposal, the bid total cost shall be recalculated by the Town based on the unit prices contained in the bid proposal.

4. Bids will be carefully evaluated as to conformance with stated specifications.

5. The envelope enclosing your bid should be clearly marked by bid number, time of bid opening, and date.

6. If a bid involves any exception from stated specifications, they must be clearly noted as exceptions, underlined, and attached to the bid.

7. The Bid Documents contain the provisions required for the requested item. Information obtained from an officer, agent, or employee of the Town or any other person shall not affect the risks or obligations assumed by the Bidder or relieve him/her from fulfilling any of the conditions of the bid.

8. Each Bidder is held responsible for the examination and/or to have acquainted themselves with any conditions at the job site which would affect their work before submitting a bid. Failure to meet this criteria shall not relieve the Bidder of the responsibility of completing the bid without extra cost to the Town of Glastonbury.

9. Any bid may be withdrawn prior to the above-scheduled time for the opening of bids or authorized postponement thereof. Any bid received after the time and date specified shall not be considered. No Bidder may withdraw a bid within sixty (60) days after the actual date of the opening thereof. Should there be reasons why a bid cannot be awarded within the specified period, the time may be extended by mutual agreement between the Town and the Bidder.

10. Each bid must be accompanied by a bid bond payable to the Town for ten percent (10%) of the total amount of the bid. The bid bond of the successful Bidder will be retained until the payment bond and performance bond have been executed and approved, after which it will be returned. A certified check may be used in lieu of a bid bond. The Town of Glastonbury will not be liable for the accrual of any interest on any certified check submitted. Cashier's checks will not be accepted.

11. A 100% Performance and Payment bond are required of the successful bidder. This bond shall cover all aspects of the specification and shall be delivered to the Purchasing Agent prior to the issuance of a purchase order. The Performance and Payment Bond will be returned upon the delivery and acceptance of the bid items.

12. The Bidder agrees and warrants that in the submission of this sealed Bid, they will not discriminate or permit discrimination against any person or group of persons on the grounds of race, color, religion, national origin, sex, or physical disability including, but not limited to

blindness, unless it is shown by such Bidder that such disability prevents performance of that which must be done to successfully fulfill the terms of this sealed Bid or in any manner which is prohibited by the laws of the Untied States or the State of Connecticut: and further agrees to provide the Human Relations Commission with such information requested by the Commission concerning the employment practices and procedures of the Bidder. An Affirmative Action Statement will be required by the successful Bidder.

13. Bidder agrees to comply with all of the latest Federal and State Safety Standards and Regulations and certifies that all work required in this bid will conform to and comply with said standards and regulations. Bidder further agrees to indemnify and hold harmless the Town for all damages assessed against the Town as a result of Bidder's failure to comply with said standards and/or regulations.

14. All correspondence regarding any purchase made by the Town of Glastonbury shall reference the Town's purchase order number. Each shipping container shall clearly indicate both Town purchase order number and item number.

15. Bidder is required to review the Town of Glastonbury Code of Ethics adopted July 8, 2003 and effective August 1, 2003. Bidder shall acknowledge that they have reviewed the document in the area provided on the bid/proposal response page (BP). The selected Bidder will also be required to complete and sign an Acknowledgement Form prior to award. The Code of Ethics and the Consultant Acknowledgement Form can be accessed at the Town of Glastonbury website at **www.glastonbury-ct.gov**. Upon entering the website click on **Bids & RFPs** which will bring you to the links for the **Code of Ethics** and the **Consultant Acknowledgement Form**. If the Bidder does not have access to the internet, a copy of these documents can be obtained through the Purchasing Department at the address listed within this bid/proposal.

16. **Non-Resident Contractors:**

The Town is required to report names of non-resident (out-of-State) contractors to the State of Connecticut, Department of Revenue Services (DRS) to ensure that Employment Taxes and other applicable taxes are being paid by Contractors. **Upon award, all non-resident contractors must furnish a five percent (5%) sales tax guarantee bond (State Form AU-766) or a cash bond for five percent (5%) of the total contract price (State Form AU-72) to DRS even though this project is exempt from most sales and use taxes.**

See State Notice to Non-Resident Contractors SN 2005 (12). If the above bond is not provided, the Town is required to withhold five percent (5%) from the contractor's payments and forward it to the State DRS.

The contractor must promptly furnish to the Town a copy of the **Certificate of Compliance** issued by the State DRS.

17. Bidder shall include on a sheet(s) attached to its proposal a complete disclosure of all past and pending mediation, arbitration and litigation cases that the bidder or its principals (regardless of their place of employment) have been involved in for the most recent five years. Please include a statement of the issues in dispute and their resolution. Acceptability of Bidder based upon this disclosure shall lie solely with the Town.

18. Bidder or its principals, regardless of their place of employment, shall not have been convicted of, nor entered any plea of guilty, or nolo contendere, or otherwise have been found civilly liable or criminally responsible for any criminal offense or civil action. Bidder shall not be in violation of any State or local ethics standards or other offenses arising out of the submission of bids or proposals, or performance of work on public works projects or contracts.

19. It is the responsibility of the bidder to check the Town's website before submitting bid for addendums posted prior to bid opening.

.20 **Prevailing Wage Rates:**

Respondents shall comply with State Statutes concerning Employment and Labor Practices, if applicable, and Section 31-53 of the Connecticut General Statutes, as amended (Prevailing Wages). Wage Rate Determination for this project from the State of Connecticut is included in the Bid Documents. Certified payrolls for site labor shall be submitted weekly to the Town's Representative or his designee on the correct State of Connecticut form (see RFP). The Town reserves the right to, without prior notice, audit payroll checks given to workers on site in order to ascertain that wages and fringe benefits are being paid as required by the State of Connecticut. Please make special note of the State requirement to adjust wage and fringe benefit rates on each July 1st following the original published rates.

NOTE that respondent is to include in its proposal all costs required by such annual increases in the PREVAILING RATES. NO escalation clauses are to be included in the respondent's proposal and NO escalation clauses will be in the Contract Agreement. Respondent is to anticipate any future increases and include these costs in the proposal response.

Contractor's invoices will not be paid if certified payrolls are incomplete, incorrect or not received in a timely manner.

All Apprentices must be registered with the State of Connecticut and their number shall not exceed the number allowed by law. Otherwise, all workers must be paid at least the Journeyman rate listed including benefits.

OSHA SAFETY AND HEALTH CERTIFICATION

Effective July 1, 2009: Any Mechanic, Laborer, or Worker, who performs work in a classification listed on the prevailing wage rate schedule on any public works project covered under C.G.S. Section 31-53, both on site and on or in the public building, must have completed a federal OSHA Safety and Health course within the last 5 years.

21. Each bid shall also include a description of three (3) projects completed by the bidder with references to demonstrate successful experience with similar projects. Only Contractors prequalified by the Connecticut Department of Transportation are eligible to receive the award of this contract. Awards will be made only to bidders prequalified to perform the type of work required by the subject contract, and only if they have sufficient bidding capacity remaining after taking into account all outstanding work to be completed by the bidder.

IMPORTANT: Failure to comply with general rules may result in disqualification of the Bidder.

NOTE: Any technical questions regarding this bid shall be made in writing (email acceptable) and directed to Stephen Braun, Assistant Town Engineer, 2155 Main Street, PO Box 6523, Glastonbury, CT 06033; stephen.braun@glastonbury-ct.gov. Telephone (860) 652-7743 between the hours of 8:00 a.m. – 4:30 p.m. For administrative questions concerning this bid/proposal, please contact Mary F. Visone, Purchasing Agent, at (860) 652-7588 or email the Purchasing Department at purchasing@glastonbury-ct.gov. All questions, answers, and/or addenda, as applicable will be posted on the Town's website at www.glastonbury-ct.gov. (Upon entering the website click on Bids & RFP's). The request must be received at least five (5) business days prior to the advertised response deadline**. It is the respondent's responsibility to check the website for addenda prior to submission of any bid/proposal.**

TAB B

GENERAL CONSTRUCTION SPECIFICATIONS

01.00 WORKMANSHIP, MATERIALS AND EMPLOYEES

01.01 Wherever in this contract the word “Engineer” is used, it shall be understood as referring to the Town Engineer/Manager of Physical Services of the Town of Glastonbury acting personally or through any assistants duly authorized.

01.02 The entire work described herein shall be completed in accordance with the plans and specifications to the full intent and meaning of the same. Unless otherwise specified, all materials incorporated in the permanent work shall be new, and both workmanship and material shall be of good quality. The Contractor shall, if required, furnish satisfactory evidence as to the kind and quality of materials.

01.03 The wording “furnish”, “install”, “construct”, “furnish and install”, or any similar terms, unless specifically noted to the contrary, shall include all labor, materials, water, tools, equipment, light, power, transportation, and any other services required for the completion of the work.

01.04 The Contractor shall at all times enforce strict discipline and good order among his employees, and shall seek to avoid employing on the work any unfit person or anyone not skilled in the work assigned to him.

02.00 SUPERINTENDENT

02.01 The Contractor shall keep on the work during its progress, in the absence of the Contractor, a competent Superintendent. The Superintendent shall be acceptable to the Engineer and shall fully represent the Contractor. All directions given to the Superintendent shall be binding as if given to the Contractor.

03.00 PRECONSTRUCTION MEETING

03.01 A Preconstruction Meeting will be held with the Engineer, Contractor, and any private utility company prior to commencing any work. The Engineer shall arrange the meeting based on a mutually convenient time.

04.00 PERMITS

04.01 Other than local permits, all permits, licenses, and fees required for the performance of the Contract work shall be secured and paid for by the Contractor.

05.00 PROPERTY ACCESS

05.01 The Contractor shall take all proper precautions to protect from injury or unnecessary interference, and provide proper means of access to abutting property where the existing access is cut off by the Contractor.

05.02 The Contractor shall take all proper precautions to protect persons from injury or unnecessary inconvenience and leave an unobstructed way along the public and private places for travelers, vehicles, and access to hydrants.

05.03 The Contractor shall make arrangements with the adjacent property owners for such trespass as he may reasonably anticipate in the performance of the work. All such arrangements shall be reported, in writing, to the Engineer.

06.00 PROTECTION OF THE PUBLIC AND OF WORK AND PROPERTY

06.01 The Contractor shall continuously maintain adequate protection of all work from damage, and shall take all reasonable precautions to protect the Town from injury or loss arising in connection with the Contract.

06.02 The Contractor shall adequately protect adjacent private and public property as provided by law and the Contract Documents.

06.03 The Contractor shall make good any damage, injury, or loss of his work and to the property of the Town resulting from lack of reasonable protective precautions.

07.00 EXISTING IMPROVEMENTS

07.01 The Contractor shall conduct his work so as to minimize damage to existing improvements. Except where specifically stated otherwise in the specifications, drawings, or as directed by the Engineer, it will be the responsibility of the Contractor to restore to their original condition, as near as practical, all improvements on public or private property. This shall include:

a. Property within and adjacent to the side of installation such as shrubs, walks, driveways, fences, etc.

b. Utility mains, ducts, poles, and services. The Contractor is hereby notified that utilities, if/where shown on the plans, are at approximate locations. These locations are subject to possible errors in the source of information and errors in transcription. The Contractor shall make certain of the exact location of all mains, ducts, poles, and services prior to excavation.

08.00 SEPARATE CONTRACTS

08.01 The Engineer reserves the right to let other contracts in connection with this work. The Contractor shall afford other contractors reasonable opportunity for the introduction and storage of their materials and the execution of their work, and shall properly connect and coordinate his work with theirs. Wherever work being done by the Town of Glastonbury forces or by other contractors is contiguous to work covered by this Contract, the respective rights of the various interests involved shall be established by the Engineer to secure the completion of the various portions of the work.

09.00 INSPECTION OF WORK

09.01 The Town shall provide sufficient personnel for the inspection of the work.

09.02 The Engineer shall at all times have access to the work whenever it is in preparation or progress, and the Contractor shall provide proper facilities for such access and for inspection.

09.03 If the specifications or the Engineer's instructions require any work to be specially tested or approved, the Contractor shall give the Engineer timely notice of its readiness for inspection and, if the inspection is by another authority other than the Engineer, of the date fixed for such inspection. Inspections by the Engineer shall be made promptly. If any work should be covered up without approval or consent of the Engineer, it must, if required by the Engineer, be uncovered for examination and properly restored at the Contractor's expense.

09.04 Reinspection of any work may be ordered by the Engineer. If such work is found to be in accordance with the Contract Documents, the Town shall pay the cost of reinspection and replacement. If such work is not in accordance with the Contract Documents, the Contractor shall pay such cost.

10.00 RIGHT TO INCREASE OR DECREASE WORK

10.01 The Town shall have the right to increase or decrease the amount of work herein specified as may be required.

11.00 RIGHT OF ENGINEER TO STOP WORK FOR WEATHER CONDITIONS

11.01 Should the work, in the opinion of the Engineer, be in danger by reason of inclemency of weather, or could not be finished in time to prevent such danger, the Contractor shall cease operations upon order of the Engineer, and shall not resume them until ordered to do so by the Engineer when the weather conditions are favorable. The Contractor shall, upon such orders, discontinue work, remove all materials or appliances for or in use upon the work, and place the streets in proper condition for use by the public during the time the work is suspended as herein provided, without cost to the Town.

12.00 CONTRACTOR TO BE RESPONSIBLE FOR IMPERFECT WORK OR MATERIALS

12.01 Any faithful work or imperfect material that may be discovered before the acceptance and the payment of the work shall be corrected upon the order of the Engineer. The acceptance and payment of the work does not in any manner relieve the Contractor of his obligation to construct work in the proper manner and the use of materials herein specified.

13.00 TOWN MAY NOTIFY CONTRACTOR IF WORK IS NOT CARRIED ON SATISFACTORILY

13.01 If, in the opinion of the Engineer, the Contractor is not proceeding with the work at a sufficient rate of progress so as to finish in the time specified, or has abandoned said work, or is not complying with the terms and stipulations or the Contract and specifications, the Engineer may serve notice on the Contractor to adopt such methods as will ensure the completion of the work in the time specified.

13.02 If, within five days after the Engineer has notified the Contractor that his work is not being carried on satisfactorily as before mentioned, the Engineer shall have the right to annul the Contract and manage the work under the direction of the Engineer, or re-let, for the very best interest of the Town as a new contract, the work under said new Contract shall be considered the responsibility of the defaulting Contractor.

13.03 Additional costs incurred over and above the original Contract shall be borne by the Performance Bond.

14.00 DEDUCTIONS FOR UNCORRECTED WORK

14.01 If the Engineer deems it inexpedient to correct work that has been damaged or that was not done in accordance with the Contract, an equitable deduction from the Contract price shall be made therefor.

14.02 The Contractor shall promptly remove from the premises all materials condemned by the Engineer as failing to meet Contract requirements, whether incorporated in the work or not, and the Contractor shall promptly replace and re-execute his own work in accordance with the Contract and without expense to the Town, and shall bear the expense of making good all work by other contractors destroyed or damaged by such removal or replacement.

14.03 If the Contractor does not remove such condemned work and materials as promptly as possible after written notice, the Engineer may remove them and store the materials at the expense of the Contractor.

15.00 CLEANING UP

15.01 The Contractor must remove all debris of every description as the work progresses and leave the surroundings in a neat and orderly condition to the satisfaction of the Engineer.

15.02 Upon completion, and before acceptance and final payment, the Contractor shall remove from the site all equipment, forms, surplus material, rubbish and miscellaneous debris and leave the site in a neat and presentable condition.

16.00 ROYALTIES AND PATENTS

16.01 The Contractor shall pay all royalties and license fees. He shall defend all suits or claims for infringement of any patent rights and shall save the Town of Glastonbury harmless from loss on account thereof, except that the Town of Glastonbury shall be responsible for all such loss when a particular manufacturer, product, or process is specified by the Town of Glastonbury.

TAB C

SPECIAL CONDITIONS

01.00 NOTICE TO CONTRACTOR

01.01 Intent of Contract: The intent of the Contract is to prescribe a complete work or improvement that the Contractor undertakes to do, in full compliance with the specifications, plans, special provisions, proposal, and Contract. The Contractor shall perform all work in close conformity with the lines, grades, typical cross-sections, dimensions, and other data shown on the plans or as modified by written orders, including the furnishing of all materials, implements, machinery, equipment, tools, supplies, transportation, labor, and all other things necessary to the satisfactory prosecution and completion of the project.

01.02 The Contractor is hereby alerted to the fact that the State of Connecticut Department of Transportation Standard Specifications for Roads, Bridges and Incidental Construction, Form 816 (Form 816) and supplements thereto are to be considered part of the Contract Documents. The Form 816 shall not be provided by the Town and any cost associated therewith shall be the responsibility of the Contractor. In case of any discrepancy between the Contract Drawings or Specifications and the Form 816, the matter shall immediately be submitted to the Engineer. The Engineer shall have sole authority in resolving any discrepancies.

02.00 COMMUNICATIONS

02.01 All notices, demands, requests, instructions, approvals, proposals, and claims must be in writing.

02.02 Any notice to, or demand upon, the Contractor shall be sufficiently given if delivered at the office of the Contractor stated on the signature page of the Agreement (or at such other office as the Contractor may, from time to time, designate) in a sealed, postage-prepaid envelope or delivered with charges prepaid to any telegraph company for transmission, in each case addressed to such office.

02.03 All papers required to be delivered to the Town shall, unless otherwise specified in writing to the Contractor, be delivered to the Town Engineer/Manager of Physical Services, 2155 Main Street, Glastonbury, CT 06033, and any notice to, or demand upon, the Town shall be delivered at the above address in a sealed, postage-prepaid envelope or delivered with charges prepaid to any telegraph company for transmission, in each case addressed to such office or to such other representatives of the Town, or to such other address as the Town may subsequently specify in writing to the Contractor for such purpose.

02.04 Any such notice shall be deemed to have been given as of the time of actual delivery or, in case of mailing, when the same should have been received in due course of post or, in the case of telegrams, at the time of actual receipt, as the case may be.

03.00 PARTIAL USE OF IMPROVEMENTS

03.01 The Town may, at its election, give notice to the Contractor and place in use those sections of the work that have been completed, inspected and can be accepted as complying with the Contractor Documents and if, in its opinion, each such section is reasonably safe and fit for the use and accommodation for which it was intended, provided:

a. The use of such sections of the work shall not materially impede the completion of the remainder of the work by the Contractor.

b. The Contractor shall not be responsible for any damages or maintenance costs due directly to the use of such sections.

c. The use of such sections shall in no way relieve the Contractor of his liability due to having used defective materials or to poor workmanship.

d. The period of guarantee shall not begin until the date of the final acceptance of all work required under this Contract.

04.00 INSURANCE

04.01 The Contractor shall, at its own expense and cost, obtain and keep in force during the entire duration of the Project or Work the following insurance coverage covering the Contractor and all of its agents, employees and sub-contractors and other providers of services and shall name the **Town, its employees and agents as an Additional Insured** on a primary and non-contributory basis to the Bidders Commercial General Liability and Automobile Liability policies. **These requirements shall be clearly stated in the remarks section on the Contractors Certificate of Insurance**. Insurance shall be written with Insurance Carriers approved in the State of Connecticut and with a minimum Best's Rating of A-. In addition, all carriers are subject to approval by the Town. Minimum limits and requirements are stated below:

a. Worker's Compensation Insurance:

- Statutory Coverage
- Employer's Liability
- $100,000 each accident/$500,000 disease-policy limit/$100,000 disease each employee

b. Commercial General Liability:

- Including Premises and Operations, Products and Completed Operations, Personal and Advertising Injury, Contractual Liability and Independent Contractors
- Limits of Liability for Bodily Injury and Property Damage
  Each Occurrence: $1,000,000
  Aggregate: $2,000,000
  (The Aggregate Limit shall apply separately to each job.)
- A Waiver of Subrogation shall be provided.

c. Automobile Insurance:

- Including all owned, hired, borrowed, and non-owned vehicles
- Limit of Liability for Bodily Injury and Property Damage
  Per Accident: $1,000,000

04.02 The Bidder shall direct its Insurer to provide a Certificate of Insurance to the Town before any work is performed. The Contractor shall be responsible to notify the Town 30 days in

advance with written notice of cancellation or non-renewal. The Certificate shall evidence all required coverage on the General Liability and Auto Liability policies including the Additional Insured and Waiver of Subrogation on the General Liability policy. The Bidder shall provide the Town copies of any such insurance policies upon request.

04.03 INDEMNIFICATION: To the fullest extent permitted by law, the Contractor shall indemnify and hold harmless the Town and the Board of Education and its consultants, agents, and employees from and against all claims, damages, losses and expenses, direct, indirect or consequential (including but not limited to fees and charges of engineers, attorneys and other professionals and court and arbitration costs) to the extent arising out of or resulting from the performance of the Contractor's work, provided that such claim, damage, loss or expense is caused in whole or in part by any negligent act or omission by the Contractor, or breach of its obligations herein or by any person or organization directly or indirectly employed or engaged by the Contractor to perform or furnish either of the services, or anyone for whose acts the Contractor may be liable.

05.00 WORK BY OTHERS

05.01 Private utilities, contractors, developers or other parties may be expected to be working within the Contract area during this Contract. It shall be the responsibility of the Contractor to coordinate his work with the work being done by others in order that the construction shall proceed in an efficient and logical manner. The Contractor shall have no claim or claims whatever against the Town, the Engineer, or other parties due to delays or other reasons caused by the work by others or his failure to coordinate such work.

06.00 CONTRACTOR'S WORK AND STORAGE AREA

06.01 The Contractor is made aware that limited staging area space is available during construction. If the Contractor needs to secure additional staging/storage area, there will be no additional payment for hauling to and from the area. There is also a lack of parking area for construction employee vehicles. Parking at adjacent private property will not be allowed. Improvements to provide a gravel parking area accessible from Mill Street may be necessary, which will be included in the cost of work as necessary. The Contractor shall contact the Town for approval prior to using any property for storage of equipment, materials and trailers during the period of this Contract. The Contractor shall confine his work/storage area to the limits as designated or approved and shall be responsible for the security of the work/storage area. Upon completion of the Contract, the Contractor shall remove all equipment and materials, except as otherwise specified, and restore the site to its original condition as approved by the Engineer and at not cost to the Town.

07.00 DISPOSAL AREA

07.01 The Tryon Street Bulky Waste Facility will be available to the Contractor, at no charge, for disposal of materials that are accepted at that facility. Acceptable materials include brush, stumps, demolition materials, and excess excavated earth materials. Unacceptable materials are hazardous wastes such as pesticides, oil based paints and thinners, or other wastes as designated by the State Department of Environmental Protection. Demolition material cannot contain asbestos or other hazardous materials. The Contractor is required to obtain a disposal area for all other unsuitable or surplus materials at no cost to the Town.

08.00 DUST CONTROL

08.01 During the progress of the work, the Contractor shall conduct his operations and maintain the area of his activities so as to minimize the creation and dispersion of dust. If the Engineer decides that it is necessary to use water or calcium chloride for more effective dust control, the Contractor shall furnish and spread the material, as directed, without additional compensation.

09.00 MAINTENANCE / GUARANTEE PERIOD

09.01 The Contractor shall be held responsible to the Town for maintenance for a minimum of one-year following completion of all work under this Contract with respect to defects, settlements, etc.

10.00 PROTECTION OF EXISTING UTILITIES

10.01 Before starting any excavation, the Contractor shall submit to the Engineer plans or details showing the proposed method the Contractor will use to support and protect all existing utilities during construction. The furnishing of such plans and details shall not serve to relieve the Contractor of any responsibility for the proper conduct of the work.

10.02 There will be no extra payment for submitting plans or details for supporting and protecting all existing utilities during construction.

11.00 TIME FOR COMPLETION/NOTICE TO PROCEED

11.01 Within ten (10) calendar days after the date of the Notice of Award, the Contractor must provide the appropriate bond and insurance certificates to the Town Purchasing Agent and must be issued a Purchase Order for the Project prior to initiating any work.

11.02 The work under this project shall be substantially complete by November 30th, 2012. This shall include all roadway and safety improvements necessary for safe two-way travel over the new bridge on a paved surface.

11.03 An additional 45 calendar days will be provided in the Spring of 2013 for the purposes of completing final restoration of the site. This will result in a 100% completion date of May 15, 2013.

11.04 The Contractor is expected to complete the work within the allotted time, using whatever manpower, equipment and tools that are necessary to accomplish this task. The Contractor may be required to work during nighttime hours, on holidays and on Saturdays. Cold-weather concreting and paving procedures shall be employed as required. The Contractor's inability to procure materials in sufficient time will not be considered a valid reason for granting extension of time.

Since it may be necessary to pay a premium for certain items such as, but not limited to, accelerated material procurement and work periods outside the standard work day, the Contractor is therefore advised that the bid prices must reflect any extraordinary conditions. The Town will not entertain renegotiation of bid prices associated with this aspect of the work.

There is a required gas main relocation involved with this project. (See Connecticut Natural Gas Corporation Plan for information only on page SC – 8) The existing gas main on the bridge will be cut and capped during construction but the new relocated gas main must be complete in place by September 30th. In order for CNG to install their new pipe, the Contractor must: 1. Complete the arch installation, 2. Install fill to a minimum width of 15 feet centered on the relocated gas main. After CNG installs their gas pipe as shown on the attached plans, the Contractor must: 3. Install and compact the roadway subbase, to the minimum 15 feet centered on the pipe. This work must be completed by September 30, 2012 to allow the relocated gas main to be energized.

During construction, the schedule of work will be monitored to determine if the above requirement can be met. On September 3, 2012, the Town, based on all available information, will determine if it will be possible to complete the relocated gas main by the above required date or not. If not, the Contractor shall be responsible for providing a temporary gas main in accordance with the requirements of CNG, to be in place and operational by the September 30, 2012 deadline at the Contractor's expense. The Town will not entertain renegotiation of bid prices associated with this aspect of the work. No additional calendar days will be allowed, the date for substantial completion as stated in 11.02 and any associated liquidated damages for not meeting that date, will still be in effect.

12.00 LIQUIDATED DAMAGES

12.01 As actual damages for any delay in completion of the work that the Contractor is required to perform under this Contract are impossible to determine, the Contractor and the Sureties shall be liable for and shall pay to the Town the sum of $500.00 as fixed, agreed and liquidated damages for each calendar day of delay from the above-stipulated completion (11.02), or completion as modified in writing by both parties, until such work is satisfactorily completed and accepted. This penalty shall be in full force through the winter shutdown period (December 1 through the following March 31) until the completion as stated in 11.02 is met.

13.00 SCHEDULE OF DRAWINGS

13.01 The Contractor is hereby alerted that the plan set entitled "Town of Glastonbury Replacement of Bridge No. 04212 Addison Road over Salmon Brook", including thirty two (32) plan sheets prepared by Anchor Engineering Services, Inc. is to be considered part of these specifications.

14.00 CHANGES IN THE WORK

14.01 The Town reserves the right to perform portions of the work in connection with these plans and specifications. The reduction in the work to be performed by the Contractor shall be made without invalidating the Contract. Whenever work is done by the Town contiguous to other work covered by this Contract, the Contractor shall provide reasonable opportunity for the execution of the work and shall properly coordinate his work with that of the Town.

15.00 LAYOUT OF WORK

15.01 The Contractor shall provide stake-out of the work in accordance with the plans and specifications or as directed by the Engineer. The Town may check the control of the work, as established by the Contractor, at any time as the work progresses. The Contractor will be informed of the results of these checks, but the Town by so doing in no way relieves the Contractor of his responsibility for the accuracy of the layout work.

16.00 REMOVAL AND STORAGE OF MATERIALS AND STRUCTURES FOUND ON THE WORK

16.01 All salvable materials, including topsoil, gravel, fill materials, etc. and structures, including drainage pipes, catch basins and manhole frames and covers, guide railing, etc. that are not to remain in place or that are not designated for use in the work, shall be carefully removed by the Contractor and stored at such places as directed by the Engineer. All salvable materials removed and stored shall remain the property of the Town. The Engineer shall determine the materials or structures to be salvaged.

17.00 PROSECUTION AND PROGRESS

17.01 The Contractor shall give the Engineer a seven-day advance written notice of construction activities that will alter traffic patterns that result in lane shifts, detours, temporary closures of lane(s), permanent closure of lane(s), or lane reductions. This advance notification will allow the Town to publish news releases and/or provide public radio announcements to inform the public of revised traffic patterns or possible traffic delays. Failure of the Contractor to provide such timely notice shall be considered a breach of Contract and will subject the Contractor to stop work orders until such time as the seven-day notice has been satisfied.

18.00 EXTRA WORK AND RETAINAGE

18.01 Extra and cost plus work shall be governed by Article 1.04.05 and Article 1.09.04 of the Form 816.

18.02 Retainage shall be governed by Article 1.09.06 of the Form 816, except that the retainage amount shall be equal to five (5) percent.

19.00 COMPLIANCE WITH ENVIRONMENTAL PERMITS

19.01 A Town of Glastonbury Inland Wetland Permit, Flood Zone Special Permit, and State Floodplain Management Certification were required for this project. The project also complies with the Department of the Army Connecticut General Permit, Category 1. These permit approvals are included in the appendix of this Bid Document for reference by the Contractor. By submitting a bid, the Contractor confirms that they have read and are familiar with all of the required conditions of these permits and will conduct the work in a manner consistent with these requirements.

Please note that the State Floodplain Management Certification approval has not been received prior to the bidding of this project. The Contractor will be given a copy of the Certification as soon as it is available.

20.00 SUBMITTALS AND MATERIALS TESTING

Required submittals shall be as described in the Form 816, the Special Provisions, and in conformance with the following:

20.01 The Contractor shall provide source and supply information, sieve analysis, and material samples for gravel subbase, process stone base, modified riprap, and other granular materials to the Town for review and approval. The Town shall retain a lab for testing of these materials as required and shall perform in place compaction testing at no expense to the Contractor.

20.02 Shop drawings / catalog cuts shall be provided by the Contractor for all pre-cast concrete structures, pipes and fittings, erosion control products, seed mixes, and other items to be supplied for review and approval by the Engineer as described in the specifications and the Form 816.

20.03 Mix designs for all bituminous and portland cement concrete materials shall be provided by the Contractor to the Engineer for review and approval.

20.04 Certified Materials Test Reports and Materials Certificates shall be provided for all products and materials to be provided under this contract as described in these specifications and the Form 816.

21.00 WORK HOUR LIMITATIONS

Allowable times of operation shall be 8:00 AM to 4:30 PM Monday through Friday. Weekend, holiday, or other extended hours must be specifically authorized by the Town.

CONTRACTOR TO USE CAUTION WHEN
WORKING OVER SHALLOW GAS MAIN

NOTIFY CNG LEAD ENGINEER,
VASANT PATEL, AT 860-727-3114
PRIOR TO EXCAVATION OVER MAIN

TIE IN REPLACEMENT
6" STL MAIN
W/O NO. 1100005772

CUT, CAP, & ABANDON
80' OF 6" STL MAIN
W/O NO. 1100005663

INSTALL 80' OF 6" STEEL
TO REPLACE ABANDONED MAIN
W/O NO. 1100005771

FOR INFORMATION ONLY

NOTE: REDUCED PLAN SIZE AT 11" x 17" (NOT TO SCALE)
TRUE SCALE AT 24" x 36" PLAN.

CONNECTICUT NATURAL GAS CORPORATION
ENGINEERING DEPARTMENT
OPERATIONS CENTER
EAST HARTFORD, CT

ADDISON ROAD
BRIDGE REPLACEMENT
GLASTONBURY

PROPOSED

SCALE: 1" =10'	DATE: 2/3/12
DRAWN: MCR	SHEET No.: 1 OF 1
APPROVED:	
PROJECT ID: 1100005771	
FILE NAME: AddisonBridgeCNGprop.dwg	

#	REVISIONS	BY	DATE

#	REVISIONS	BY	DATE

SCALE: 1" = 10'

10 5 0 10

HORIZONTAL

THE INFORMATION CONTAINED IN THIS PRINT, COMMUNICATION AND/OR ATTACHMENTS SHALL BE CONSIDERED PROPRIETARY TO CONNECTICUT NATURAL GAS CORPORATION. THE ADDRESSED RECIPIENTS SHALL NOT FURNISH THIS INFORMATION IN WHOLE OR IN PART TO ANY THIRD PARTY WITHOUT PRIOR PERMISSION OF CNG. GAS FACILITY INFORMATION SHOWN IN ANY ATTACHED MAP IS VALID TO THE ORIGINAL ISSUE DATE AND ANY SUBSEQUENT REVISION DATE IMPRINTED IN THE MAP, BUT IS IN NO WAY WARRANTED TO INDICATE CORRECT FIELD CONDITIONS, NOR DOES IT CONSTITUTE AN OFFER TO SUPPLY GAS SERVICE. LAND BASE DATA HAS BEEN COMPILED BY PHOTOGRAMMETRIC METHODS AND FROM OTHER SOURCES OF INFORMATION. THE INFORMATION CONTAINED HERE-IN IS PROVIDED ONLY FOR GAS FACILITY REFERENCING AND IS NOT WARRANTED BY CNG. RECEIPT OF THIS INFORMATION DOES NOT EXEMPT THE RECIPIENT FROM THE REQUIREMENTS RELATIVE TO STATE OF CONNECTICUT "CALL-BEFORE-YOU-DIG" REGULATIONS. CALL "CBYD" AT 860-622-4455.

NOTE: CONTRACTOR TO MAINTAIN A MINIMUM OF 24" HORIZONTAL AND 12" VERTICAL CLEARANCE WHEN CROSSING ALL UTILITIES, STRUCTURES, ETC., EXCEPT AS NOTED SPECIFICALLY ON THIS PLAN. CONTACT VASANT PATEL, LEAD ENGINEER - GAS ENGINEERING, OR HIS DESIGNEE AT 860-727-3114 IF THIS REQUIREMENT CANNOT BE MET. HE WILL ARRANGE FOR FIELD INSPECTION OF THE AFFECTED AREA. DO NOT BACKFILL CROSSING UNTIL CLEARACE HAS BEEN INSPECTED AND APPROVED BY AN AUTHORIZED CNG REPRESENTATIVE.

TAB D

SPECIAL PROVISIONS

All work done under this contract shall be in conformance with the State of Connecticut Department of Transportation Standard Specifications for Roads, Bridges and Incidental Construction, Form 816, 2004, Divisions II and III as revised by the Supplemental Specifications dated July 2010 and as modified by these Special Provisions. All work shall also be in compliance with these contract documents including those sections of the State DOT Form 816 Division I as herein modified.

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ITEM #0979003A – CONSTRUCTION BARRICADE TYPE III
ITEM #1206023A – REMOVAL AND RELOCATION OF EXISTING SIGNS
ITEM #1220011A – CONSTRUCTION SIGNS – TYPE III REFLECTIVE SHEETING
ITEM #1300005A – RELOCATION OF WATER MAIN
ITEM #1401054A – HANDLING SANITARY SEWAGE (SANITARY SEWER)
ITEM #1401242A – 8” DUCTILE IRON PIPE (SANITARY SEWER)
ITEM #1401260A – PIPE TESTS
ITEM #1401996A – MANHOLE DROP INLET
ITEM #1403002A – MANHOLE OVER 10’ DEEP (SANITARY SEWER)
ITEM #1403535A – ALTERATION OF EXISTING MANHOLE
ITEM #1403608A – REMOVAL OF EXISTING SANITARY SEWER

NOTICE TO CONTRACTOR – J-HOOK INSTALLATION

The Contractor shall notify Brian Murphy, 860-295-9523 at CT DEEP Inland Fisheries Division prior to the installation of the J-Hook feature to schedule a site visit as required for guidance on the placement of the J-Hook Vane.

NOTICE TO CONTRACTOR – MDC WATER MAIN RELOCATION WORK

A pre-construction meeting shall be held at the MDC (The Metropolitan District) at 227 Brainard Road, Hartford, CT with the Contractor and the MDC prior to the Contractor starting any work associated with the water main relocation. The MDC must complete a concrete anchor and gate valve work prior to any relocation work.

NOTICE TO CONTRACTOR – PROPERTY RIGHTS OF WAY

The Town of Glastonbury is currently in negotiations with the adjacent property owners to obtain all the necessary rights and easements required as shown on the plans. The Contractor is hereby notified that all necessary property rights have not yet been acquired but it is anticipated that they will be acquired prior to the start of construction.

NOTICE TO CONTRACTOR – STATE SPECIES OF SPECIAL CONCERN

The Contractor is hereby notified that the state species of special concern, Eastern box turtle (*Terrapene carolina*), is present within the project limits**.** In Connecticut, this terrestrial turtle inhabits a variety of habitats, including woodlands, field edges, thickets, marshes, bogs, and stream banks. Typically, however, box turtles are found in well-drained forest bottomlands and open deciduous forests. They will use wetland areas at various times during the season. During the hottest part of a summer day, they will wander to find springs and seepages where they can burrow into the moist soil. Eastern box turtles overwinter in upland forest, a few inches under the soil surface, typically covered by leaf litter or woody debris. As soil temperatures drop, the turtles burrow into soft ground. If work must be done during the Eastern box turtle's active period (April 1 to November 1) the DOT's Office of Environmental Planning (OEP) will require precautionary measures to protect the Eastern box turtle and Eastern box turtle habitat. All construction activities taking place within the turtle's active period will need to be coordinated with OEP.

The Contractor shall arrange through the Engineer at least 10 days prior to the commencement of any construction activities that a CT DOT Environmental Inspector from the OEP or their authorized delegate is available to meet and discuss proper protocol for maintaining environmental commitments made to the protection of this species and habitat. OEP will provide oversight to ensure that the following protocols are followed and maintained during the course of the project:

- Exclusionary practices will be required where wetlands are present in order to prevent any turtle access to construction areas. These measures will need to be installed at the limits of disturbance as shown on the contract plans.

- All Staging and storage areas, outside of previously paved locations, regardless of the duration of time they will be utilized, must be reviewed by and receive written approval from OEP.

- All construction personnel working within turtle habitat must be apprised of the species description and the possible presence of a listed species.

- The work area must be searched each morning prior to any work being done.

- Any work conducted in these habitats during the early morning and evening hours should occur with special care not to harm basking or foraging individuals.

- In areas where silt fence is used for exclusion, it shall be removed as soon as the area is stable to allow for reptile and amphibian passage to resume.

- Any turtles encountered within the immediate work area shall be carefully moved to an adjacent area outside of the excluded area and OEP must be contacted with location.

- No heavy machinery or vehicles may be parked in any turtle habitat.

- Special precautions must be taken to avoid degradation of wetland habitats including any wet meadows and seasonal pools.

This species is protected by state laws which prohibit killing, harming, taking, or keeping them in your possession. Workers should be notified of the existence of Eastern box turtles in this area and be apprised of the laws protecting them. Photographs of Eastern box turtles (species ID sheets will be provided by OEP) shall be posted in the Contractor's and DOT field office. Any observations of this species are to be immediately reported to OEP at (860) 594-2933 or (860)-594-2932.

Eastern box Turtle

Scientific Name*: Terrapene carolina carolina*
Size: 5-8 inches (12.7-20 cm) in length
CT NDDB Status: Species of special concern

Habitat Type: Deciduous woodlands, old fields, pastures, and marshy areas

Colorations:

- The carapace background color is brown to brownish black with a strong pattern of numerous lines, irregular blotches and bars that vary from yellow to bright orange.
- The plastron has a wide range of colors from immaculate yellow-brown, dark brown, brownish black to black. The pattern of the plastron also varies from: dark blotches; a dark central blotch that becomes lighter along the margins; a dark central blotch that branches along the seams; or radiating light lines.
- The head, neck, legs, and tail are dark brown and are usually heavily patterned with yellow to orange streaks, blotches, and bars.

Characteristics:

- Small terrestrial species.
- Side View – The carapace is high-domed and slightly keeled.
- Above View – The carapace is oblong with slight flaring on the posterior margins.
- The plastron is extremely broad and as long or longer than the carapace.
- The legs are well-developed and strong.
- The upper jaw is hooked terminally and has no notch.

If any Eastern box turtles are observed in or around the project area the Office of Environmental Planning must be notified at 860-594-2933 or 860-594-2938

SECTION 1.05 CONTROL OF WORK

Section 1.05.04-Coordination of Special Provisions, Plans, Supplemental Specifications and Standard Specifications and Other Contract Requirements:

Add the following:

The Contractor shall perform all operations in the precautionary work zone, as depicted in the plans, including installation and removal of cofferdams, excavation, installation of precast arch elements, forming, reinforcing, placing and finishing concrete, and riprap construction in such a manner so as to prevent damage to the existing apartment building, utility installations, and portions of existing structures or utilities to remain. The work shall also be performed in such a manner as to conform to the clearance requirements imposed by the owners of the utility installations present.

See Special Provisions

Section 1.05.06-Cooperation with Utilities (Including Railroads):

Add the following:

After the second paragraph add the following paragraph:
When working in the vicinity of existing overhead electric lines, the Contractor is required to maintain minimum clearances, as defined by the owners of the overhead electric lines, from existing energized electrical lines for all equipment and materials, including cranes, excavators, sheeting and cofferdams. Where erection of the precast concrete arch falls within the area noted in the plans as "precautionary work zone", the units shall be rolled or shifted horizontally into place in order to avoid violating clearance requirements. Where cofferdams, concrete walls, sidewalk, curbing, railing, and roadway are to be erected within the area noted on the plans as "precautionary work zone" construction must not violate the clearance requirements defined by the owners of the overhead electric lines.

In the fifth paragraph after the sentence "The Contractor shall make…parties affected." add: Inconvenience caused by such utility work shall not be viewed as a change in scope as defined in Section 1.04 of the Standard Form 816 and its supplements.

Before the fourth sentence in the sixth paragraph, add: Any and all work adjacent to such utilities will be performed as per the contract drawings and specifications.

SECTION 1.07 LEGAL RELATIONS AND RESPONSIBILITIES

Section 1.07.13-Contractor's Responsibility for Adjacent Property, Facilities and Services:

Add the following:

Where cofferdams are constructed beneath utilities in the vicinity of existing building or wall foundations, the Contractor shall record by means of photographs and field measurements during construction any movement or damage to the existing facilities. The contractor shall be responsible for any damage incurred to existing facilities caused by his operations and shall make due compensation for any damages without cost to the Town or State.

SECTION 1.08 - PROSECUTION AND PROGRESS

Article 1.08.03—Prosecution of Work: is supplemented by the following:

Prior to construction, particularly as will affect traffic operations, the Contractor shall submit, for the review and approval of the Engineer, a detailed Progress Schedule. It shall show all fundamental work items and operations as a function of estimated time periods. This submittal shall also include a listing of shop drawings and other required submittals keyed to the Progress Schedule activities. It shall reflect realistic processing, delivery and construction periods.

The Progress Schedule shall provide ample space for plotting of actual related progress. It shall be prominently displayed in the Construction Field Office and shall be updated by the Contractor on a biweekly basis throughout the full period of the project.

The Contractor's attention is directed to the requirements of Article 1.07.13 – Contractor's Responsibility for Adjacent Property and Services. Due to the close proximity of the existing buildings, walls and electric overhead wires, extreme caution shall be taken while excavating, removing rock, and installing cofferdam.

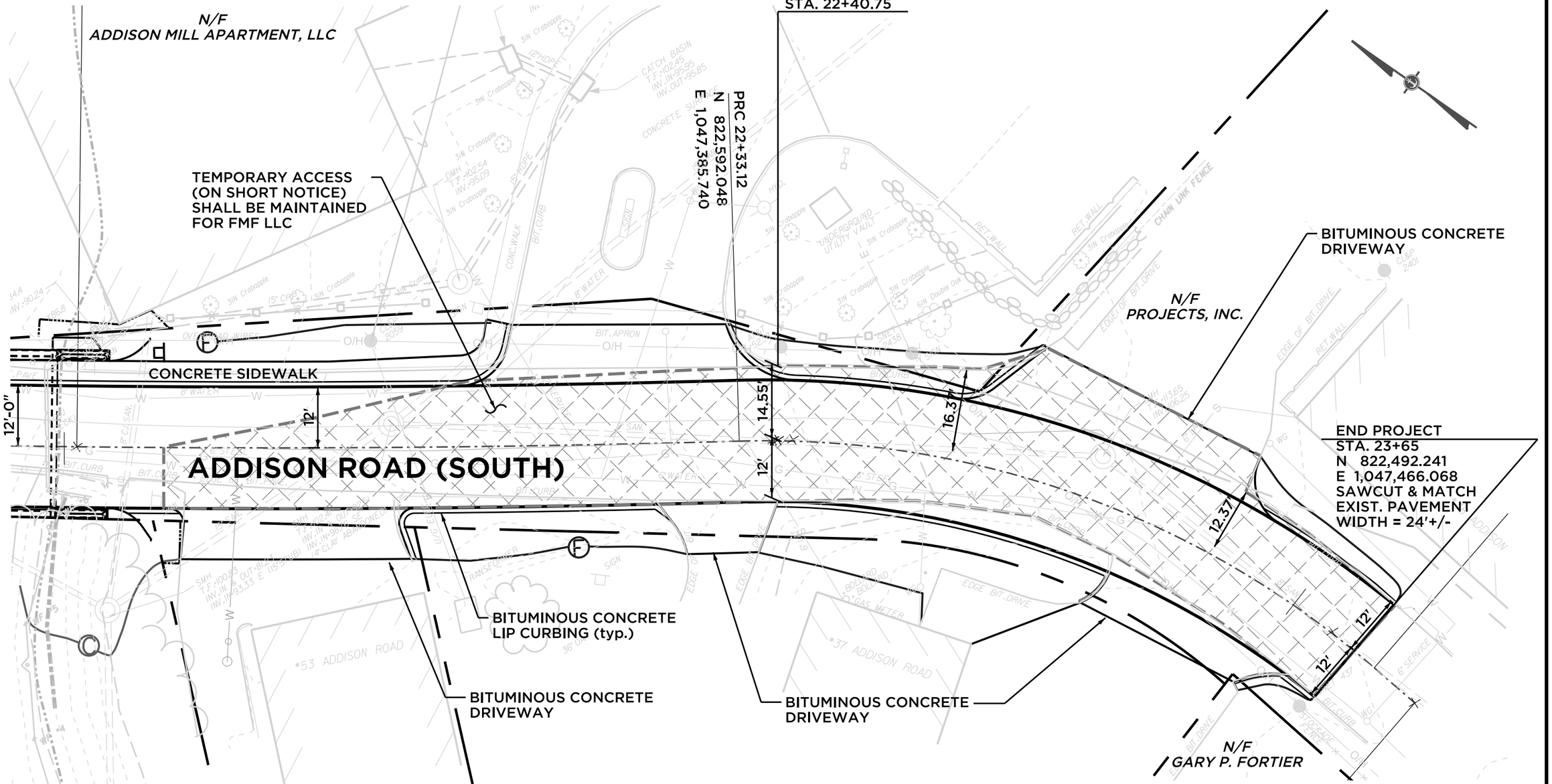
The Contractor shall provide evidence of at least 5 years of experience installing steel sheet cofferdams by means of vibratory hammers. He shall be solely responsible for any damages incurred to buildings or other existing facilities as a result of his operations.

Article 1.08.04--Limitation of Operations: is supplemented by the following:

The Contractor shall maintain access to the adjacent apartment and businesses at all time.

The Contractor is notified that occasional tractor trailer truck deliveries are made to the property, N/F FMF, LLC. The Contractor must be able to provide access for these trucks within a one hour notice. See the attached "Construction Access Plan".

In order to provide for traffic operation for neighboring facilities, the Contractor shall comply with the Special Provisions "Maintenance and Protection of Traffic".



PLAN

20 0 20 40 60 80

SCALE: 1"= 20'

ANCHOR
ENGINEERING SERVICES, INC.

41 Sequin Drive
Glastonbury, CT 06033
Phone: (860) 633-8770
Fax: (860) 633-5971
www.anchorengr.com

Civil Engineering • Environmental Consulting • Land Surveying • Construction Management

J:\075\22\Design\PLOT_Road.dgn

PROJ. ENGINEER	DPL
PROJ. MANAGER	TJY
OFFICE REVIEW	TJY
REVISIONS	
SCALE:	1"=20'

TOWN OF GLASTONBURY

REPLACEMENT OF ADDISON ROAD BRIDGE
OVER SALMON BROOK

CONSTRUCTION ACCESS PLAN

GLASTONBURY CONNECTICUT

PROJECT	DATE	SHEET NO.
075-22	FEB 2012	1 OF 1 (SP - 10)

ITEM #0201001A – CLEARING AND GRUBBING

Description:

The Contractor shall furnish all labor, materials, tools, and equipment necessary and shall do all work to prepare the site as indicated on the drawings and as herein specified.

Construction Methods:

Tree Removal: Removal of trees as indicated on the plans shall be performed by workman skilled in the area of tree removal under the supervision of a Connecticut Licensed Arborist. The Contractor shall mark all trees, shrubs, and plants to be removed in accordance with the plans and these specifications. The Engineer shall have 7 days to field review the markings and make any adjustments prior to the start of the clearing operation.

Trees and shrubs within the right-of-way or within any property owned by the Town of Glastonbury that are designated for removal must be posted as such by the Glastonbury Tree Warden (Mr. Greg Foran of the Parks and Recreation Department, 652-7686) for a period of 10 days prior to removal. **No trees or shrubs within the Town of Glastonbury right-of-way shall be cut or removed until such posting has been completed and subsequent approval given by the Tree Warden.**

In general, no trees, etc. in public streets and highways are to be cut or damaged in any way except as noted on the plans. Trees, bushes, and growing crops on other lands may be cut, removed, or trimmed only to the extent provided in the terms of the rights-of-way or access rights possessed by the Town, and also only within the limits and in the manner, if any, indicated by the Engineer or by the drawings or Special Conditions.

Tree Trimming: Trimming of trees by a Connecticut Licensed Arborist is included under this item as required for clearance of construction equipment and pedestrians below the tree canopy. When the canopy of a tree must be elevated for clearance above the proposed improvements, trimming shall be done around the entire circumference of the tree.

Tree Protection and Care of Property: The Contractor shall install high visibility construction fence at the drip line of the tree canopy as shown on the plans and as directed by the Engineer to protect existing trees that are not to be cut from damage during construction. The Engineer, at his sole discretion, may also direct the Contractor to enclose the trunks of trees adjacent to his work that are not to be cut with substantial wooden boxes of such height as may be necessary to protect them from injury from piled material, from equipment, from his operations, or otherwise due to his work. Excavating machinery and cranes shall be of suitable type and be operated with care to prevent injury to trees not to be cut, and particularly to overhanging branches and limbs.

Branches, limbs, and roots shall not be cut except by permission of the Engineer. All cutting shall be smoothly and neatly done without splitting or crushing. In case of cutting or unavoidable injury to branches, limbs, and trunks of trees, the cut or injured portions shall be neatly trimmed and covered with an application of grafting wax or tree-healing paint, as directed.
Cultivated hedges, shrubs, and plant that might be injured by the Contractor's operations shall be protected by suitable means or shall be dug up and temporarily replanted and maintained. After the

construction operations have been substantially completed, they shall be replanted in their original positions and cared for until growth is re-established. If cultivated hedges, shrubs, and plants are injured to such a degree as to affect their growth or diminish their beauty or usefulness, they shall be replaced by items of kind and quality at least equal to the kind and quality existing at the start of the work.

On paved surfaces, the Contractor shall not use or operate tractors, bulldozers, or other power-operated equipment, the treads of wheels that are so shaped as to cut or otherwise injure such surfaces.

Clearing: From areas to be cleared, the Contractor shall cut or otherwise remove all trees, saplings, brush, vines, and other vegetable matter such as snags, sawdust, bark, etc., and refuse. The area to be cleared shall be confined to the width shown on the plans or as stipulated in the Proposal. Vines, brush, and similar undergrowth shall be cut as close to the ground as practicable. Trees may be cut leaving a longer stump to facilitate their removal by power-operated equipment. No trees shall be cut or trimmed unless they are so indicated on the drawings.

Clearing shall also include removal and disposal of all items shown on the plans to be removed, or directed by the Engineer to be removed as part of the project, including, but not limited to, removal and disposal of existing concrete sidewalk, concrete steps, drainage structures, fences, and any and all other structures or materials not specifically listed in the Bid Proposal but required to be removed to accomplish the work.

The removal and disposal of the existing masonry fence pillar shown to be removed shall be completed as part of this work. Its removal shall also include any necessary electrical work required to maintain the existing light system within the pillars to remain.

All road signs, mail boxes, etc., shall be removed and reset as directed.

Grubbing: Grubbing shall consist of the complete removal of all tree stumps and roots larger than two inches in diameter to a minimum depth of 12-inches below the subgrade surface. All excavations made below the finished surface by the removal of trees, stumps, etc. shall be filled with suitable material and thoroughly compacted in such a manner that its surface will conform to the surrounding surface.

Stump grinding shall be used for stump removal where the potential for damage to adjacent improvements or underground utilities exists due to the excavation of stumps, or as directed by the Engineer. The requirements for grubbing noted above shall also apply to stump grinding operations.

Disposal: All materials removed during trimming, tree removal, and clearing and grubbing operations shall be disposed of by the Contractor in a manner satisfactory to the Engineer.

Method of Measurement:

When a price is asked for on the proposal form on a lump sum basis, this shall include all the work as described above, which may be necessary to properly complete the project, unless the item is included under another project pay item.

Should the project be increased in length or the scope of work increased due to construction changes beyond the requirements hereinabove, any additional work required will be paid for as extra work. Should the project be decreased in length, a suitable credit, mutually agreed upon and based on the reduction in actual work or scope, will be taken by the Town.

The work, material, tools, equipment and labor incidental to the disposal of trees, stumps, etc., will not be measured for payment.

Basis of Payment:

Except as provided otherwise in the Bid Proposal or Special Conditions, this work shall be paid for at the Contract Lump Sum Price for "Clearing and Grubbing", which price shall include protection of existing trees and vegetation, tree removal and tree trimming under the supervision of a Connecticut Licensed Arborist, clearing and grubbing within the limits of the work, stump grinding, removal and disposal of trees, roots, stumps, brush, concrete steps, and other objects, leveling of areas to accommodate the work, and all labor, materials, tools, and equipment necessary thereto.

ITEM #0201009A – MISCELLANEOUS RELOCATIONS

Description:

This item will consist of providing any necessary unforeseen adjustments to items not shown on the drawings that may exist such as sprinkler systems or private utilities that require adjustment within the project's scope of work. These adjustments are not specified in the contract documents but their need may arise during construction as the work proceeds. This item shall also include any test pits beyond the limits of excavation for contract items that are approved by the Engineer.

Construction Methods:

Any adjustment that is considered to be necessary for completion of the project shall be approved by the Engineer and the owner of said facility prior to any work commencing on the adjustment. The Contractor shall coordinate the work with the owner of the facility. Only test pits that are approved by the Engineer prior to any test pit work commencing shall be paid for under this item.

Method of Measurement:

Work under this item for "Miscellaneous Relocations", completed and accepted, will be measured for payment based either on a unit price or lump sum, to be agreed upon before the extra work is started; or if no agreement as to price can be reached, the work will be measured in accordance with Article 1.09.04 – Extra and Cost Plus Work.

Basis of Payment:

The sum of money shown on the itemized proposal as "Estimated Cost" for this work will be considered the bid price even though payment will be made as described below. The estimated cost figure is not to be altered in any manner by the bidder. Should the bidder alter the amount shown, the altered figures will be disregarded and the original price will be used to determine the total amount for the contract.

"Miscellaneous Relocations" will be paid for based either on a unit price or a lump sum, to be agreed upon before the work is started; or if no agreement as to price can be reached, the Engineer may order that the work will be paid for on a cost-plus basis. For all work done on a cost-plus basis, the Contractor's compensation shall be determined in accordance with Article 1.09.04 – Extra and Cost Plus Work. The price shall be for work complete in place which price shall include all materials, equipment, tools and labor incidental thereto.

ITEM NO. 0202245A – J-HOOK ROCK VANE

Description:

Work under this item shall include the construction of a low profile in-stream j-hook rock vane in the existing brook at the locations and to the details shown on the Contract Plans. Due consideration must be given while performing this work in the precautionary work zone under electric wires. See Section 1.05.06-Cooperation with Utilities.

Materials:

Rock and boulder material for the construction of vanes and weirs should meet the following requirements:

Existing stone at the northeast corner of the bridge shall be used. The existing riprap shall be removed and stockpiled in a location acceptable to the Engineer where it will not interfere with construction activities at the bridge site.

Any additional rocks required should be large enough to achieve the desired height when partially buried in the stream bed and should be sized to resist movement from shear stresses expected for the design flow. Footer rocks should be long and flat. The stone for this work shall be of a type(s) that are naturally found within the Salmon Brook watershed.

Construction Methods:

All erosion and sediment control devices, including dewatering basins, should be implemented prior to the start of any work under this Item. All work shall be performed in accordance with the project Permits. The construction of the vane shall proceed as follows:

Install water handling measures and divert water according to the Permits and Contract Documents.

Rock weirs are typically modified horseshoe shapes such that the apex of the structure points upstream. The angle the arms make with the upstream bank should be approximately 20 to 30 degrees so that flows are directed away from the banks and deeper pool areas are created directly downstream of the weir.

Rock Vanes are single-arm structures which are partially embedded in the streambed such that they are submerged even during low flows. The angle the arm makes with the upstream bank should be approximately 20 to 30 degrees so that flows are directed away from the banks and deeper pool areas are created directly downstream of the vane.

Install rock for weirs and vanes to the shapes and dimensions and in accordance with the installation notes on the Contract Drawings.

All disturbed sections of the channel, including the banks and streambed, should be stabilized with methods approved by the CT DEEP.

All vanes should be monitored to determine if:

- their orientation and geometry (e.g., the height of the drop) hinder fish migration,
- their performance is adversely affected by deposited sediment, and
- their placement causes bank instabilities and undesirable lateral stream movement especially in the vicinity of the plunge pools.
-

Method of Measurement:

This work shall be measured by the number each of "J-HOOK ROCK VANE" constructed and accepted in place.

Basis of Payment:

This work will be paid for at the Contract unit price for "Each", completed and accepted, which shall include furnishing and transporting all materials for the construction of the vane, removal and stockpiling of existing stone, preparation of the streambed for construction of the vane, all related equipment, materials, tools, and labor incidental to this work.

ITEM #0204081A – COFFERDAM AND DEWATERING – SANITARY SEWER
ITEM #0204082A – COFFERDAM AND DEWATERING – BRIDGE
ITEM #0204083A – COFFERDAM AND DEWATERING – BRIDGE FOUNDATION

This item shall conform to Section 2.04 of Form 816 amended as follows:

Section 2.04.03 – Construction Methods:

Add to the end of the last paragraph:

The Contractor's plans and computations will be distributed to the Engineer, the Town of Glastonbury Environmental Planner and the CTDOT Office of Environmental Planning (OEP) for each of their review.

Dewatering basin(s) shall be sized by the Contractor to handle the flow for each stage of the dewatering of the cofferdam(s). During construction of the sanitary sewer, the Contractor shall construct a temporary water diversion device which will alternate the side of the river which the flow shall be. The bridge should be constructed in a fashion to maintain the flow of the Salmon Brook around the construction activities.

The height of any pipes, flow diversions, sandbags, cofferdams and barriers shall be as selected by the Contractor to provide reasonable protection from flooding. 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. Movements or failures of the temporary protection facilities, or any portions thereof, which prevents proper completion of the permanent work, including the removal of the existing structure, shall be corrected at the sole expense of the Contractor.

Unless otherwise provided, or directed, all such temporary protective work shall be removed and disposed of in an approved manner, when they are 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.

Section 2.04.04 – Method of Measurement:

Delete this section and replace with: Work under this item will not be measured for payment.

Section 2.04.05 – Basis of Payment:

Delete this section and replace with: Payment for this work will be made at the contract lump sum price for "Cofferdam and Dewatering – Sanitary Sewer", "Cofferdam and Dewatering – Bridge" and "Cofferdam and Dewatering - Bridge Foundation" which prices shall include all costs of design,

materials, equipment, labor and work incidental to the construction of pipes, flow diversions, barriers, sandbags, cofferdams or other such protective facilities; reconstruction if required; dewatering, including pumping; handling the river 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 to remain and to the work in progress, materials, or equipment from flows or high stages of the river.

Delete the Pay Item shown and add the following Pay Items:

Pay Item	Pay Unit
Cofferdam and Dewatering – Sanitary Sewer	L.S.
Cofferdam and Dewatering – Bridge	L.S.
Cofferdam and Dewatering – Bridge Foundation	L.S.

ITEM #0205100A EARTH TRENCH EXCAVATION AND BACKFILL

General: The Contractor shall make excavations of normal depth in earth for trenches and structures; shall backfill such excavations to the extent necessary; shall furnish the necessary material and construct embankments and fills; and shall make miscellaneous earth excavations and do miscellaneous grading. All such work shall be done as indicated on the drawings and as herein specified.

The program of excavation, dewatering, sheeting and bracing shall be carried out in such manner as to eliminate all possibility of undermining or disturbing the foundations of existing structures or of work previously completed under this contract.

Excavation in general shall be in open trenches. Tunneling shall be done only to pass under obstructions such as pipes or duct or only as indicated on contract drawings, or in Special Provisions, or on written permission of the Engineer, and then only in accordance with those sections hereof which describe tunnel excavation, and subject to such further conditions as may have been described by drawings, Special Provisions, or as the Engineer may specify.

The Contractor shall make excavations in such manner and to such widths as will give suitable room for building the structures or laying and jointing the piping; shall furnish and place all sheeting, bracing, and supports; shall do all coffer damming, pumping and draining; and shall render the bottom of the excavations firm and dry and acceptable in all respects.

Trench Excavation: Where pipe is to be laid in gravel bedding or concrete cradle, the trench may be excavated by machinery to or to just below, the designated subgrade, provided that the material remaining at the bottom of the trench is no more than slightly disturbed.

Where pipe is to be laid directly on the trench bottom, the lower part of trenches in earth shall not be excavated to subgrade by machinery, but, just before the pipe is to be placed, the last of the material to be excavated shall be removed by means of hand tools to form a flat or shaped bottom, true to grade, so that the pipe will have a uniform and continuous bearing and support on firm and undisturbed material between joints except for limited areas where the use of pipe slings may have disturbed the bottom.

Depth of Trench: Trenches shall be excavated to such depths as will permit the pipe to be laid at the elevations, slopes or depths of cover indicated on the drawings, and at uniform slopes between indicated elevations.

Width of Trench: The methods and equipment used for excavation must be adapted to the conditions at the site and the dimensions of the required trench. The width of ground or street surfaces cut or disturbed shall, in general, be kept as small as practicable to accommodate the work and shall not be widened by scraping or loosening materials from the sides. Every effort shall be made to keep the sides of the trenches firm and undisturbed until backfilling has been completed and consolidated.

Width of pipe trenches shall be wide enough to provide sufficient space for shoring, for foundations, for drainage, for laying, jointing, inspecting, and backfilling of sides of pipe, or for building the

required structures, and as near as feasible to the above described minimums, in order to reduce the load of backfill upon the top of the sewer; to provide lateral support for the fill and haunching on the sides of the pipe, and to insure that the pipe will not be pushed out of line while placing backfill.

Excavation for Special Foundations: Where concrete, stone or underdrain is required or ordered, excavation shall be carried down to the depth and lines required for such foundation or underdrain. If required by contract drawings or Special Provisions as part of the structure and included in the price, no additional payment for this additional excavation, as excavation, will be made. If the foundation is paid by the cubic yard or other specific item of proposal, such price for foundation shall include excavation therefore. Excavation for underdrain is included in price for underdrain.

Where the plans, Proposal or Special Provisions indicate certain foundations, they will be constructed and paid for as indicated.

Where the soil in subgrade is found to be soft, loose or freshly-filled earth, or unstable or unsuitable as a base for the proposed sewer or structure, the Engineer may, in his discretion, order it excavated to such depth and width as he may deem proper and replaced with gravel, crushed stone, concrete, plank or similar materials as he may direct.

Length of Trench and Space Occupied: Trenches must be constructed with a minimum of inconvenience and danger to the public and all other parties. To that end, the length of trench opened at any time, from point where ground is being broken to completed backfill and temporary surfacing, and also the amount of space in streets or public and private lands occupied by trench soil banks, equipment and supplies, shall to exceed the space or spaces considered reasonably necessary and expedient by the Engineer. In determining the length of open trench, the space for equipment, materials, supplies, etc. needed, the Engineer will consider the nature of the street or land where work is being done, depth and width of trench, types and methods of construction and equipment being used, inconvenience to the public or to private parties, possible dangers, limits or rights-of-way and other proper matters.

The Contractor must keep streets and premises near the work free from unnecessary obstructions, debris, etc. The Engineer may, at any time order all equipment, materials, surplus from excavations, debris, etc., lying outside reasonable limits of space, promptly removed; and should the Contractor fail to remove such materials within three days after notice to remove same, the Engineer may cause any part or all of such materials to be removed by such persons as he may employ, at the Contractor's expense, and may deduct the costs thereof from payment which may be or may become due to the contractor under this Contract. In any cases when public safety urgently demands it, the Engineer may cause such materials to be removed without prior notice.

Trenches shall be excavated with approximately vertical sides between the elevation of the center of the pipe and an elevation one foot above the top of the pipe.

Dimensions of Trenches: Trenches shall be excavated to the lines indicated on contract drawings or as described for any particular structure by any contract document. In general, room shall be allowed for installing the pipe or other structure, for making and inspecting joints in pipe, for placing and compacting fill around and on both sides of pipe, for draining and pumping as needed, for removal of

unsuitable materials, and for any other purpose incidental to the fulfillment of the Contract and these specifications.

Care must be taken to excavate to correct line, grade and width at all points.

In general, sides of trenches must be not less than four inches from outside of barrel of all pipe eight inches or less in size, six inches from outside of barrel of pipe ten inches or larger in size, or as shown by contract drawings. Except as otherwise provided, excavation shall conform closely to the form and grade of the bottom of the pipe or foundation required. To accomplish this, the Engineer may require that no earth shall be excavated by machinery nearer than six inches to the finished subgrade, and the last six inches of excavation in earth shall be carefully removed by hand labor to the exact lines and grade required, immediately prior to laying pipe or underdrain or building bottom of structure.

Extent of Open Excavation: The extent of excavation open at any one time will be controlled by the conditions, but shall always be confined to the limits prescribed by the Engineer. At no time shall the extent of the open excavation go beyond two structures.

Trench Excavation in Fill: If pipe is to be laid in embankments or other recently filled material, the material shall first be placed to the top of the fill or to a height of at least one foot above the top of the pipe, whichever is the lesser. Particular care shall be taken to ensure maximum consolidation of material under the pipe location. The pipe trench shall be excavated as though in undisturbed material.

Unauthorized Excavation: If the bottom of any excavation is taken out beyond the limits indicated or prescribed, the resulting void shall be backfilled at the Contractor's expense with ¾" crushed stone if the excavation was for a pipeline not having a concrete cradle or encasement, or with Class B concrete if the excavation was for a masonry structure.

Cutting of Pavement: When the trench lies within a paved area, the trench shall be cut with an approved tool. All cuts shall be made to straight lines and shall be parallel and/or perpendicular to the center line of the trench.

Bridging Trenches: The Contractor shall, at no cost, provide suitable and safe bridges and other crossings where required for the accommodation of travel, and to provide access to private property during construction, and shall remove said structures thereafter.

Obstacles: Some obstructions, obstacles, or difficulties in the path of the work anticipated, or in the performance of the work, may have been indicated by drawings, Special Provisions, or in other contract documents. The omission of any indication or mention of any obstruction, obstacle or difficulty which a reasonable and careful contractor, bidder, or estimator might have anticipated, or any question as to adequacy of such indication as given, shall not entitle the Contractor to any extra or additional compensation for any loss or expense occasioned directly or indirectly by such obstruction, etc., not to any extension of time or waiver of any requirement of the Contract and Specifications. The Contractor shall be understood to have entered into the Contract with full knowledge that in any work involving excavation, operation in public highways or adjacent to other

developments, some unforeseen obstacle, difficulties, unforeseen soil or ground water conditions, etc., may be encountered, and that the Contractor has included in the bid and contract obligations the assumptions of the risks and cost to which such obstacles, etc. may subject the bid.

The Town will make arrangements for clearance or avoidance of permanent obstruction by pipes and structures of public utilities and of public bodies, except as otherwise indicated on drawings or contract documents, where such obstruction is found in the space to be occupied by the pipe or structure to be built under the Contract. The Town will not assume the cost of temporary removal, support, protection, etc. of pipes, poles, and other structures which do not occupy the space to be occupied by the pipe or structure to be built for the Town, where removal, support, protection, etc. of such pipes, poles or structures is desired for the convenience of, or to save expense to, or to accommodate the equipment of the Contractor.

Ends of Certain Pipes to be Sealed: If any pipe, drain, culvert, connection or similar conduit is encountered and cut off or cut through incidental to the construction of the work, and if the said drain, etc. is not to continue to function or be used, the open end or ends of such pipes shall be securely and tightly closed by an adequate cover or bulkhead as directed by the Engineer. Except as a specific price for such closings was fixed in the Proposal, the cost of such covers, bulkheads, and the setting of them shall have been included in the price of prices bid for various other portions of the work in the Proposal and no additional payment will be made therefore.

In removing existing pipes or other structures, the Contractor shall use care to avoid damage to materials, and the Engineer shall include for payment only those new materials which are necessary to replace those unavoidably damaged.

The structures to which the provisions of the preceding three paragraphs shall apply include pipes, wires, and other structures which (a) are not indicated on the drawings or otherwise provided for, (b) encroach upon or are encountered near the substantially parallel to the edge of the excavation, and (c) in the opinion of the Engineer will impede progress to such an extent that satisfactory construction cannot proceed until they have been changed in location, removed (to be later restored), or replaced.

When fences interfere with the Contractor's operations, the Contractor shall remove and (unless otherwise specified) later restore them to at least as good condition as that in which they were found immediately before the work was begun, all without additional compensation. The restoration of fences shall be done as promptly as possible and not left until the end of the construction period.

Excavation Near Existing Structures: Attention is directed to the fact that there are pipes, drains, and other utilities in certain locations. Some of these have been indicated on the drawings, but no attempt has been made to show all of the services, and the completeness or accuracy of the information given is not guaranteed.

As the excavation approaches pipes, conduits, or other underground structures, digging by machinery shall be discontinued and the excavation shall be done by means of hand tools, as directed. Such manual excavation, when incidental to normal excavation, shall be included in the work to be done under items involving normal excavation.

Where determination of the exact location of a pipe or other underground structure is necessary for doing the work properly, the Contractor may be required to excavate test pits to determine such locations. When such test pits may be properly considered as incidental to other excavation, the Contractor shall receive no additional compensation, the work being understood to be included as a part of the excavation. When the Engineer orders test pits beyond the limits of excavation considered as part of the work, such test pits shall be paid for as specified under Item #0201009 Miscellaneous Relocations.

Protection of Existing Structures: All existing pipes, poles, wires, fences, curbing, property-line markers, and other structures which the Engineer decides must be preserved in place without being temporarily or permanently relocated shall be carefully supported and protected from injury by the Contractor. Should such items be injured, they shall be restored by the Contractor, without compensation therefore, to at least as good condition as that in which they were found immediately before the work was begun.

Relocation and Replacement of Existing Structures: Whenever the Contractor encounters certain existing structures as described below and is so ordered in writing, the Contractor shall do the whole or such portions of the work as he may be directed, to change the location of, remove and later restore, replace such structures, or to assist the owner thereof in so doing. For all such work, the Contractor shall be paid under such items of work as may be applicable, otherwise as Extra Work.

Trench Dewatering:

To ensure proper conditions at all time during construction, the Contractor shall provide and maintain ample means and devices (including spare units kept ready for immediate use in case of breakdown) with which to intercept and/or remove promptly and dispose properly of all water entering trenches and other excavations. Such excavations shall be kept dry until the structures, pipes, and appurtenances to be built therein have been completed to such extent that they will not be floated or otherwise damaged.

All water pumped or drained from the work shall be disposed of in a suitable manner without undue interference with other work, damage to pavements, other surfaces, or property. Suitable temporary pipes, flumes, or channels shall be provided for water that may flow along or across the site of the work.

- Temporary Underdrains: Temporary Underdrains, if used, shall be laid in trenches beneath the grade of the structure. Trenches shall be of suitable dimensions to provide room for the chosen size of underdrain and its surrounding gravel. Underdrain pipe shall be acceptable PVC or ADS pipe of standard thickness. Sewer pipe of the quality known as “seconds” will be acceptable.

  Underdrains, if used, shall be laid at an approved distance below the bottom of the normal excavation wrapped in Mirafi 140 or equal and entirely surrounded by graded gravel or crushed stone to prevent the admission of sand or other soil into the underdrains. The distance between the top of the bell of the underdrain pipe shall be at least three (3) inches

unless otherwise permitted. The space between the underdrain and the pipe or structure shall be filled and crushed stone which shall be rammed, if necessary, and left with a surface suitable for laying the pipe or building the structure.

- Drainage Wellpoint System: If required, the Contractor shall dewater the excavations by means of an efficient drainage system which will drain the soil and prevent saturated soil from flowing into the excavation. The wellpoints shall be designed especially for this type of service. The pumping unit shall be designed for use with the wellpoints and shall be capable of maintaining a high vacuum and of handling large volumes of air and water at the same time.

  If required, the installation of the wellpoints and pump shall be done under the supervision of a competent representative of the manufacturer. The Contractor shall do all special work such as surrounding the wellpoints with sand or gravel or other work which is necessary for the wellpoint system to operate for the successful dewatering of the excavations.

Backfilling And Consolidation:

In general, and unless other material is indicated on the drawings or specified, material used for backfilling trenches and excavations around structures shall be suitable material which was removed in the course of making the construction excavations.

Frozen materials shall not be placed in the backfill nor shall backfill be placed upon frozen material. Previously frozen material shall be removed, or shall be otherwise treated a required before new backfill is placed.

Backfilling around Structures: The Contractor shall not place backfill against or on structures until they have attained sufficient strength to support the loads (including construction loads) to which they will be subjected without distortion, cracking, or other damage. As soon as practical after the structures are structurally adequate and other necessary work has been done, special leakage tests, if required, shall be made. Promptly after the completion of such tests, the backfilling shall be started and then shall proceed until its completion. The best of the excavated materials shall be used in backfilling within two feet of the structure. Unequal soil pressures shall be avoided by depositing the material evenly around the structure.

Backfilling Pipe Trenches: As soon as practicable after the pipes have been laid and the joints have acquired a suitable degree of hardness, if applicable, or the structures have been built and are structurally adequate to support the loads, including construction loads to which they will be subjected, the backfilling shall be started, and thereafter it shall proceed until its completion in accordance with pipe manufacturer recommendations.

With the exception mentioned below in this paragraph, trenches shall not be backfilled at pipe joints until after that section of the pipeline has successfully passed any specified tests required. Should the contractor wish to minimize the maintenance of lights and barricades and the obstruction of traffic, the contractor may, at his own risk, backfill the entire trench, omitting or including backfill at joints

as soon as practicable after the joints have acquired a suitable degree of hardness, if applicable, and the related structures have acquired a suitable degree of strength. The contractor shall, however, be responsible for removing and later replacing such backfill at no cost should the contractor be ordered to do so in order to locate and repair or replace leaking or defective joints or pipe.

a. Materials: The nature of the materials will govern both their acceptability for backfill and the methods best suited for their placement and compaction in the backfill. The materials and methods shall both be subject to the approval and direction of the Engineer. No stone or rock fragment larger than 12 inches in greatest dimension shall be placed in the backfill nor shall large masses of backfill material be dropped into the trench in such a manner as to endanger the pipeline. If necessary, a timber grillage shall be used to break the fall of material dropped from a height of more than five feet. Pieces of bituminous pavement shall be excluded from the backfill unless their use is expressly permitted, in which case they shall be broken up as directed.

b. Ho Pac Trench Consolidation: Where the trench backfill is consolidated by the "Ho Pac" method and the depth of the trench from the road or ground surface to the top of the pipe exceeds ten feet, the trench backfill shall be placed and consolidated in two lifts of equal depth.

The approved backfill material shall be placed and compacted at a moisture content between four and eight percent (based on dry density, by weight), or with two percent of the optimum moisture content as determined by the moisture density relationship test specified in ASTM D 1557, at the option of the Engineer. Compaction shall be by a "Ho Pac" vibratory compactor or approved equal, operating at a frequency between ten and 40 Hertz, placed directly on the backfill surface, and applied with the maximum practical force applicable by the backhoe to which it is attached. Compaction effort shall be continued until no further visible settlement occurs.

c. Miscellaneous Requirements: Whatever method of compacting backfill is used, care shall be taken that stones and lumps shall not become nested and that all voids between stones shall be completely filled with fine material. Only approved quantities of stone and rock fragments shall be used in the backfill. The Contractor shall, as part of the work done under the items involving earth excavation and rock excavation as appropriate, furnish and place all other necessary backfill material.

All voids left by the removal of sheeting shall be completely backfilled with suitable materials, thoroughly compacted.

Where required, excavated material which is acceptable to the Engineer for surfacing or pavement sub base shall be placed at the top of the backfill to such depths as may be specified elsewhere or as directed. The surface shall be brought to the required grade and stones raked out and removed.

Embankments Over Pipe: Where the top of the pipe is less than three feet below the surface of the ground, additional fill shall be placed to form an embankment to cover and protect the pipe. The top

of such embankment shall not be less than three feet above the top of the pipe and not less than one foot wider than the outside diameter of the pipe, with side slopes no steeper than one and one half horizontal to vertical, or of such section as may have been indicated by drawings. Such embankments shall be made of suitable dry earth, well compacted. Embankments must be maintained to the full required dimensions during the maintenance period of the Contract, and any settlement, washout, or deficiency occurring or found during that time shall be rectified and embankments brought up to the required height, width and slopes.

In general, such embankments may be made with materials excavated on the job and not used for backfill elsewhere. Should there not be sufficient surplus material for embankments, or should it be unsuitable or inconveniently located, the Contractor shall secure and provide sufficient suitable material. In any case, where the Town has provided borrow pits from which the Contractor may obtain filling material, the Contractor must conform to the conditions for excavating and moving such material as established by acts of the Town in obtaining such rights, and by indications on drawings or in other contract documents.

Openings through embankments for the passage of water and other purposes will be provided as indicated on drawings or elsewhere, or as ordered.

Care shall be taken that sewer and appurtenances are not damaged by equipment or methods used for making and maintaining embankments.

Except as specific provisions may have been made in the Proposal for a particular contract, no payment other than prices bid for pipe will be paid for building and maintaining embankments or securing material therefore.

Material for Filling and Embankments: Approved selected materials available from the excavations and not required for backfill around pipes or against structures may be used for filling and building embankments, except as otherwise specified. Material needed in addition to that available from construction operations shall be obtained from approved gravel banks or other approved deposits. The Contractor shall furnish, at no cost, all borrowed material needed on the work.

All material, whether from the excavations of from borrow, shall be of such nature that after it has been placed and properly compacted it will make a dense, stable fill. It shall not contain vegetation, masses of roots, individual roots more than 18 inches long or more than one half inch in diameter, stones over six inches in diameter, or porous matter. Organic matter shall not exceed minor quantities and shall be well distributed.

Preparation of Subgrade: The Contractor shall remove loam and topsoil, loose vegetable matter, stumps, large roots, etc. from areas upon which embankments will be built or material will be placed for grading. The subgrade shall be shaped as indicated on the drawings and shall be so prepared by forking, furrowing, or plowing so that the first layer of the new material placed thereon will be well bonded to it.

Placing and Compacting Material: After the subgrade has been prepared as hereinbefore specified, the material shall be placed thereon and built up in successive layers until it has reached the required elevation.

Layers shall not exceed 12 inches in thickness before compaction. In embankments at structures, the layers shall have a slight downward slope away from the structure. In other embankments, the layers shall be slightly dished toward the center. In general, the finer and less pervious materials shall be placed against the structures or in the center, and the coarser and more pervious materials, upon the outer parts of embankments.

Each layer of material shall be compacted by the use of approved rollers or other approved means so as to secure a dense, stable and thoroughly compacted mass. At such points as cannot be reached by mobile mechanical equipment, the materials shall be thoroughly compacted by the use of suitable power driven tampers.

Previously placed or new materials shall be moistened by sprinkling, if required, to ensure proper bond and compaction. No compacting shall be done when the material is too wet, from either rain or too great an application of water, to compact it properly. At such times, the work shall be suspended until the previously placed and new materials have dried out sufficiently to permit proper compaction.

Compaction Test: When, in the opinion of the Engineer, such tests are necessary, the Contractor shall have compaction density tests taken by an approved independent laboratory. Ninety five percent of the maximum density determined in accordance with AA SHOT 180 Method D shall be achieved.

Payment: This item will not be paid for separately. Rather, payment for earth trench excavation and the disposal of surplus excavated material, trench dewatering and backfilling and consolidation shall be included in the unit price of the item associated therewith.

ITEM #0210820A – WATER POLLUTION CONTROL (ESTIMATED COST PLUS)

Work under this item shall conform to the requirement of Section 2.10 supplemented and amended as follows.

2.10.04--Method of Measurement: is amended as follows:

Delete the second sentence of the second paragraph, …"when no applicable…extra and cost plus work." and replace with the following:

When no applicable contract item appears in the proposal for any additional measures not shown on the plans, such work and materials shall be measured for payment as provided for under Article 1.09.04—Extra and Cost-Plus Work. All extra work performed on an agreed price basis shall be incorporated on construction orders and paid on an item by item basis. All work performed under this item on a cost-plus basis will be paid under this item. No construction order will be needed to pay for this work.

In the first and second sentence of the third paragraph, change "Estimated Cost" to "Estimated Cost Plus."

2.10.05--Basis of Payment: is amended as follows:

Delete the first paragraph and replace with the following:

Work will be paid under the applicable contract items or as provided for under Article 1.09.04. No payment will be made for the cleanout of accumulated sediment for either permanent or temporary erosion control measures.

ITEM #0212002A – SUBBASE

This item shall conform to Section 2.12 SUBBASE, of the Form 816, amended as follows:

2.12.02 Materials: The material for this item shall conform to the requirements of Article M.02.01-Granular Fill, except that reclaimed miscellaneous aggregate shall not be used.

ITEM #0216003A – PERVIOUS STRUCTURE BACKFILL

Description: Pervious structure backfill shall include the furnishing, placing, and compaction of pervious material adjacent to structures. This item shall also consist of furnishing and placing crushed stone or gravel in burlap bags at the inlet ends of weep holes in structures to the dimensions indicated on the plans or as ordered by the Engineer.

Material: Pervious structure backfill shall conform to the requirements of Article M.02.05.

The materials for bagged stone shall conform to the following requirements:

(a) The crushed stone or gravel shall conform to the grading requirements of Article M.01.01 for No. 3 or No. 4 coarse aggregate or a mixture of both.

(b) The bag shall be of burlap and shall be large enough to contain one cubic foot of loosely packed granular material.

Construction Methods: Pervious structure backfill shall be placed adjacent to abutments, retaining walls, box culverts, and elsewhere as called for. It shall be placed above a plane extending on a 2 to 1 slope from the upper edge of the footing to the top of the embankment, or as shown on the plans. Where the face of undisturbed material is above or beneath this slope plane, the amount of pervious structure backfill shall be decreased or increased accordingly, if ordered by the Engineer.

In filling behind abutments, retaining walls, box culverts, or other structures, the fill is placed against undisturbed material, or against compacted embankments having a length in a direction at right angles to the abutment wall or culvert not less than twice the height of the structure against which the fill is placed. The slope of the embankment on which the pervious structure backfill is to be placed shall be plowed deeply or cut into steps before and during the placing of pervious structure backfill so both types of material will be thoroughly bonded and compacted.

Each layer of pervious structure backfill shall be spread to a thickness not exceeding 6 inches in depth after compaction and shall be thoroughly compacted as directed by the Engineer by the use of power rollers or other motorized vehicular equipment, by tamping with mechanical rammers or vibrators, or by pneumatic tampers. Any equipment not principally manufactured for compaction purposes and equipment, which is not in proper working order in all respects, shall not be used within the area described above.

Special attention shall be given to compaction in places close to walls where motorized vehicular equipment cannot reach. Within 3 feet of the back face of walls and within a greater distance at angle points of walls, each layer of pervious structure backfill shall be compacted by mechanical rammers, vibrators, or pneumatic tampers.

The dry density of each layer of pervious structure backfill formed from broken or crushed stone, broken or crushed gravel or reclaimed miscellaneous aggregate free of bituminous concrete shall have a dry density after compaction that is no less than 100 percent of the dry density for that material when

tested in accordance with AASHTO T180, Method D. If a layer formed from reclaimed miscellaneous aggregate containing bituminous concrete is placed as pervious structure backfill, the wet density of this layer after compaction shall not be less than 100 percent of the wet density of that material when tested in accordance with AASHTO T180, Method D.

In this test, material retained on the ¾ inch sieve shall be replaced with material retained on the number 4 sieve, as noted as an option in the specifications for this test.

Each layer of the pervious structure backfill shall be compacted at optimum moisture content. No Subsequent layer shall be placed until the specified compaction is obtained for the pervious layer.

Where weep holes are installed, bagged stone shall be placed around the inlet end of each weep hole, to prevent movement of the pervious material into the weep hole. Approximately one cubic foot of crushed stone or gravel shall be enclosed in each of the burlap bags. All bags shall then be securely tied at the neck with cord or wire so that the enclosed material is contained loosely. The filled bags shall be stacked at the weep holes to the dimensions shown on the plans or as directed by the Engineer. The bags shall be unbroken at the time pervious material is placed around them, and bags which are broken or burst prior to or during the placing of the pervious material shall be replaced at the expense of the contractor.

Method of Measurement: Payment lines for pervious structure backfill shall coincide with the limits of the compacted pervious structure backfill as actually placed and ordered by the Engineer. There shall be no direct payment for bagged stone, but the cost thereof shall be considered as included in the cost of the work for “Pervious Structure Backfill”.

Basis of Payment: Pervious structure backfill will be paid for the contract unit price per cubic yard for “Pervious Structure Backfill”, complete in place.

Pay Item	Pay Unit
Pervious Structure Backfill	C.Y.

ITEM #0219011A – SEDIMENTATION CONTROL SYSTEM AT CATCH BASIN

Description:

This work shall consist of furnishing, installing, maintaining, and removing a sedimentation control sack for control of sediment entering catch basins within the project area as directed by the Engineer or as shown on the contract drawings.

Materials:

Sediment control sacks shall be Siltsack® as manufactured by SI® Geosolutions or approved equal, and shall be manufactured from a specially designed woven polypropylene geotextile.

The sediment control sack shall be manufactured to fit the opening of the catch basin or drop inlet to be protected. Sediment control sack shall have the following features: two dump straps attached at the bottom to facilitate emptying; lifting loops shall be included as an integral part of the system to be used to lift the sedimentation control sack from the basin; sediment control sack shall have a restraint cord approximately halfway up the sack to keep the sides away from the catch basin walls, this yellow cord is also a visual means of indicating when the sack should be emptied. Once the strap is covered with sediment, sediment control sack should be emptied, cleaned and placed back into the basin.

Construction Methods:

To install the sediment control sack in the catch basin, remove the grate and place the sack in the opening. Hold out approximately six inches of the sack outside the frame. This is the area of the lifting straps. Replace the grate to hold the sack in place.

When the restraint cord is no longer visible, the sediment control sack is full and should be emptied.

To remove the sediment control sack, take two pieces of 1” diameter rebar and place through the lifting loops on each side of the sack.

To empty the sediment control sack, place it where the contents will be collected. Place the rebar through the lift straps (connected to the bottom of the sack) and lift. This will turn the sedimentation control sack inside out and empty the contents. Clean out and rinse. Return the sedimentation control sack to its original shape and place back in the basin.

The sediment control sack is reusable. Once the construction cycle is complete, the sedimentation control sack shall be removed from the basin and cleaned. The sedimentation control sack shall then be provided to the Town for re-use.

Method of Measurement:

Work under this item will be measured for payment by the number each of "SEDIMENTATION CONTROL SYSTEM AT CATCH BASIN" complete and accepted in place.

Basis of Payment:

This work shall be paid for as a unit price for each SEDIMENTATION CONTROL SYSTEM AT CATCH BASIN provided and installed. Maintenance of the sediment control sacks and cleaning after completion of construction as described herein shall also to be included in this bid price.

ITEM #0503001A – REMOVAL OF SUPERSTRUCTURE

Work under this item shall conform to the requirements of Section 5.03 of the Standard Specifications (Form 816) amended as follows:

5.03.01 - Description: Replace the first sentence with the following:

This work shall consist of the removal and satisfactory disposal of the superstructure as shown on the plans. Items to be removed shall be the concrete deck, bituminous wearing surface, metal bridge rail and any other items that may be attached thereto.

5.03.03 - Construction Methods: Replace the entire Article with the following:

All work shall proceed as directed by and to the satisfaction of the Engineer and in accordance with the details shown on the plans, or as approved by the Engineer.

The Contractor's attention is drawn to the environmental sensitivity of the brook and surrounding wetlands. This area is designated as a no-drop zone. The Contractor shall provide full shielding below the structure to prevent debris, tools, and/or other materials from entering into or dropping to the area below the structure. All debris shall be promptly cleaned up and removed from the site.

The Contractor's attention is drawn to the fact that the bridge superstructure (and substructure) removal is in close proximity to an historic mill building that has been renovated for apartments. Removal of the superstructure in this area must be completed in such a manner so as to prevent damage to the existing apartment building, utility installations, and portions of existing structures or utilities to remain.

The removal shall not result in damage to any permanent construction (new or existing) or to adjoining property or brook area. If damage does occur, it shall be repaired by the Contractor to the satisfaction of the Engineer at no additional expense to the Town.

Prior to initiating work, the Contractor shall submit for approval a demolition plan. This demolition plan shall include plans and written documentation describing his methods of removal, equipment means, bridge removal timeframe and for falsework and shielding required for the protection of traffic (if any), environmentally sensitive areas and adjoining property. Approval of the Contractor's demolition plan shall not be considered as relieving the Contractor of any of his responsibility. Working drawings and design computations showing the Contractor's means for full shielding shall be submitted to the Engineer in accordance with Section 1.05.02(2).

5.03.04 – Method of Measurement:

Payment for this item is based on a lump sum basis and therefore will not be measured for payment.

5.03.05 - Basis of Payment: Replace the first paragraph with the following:

This work will be paid for at the contract lump sum price for "Removal of Superstructure," which price shall include all materials, equipment, tools, labor, and all work incidental to the removal of the superstructure including demolition plan, furnishing, erecting, and removing the full shielding. It shall also include the satisfactory removal and disposal of all waste materials.

ITEM # 0507120A – TYPE "C" CATCH BASIN WITH 3' SUMP
ITEM # 0507121A – TYPE "C" CATCH BASIN WITH 3' SUMP OVER 10' DEEP
ITEM # 0507123A – TYPE "C" CATCH BASIN DOUBLE GRATE - TYPE II WITH 3' SUMP
ITEM # 0507439A – TYPE "C-M" CATCH BASIN DBL GRATE TYPE II WITH 3' SUMP
ITEM # 0507601A – MANHOLE
ITEM # 0507842A – SEDIMENTATION STRUCTURE

These items shall conform to Section 5.07 CATCH BASINS,MANHOLES AND DROP INLETS of the Form 816, modified as follows:

Trench excavation, dewatering, and backfill for these items shall be in accordance with Item #205100A Earth Trench Excavation and Backfill.

5.07.04--Method of Measurement: Delete this section and replace with:

Method of Measurement: There will be no direct measurement for trench excavation or backfill, but the cost thereof shall be included in the contract unit price per each type and size of drainage structure installed and accepted.

5.07.05—Basis of Payment: Delete this section and replace with:

Basis for Payment: The work under these items will be paid for at the contract unit price per each type and size of drainage structure installed and accepted, complete in place including trench excavation, dewatering, backfill, and all other materials, equipment, tools, and labor incidental thereto.

ITEM #0601088A CONCRETE FORM LINERS

Description:

This item shall consist of furnishing and installing textured and colored formed concrete surfaces using simulated stone molds (concrete form liners) and color stain system designed to duplicate closely the appearance of natural stone as described herein of the type and size called for on the plans, including accessories and hardware and in accordance with these specifications. The facing shall be monolithically formed with the concrete surfaces shown on the Drawings.

Materials:

Quality Of Work:

The process of form lining, texturing and color staining of the hardened concrete shall be performed in strict accordance with the manufacturer's written recommendations and as approved by the Engineer.

Aesthetics:

Design and pattern of form lined concrete surfaces shall follow the layout shown on the Drawings and manufacturer's standard drawing. The completed colored and formed concrete surface shall match as closely as possible the color and texture of real stone, as recommended by the manufacturer and as approved by the Engineer. Final coloration of the cast stone concrete surface shall accurately simulate the appearance of real stone and shall be approved by the Engineer.

Quality Assurance:

a. Manufacturer of Simulated Stone Molds and Custom Coloring Systems - five years experience making custom simulated stone molds and color stains to create formed concrete surfaces to match natural stone shapes, surface textures and colors.

b. Contractor/Subcontractor (installer) - five years experience pouring vertically formed architectural concrete. Trained in manufacturer's special techniques in order to achieve realistic surfaces.

c. Color Stain System Application - manufacturer or manufacturer's authorized representative.

d. Pre-installation Meeting - schedule meeting with manufacturer's representative, installer, The Town and Engineer to assure understanding of simulated stone masonry use, color staining application, requirements for construction of mock-up if required by the Town, and to coordinate the work.

Protection:

Contractor shall be solely responsible for construction methods, means, techniques, and for construction site safety precautions. Conduct construction operations in conformance with all applicable local, state and federal safety laws, rules, regulations and codes.

Manufacturer:
Simulated stone masonry and color stain system – Concrete Rock Surfaces, LLC of Bethel Connecticut, or approved equal.

Materials:
a. Simulated Stone Molds (form liners) - reusable, made of high-strength urethane, and cutables, made of lower grade urethane, easily attachable to forms. Form liners shall not compress more than ¼ inch when concrete is poured at a rate of 10 vertical feet per hour. Form liners shall be removable without causing deterioration of surface or underlying concrete.

b. Form liner shall be Pattern CRS 12069 Flat Small Ashlar, with a relief of ½ inch, including texture system and color staining system as furnished by Concrete Rock Surfaces, LLC of Bethel CT or approved equal.

d. Form liner shall consist of simulated rock molds unevenly rectangular. Outside vertical edge of each simulated stone mold mirrors the opposing vertical outside edge. Horizontal edges are straight. The simulated stone pattern shall vary in a random manner within the coursing parameters to prevent noticeable multiple duplicate pattern repetition and avoid stacked joints.

d. In addition to orthogonal surfaces, the form liner shall be capable of forming any curved or battered surfaces, while maintaining the dimensioned coursing and plumb vertical joints without distortion.

Release Agent:
Compatible with simulated stone masonry and with color stain system to be applied to surface, as recommended by the manufacturer.

Form Ties:
Form ties shall be either metal or fiberglass. Using metal ties which result in a portion of the tie permanently embedded in the concrete shall be designed to separate at least one inch back from finished surface, leaving only a neat hole that shall be plugged with compatible patching material.

Color Stain:
Special penetrating stain mix as provided by the manufacturer, shall achieve color variations present in the natural stone being simulated for the project, as approved by the Engineer and in accordance with Items 2.1 and 2.2 above. Stain shall create a surface finish that is breathable (allowing water vapor transmission), and that resists deterioration from water, acid, alkali, fungi, sunlight or weathering. Stain mix shall be a water borne, low V.O.C. material, less than 180 grams/liter, and shall meet requirements for weathering resistance of 2000 hours accelerated exposure measured by weather-o-meter in accordance with ASTM G23 with 3-bulb. Scrub test 1000 revolutions. Abrasive resistance (Tabor-CF-10) 500 cycles. Adhesion ASTM D3359 1.00MM cross cuts on glass pass 3 or higher on a scale of 1 to 5. Supply information pertaining to chemical resistance ASTM D1308.

Construction Methods:

Shop Drawings:

Before fabricating any materials, the Contractor shall submit shop drawings and product data sheets to the Engineer for approval in accordance with Article 1.05.02 for the materials listed in Item 3.3 below. These drawings shall include, but not be limited to, the following information: manufacturer's name, list product compliance with referenced specification standards, complete details of the assemblies, material designations, nominal hardness of appropriate materials, design loads, quantities and locations.

Field Measurements:

Prior to ordering or fabricating any materials, the Contractor shall take complete and accurate field measurements.

Submittals:

a. Catalog cuts, manufacturer's literature, and technical data for the materials specified herein, including but not limited to simulated stone mold pattern, form liner, release agent, concrete patching material and color charts for staining of hardened concrete.

b. Photographs: Color photographs of three (3) similar past projects of the manufacturer.

c. Samples: Form ties, sample and description, showing method of separation when forms are removed.

d. Plan, elevation and details to show overall pattern, joint locations, form tie locations, and end, edge and other special conditions.

e. Form Lined and Color Stained Concrete Mockup: Build on site before cast-in-place concrete work to be textured and colored starts, using same materials, methods and work force that will be used for the Project if required by the Owner. The location on site for construction of mockup shall be as approved by the Engineer. Concrete shall be placed in the mockup, texture constructed and construction procedure adjusted until a final texture and color is produced that complies with the color and texture approved by the Engineer in accordance with Items 2.1 and 2.2 above.

1. Size 15 square feet, or larger if needed to adequately illustrate the pattern and texture selected.

2 Include an area to demonstrate simulated stone masonry butt joint and, if appropriate, continuation of pattern through expansion joint.

3. If design includes stone texture across top of wall, include in mockup.

4. After the mockup concrete has cured sufficiently and the Engineer has approved the surface for staining, the contract form lined cast-in-place concrete work may proceed; however, color staining is not yet authorized. This mock up will be used as a quality control standard.

5. After a 30 day cure of the mockup, the architectural concrete sample is to be stained. After coloring is determined to be acceptable by the Engineer, completion of the contract simulated stone masonry facing may proceed, using the stained mockup as a quality control standard.

6. Remove mockup as directed by the Engineer.

Scheduling:

Schedule color stain application after adjacent earthwork is completed, to avoid contaminating or damaging the surface. Place topsoil and establish turf after staining application is completed. Coordinate the work to prevent interference with other trades.

Installation:

a. Contractor's responsibilities:
   1. Install liners.
   2. Apply manufacturer release agent.
   3. Install concrete as specified elsewhere in the Specifications.
   4. Remove form liner.
   5. Patching, grinding and bush hammering of form liner seams as required.

6. Provide scaffolding and heat as required, and clean water for power washing of the hardened concrete prior to the staining process.

   7. Power washing and patching of form liners.
   8. Return of form liners to manufacturer.

b. Manufacturer's responsibilities:
   1. Ship and supply form liners and release agent.
   2. Technical information.
   3. Train finishers to carve and texture exposed surfaces.
   4. Apply the color staining.

Liner to Form Attachment System:

Securely attach form liners to forms with wood or sheet metal screws; threaded inserts added to the back of the form liner for bolts to fasten the form liner through the forms, or; bolted through the face of the form liner with flat head bolts inserted in a pattern joint and through the form liner and forming system. Construction adhesives may be used, but not on reusable forms. Place adjacent form liners with less than ¼ inch separation between form liners.

Release of Form Liners From Hardened Concrete:

Only manufacturer recommended form release agents (Lark V or Orna Con) shall be utilized and shall be applied to the form liners before the concrete is poured. Release agents shall be applied in strict accordance with release agent manufacturer recommendations. Hand-charged sprayers will only be allowed if a thin uniform coating of release agent is obtained on the form liner.

Remove the form liner from the wall within 24 hours of pouring the concrete. The form liners may be detached from the forms and then removed from the concrete, or they may remain attached to the forms and the entire forming system removed from the concrete. Remove the form liners from

the top, down. Curing of concrete may be accomplished with form liners and forms placed back against the wall after the initial detachment. Curing compounds shall not be used.

Care and Cleaning of Form Liner:

Form liners shall be cleaned the same day they are removed from the wall with a power wash and mild detergent. Synthetic brushes with stiff bristles may be used on stubborn areas. Mild acid washes may also be used. Solvents shall not be used. If necessary, patching of holes shall be performed with 100% clear silicone caulk. Form liners shall be stored inside or under a protective, non-transparent cover, in a vertical position.

Wall Patching and Preparation:

After form liners are removed from the hardened concrete, the textured uncolored surface shall be prepared for color staining. All holes larger then ¾ inch in greatest principal dimension shall be filled with concrete patching material such as Tamms Speed-crete or equal mixed with latex or acrylic bonder, as approved by the manufacturer and Engineer. All honeycombed areas shall be filled and textured to match surrounding areas. Seam lines and other unnatural protrusions shall be ground down to match adjacent areas with a hand-held power grinder using discs made for concrete. Grinding of seams shall be performed immediately after removal of the form liners. Perform final bush hammering to blend defects and ground areas into the final rock texture. In particular, the process of wall patching and preparation shall be subject to approval of the manufacturer and Engineer.

Color Staining (by manufacturer):

The hardened concrete shall cure a minimum of 30 days before color staining is applied. Power wash the concrete to free it from latence, dirt, oil and other objectionable materials. After the wall has dried, the color staining process is applied using colors approved by the Engineer. Color staining shall be applied in such a way that the stones shall have individual colorations from one to the other. Water-based stains shall be used in air temperatures between 50°F and 100°F. Solvent-based stains shall be used in air temperatures of 50°F and below, but in no case when the temperature of the hardened concrete is 39°F and falling. During color staining operations the Contractor shall protect property, pedestrians, vehicular and other traffic upon, underneath or in the vicinity of the bridge and also portions of the bridge superstructure and substructure against damage or disfigurement from errant stain materials. Comply with all environmental regulations regarding surface cleaning, stain application, ground and watercourse protection and disposal protection of waste materials. Refer to Section 1.10 of the Standard Specifications.

Simulated Stone Molds Preparation:

Clean and make free of buildup prior to each pour. Inspect for blemishes and tears. Repair if needed following manufacturer's recommendations.

Method of Measurement:

This work shall be measured for payment by the actual number of square feet of the face area of accepted cast in place simulated stone masonry, completed within the neat lines as shown on the plans, or as ordered by the Engineer.

Basis of Payment:

This Work will be paid for at the contract unit price per square foot of "Concrete Form Liners", complete in place, which price shall include all equipment, formwork molds, tools and labor incidental thereto. No additional payment shall be made for a simulated stone masonry mockup as required for quality control and described in this specification. This work shall also include the cost of furnishing and application of the color stain system to the simulated stone masonry surface.

ITEM #0601536A - PRECAST CONCRETE ARCH (32' x 9')

Description:

Work under this item shall consist of designing, furnishing and constructing a Precast Concrete Arch bridge structure, including spandrel walls as shown, of the span and rise shown on the plans including all reinforcing, weepholes, lifting inserts or devices, threaded inserts and dowels, shims, non-shrink grout and other necessary materials and equipment to complete the work.

Computations;

Before fabrication, the Contractor shall submit Design Computations and Load Ratings to the Engineer for review. Precast reinforced concrete arches shall be designed for AASHTO HS-20 Design Vehicle in accordance with the Load Factor Design method of the AASHTO Standard Specifications for Highway Bridges (17^{th} Edition). In addition, the Contractor shall provide Inventory and Operating load ratings for the precast reinforced concrete arch structure in accordance with Section 1.4.4 of the ConnDOT Bridge Design Manual. The Load Ratings shall be calculated based on the Load and Resistance Factor Rating (LRFR) method in accordance with the AASHTO Manual for Bridge Evaluation. A copy of the load ratings shall be sent to the Bridge Safety and Evaluation unit of the Connecticut Department of the Transportation for their records. The design computations and load rating shall be signed and sealed by a Professional Engineer licensed in the State of Connecticut.

Materials:

Materials shall conform to the following requirements:

1. Concrete: The concrete for the arch elements shall be air-entrained when installed in areas subject to freeze-thaw conditions, composed of portland cement, fine and coarse aggregates, admixtures and water. Concrete shall contain 6 ± 2 percent air. The air entraining admixture shall conform to AASHTO M154.

    a. Portland Cement - Shall conform to the requirements of ASTM Specifications C150-Type I, Type II, or Type lIl cement.

    b. Coarse Aggregate - Shall consist of stone having a maximum size of 1 inch. Aggregate shall meet requirements for ASTM C33.

    c. Water Reducing Admixture - The manufacturer may submit for approval by the Engineer, a 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 Hardware: All reinforcing steel for the arch elements shall be fabricated and placed in accordance with the detailed shop drawings submitted by the manufacturer.

   a. Steel Reinforcement - Reinforcement shall consist of welded wire fabric conforming to ASTM Specification A 185 or A 497, or deformed billet steel bars conforming to ASTM Specification A 615, Grade 60. Longitudinal distribution reinforcement may consists of welded wire fabric or deformed billet-steel bars.

   b. Lifting Hooks and Threaded Inserts: Devices and attachments shall be of a design satisfactory for the purpose intended.

   c. Hardware: Nuts, washers and all other miscellaneous hardware shall be galvanized in accordance with ASTM Designation A153. Any hardware on the inside surface of the arches shall be recessed into the wall and grouted over after assembly in order to maintain a smooth, unbroken inside wall surface. Each arch element shall contain a suitable number of reinforced lifting fixtures to insure safe and level handling and to prevent structural damage during installation.

3. Weepholes: Weepholes shall be provided/cast in arch elements at the size and location specified and detailed on the plans. Materials used shall be in accordance with and per the recommendations of the arch manufacturer.

4. Shims: Shims shall be either steel shims or masonite shims suitable for supporting the load of the arch segments prior to and during the installation of grout in the keyway shown.

Construction Methods:

1. Submittals: Before fabrication, the Contractor shall submit Shop Drawings and complete design calculations to the Engineer for approval in accordance with Section 1.05.02 Form 816. 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 licensed by the State of Connecticut. No fabrication is to commence on the precast arch elements until the Shop Drawings and design calculations are approved by the Engineer.

2. Design Requirements:

   a. Dimensions: The arch element dimension and reinforcement details shall be as prescribed in the plan and the shop drawings provided by the manufacturer subject to permissible tolerances specified below under “Quality Control.”

b. Concrete Strength: The minimum concrete compressive strength shall be 4,000 psi.

c. Reinforcement Strength: The minimum steel yield strength shall be 60,000 psi.

d. Design specifications: The arch elements and spandrels shall be designed in accordance with the "Standard Specifications for Highway Bridges" adopted by the American Association of State Highway and Transportation Officials, 2002, with the Interim Specifications up to and including 2003.

e. Minimum Cover: A minimum of one foot of cover above the crown of the arch elements is required in the installed condition. (Unless noted otherwise on the shop drawings and designed accordingly.)

3. Forms: The forms used in manufacture shall be sufficiently rigid and accurate to maintain the arch element and spandrel wall dimensions within the permissible variations specified below under "Quality Control". All casting surfaces shall be of smooth non-porous material, except for the spandrel walls which shall have a form liner molded surface in accordance with the special provision "Concrete Form Liners". The finished color and stain shall be field applied to match the finish of the adjacent cast-in-place concrete walls.

4. Placement of Reinforcement: The cover of concrete over the outside circumferential reinforcement shall be 2 inches minimum. The cover of concrete over the inside circumferential reinforcement shall be 1 1/2 inches minimum. The clear distance of the end circumferential wires shall not be less than one inch nor more than two inches from the ends of the arch elements. Reinforcement shall be assembled utilizing single or multiple layers of welded wire fabric, or utilizing a single layer of deformed billet-steel bars. The welded wire fabric shall be composed of circumferential and longitudinal wires meeting the spacing requirements below and shall contain sufficient longitudinal wires extending through the arch elements to maintain the shape and position of the reinforcement. Longitudinal distribution reinforcement may be welded wire fabric or deformed billet-steel bars and shall meet the spacing requirements below. The ends of the longitudinal distribution reinforcement shall be not more than 3 inches from the ends of the arch elements.

a. Bending of Reinforcement - The outside and inside circumferential reinforcing steel for the corners of the arch elements shall be bent to such an angle that is approximately equal to the configuration of the arch element's outside corner.

b. Laps, Welds, and Spacing - Tension splices in the circumferential reinforcement shall be made by lapping. Laps may be tack welded together for assembly purposes. For smooth welded wire fabric, the overlap shall meet the requirements of ACI 12.8 and 12.19. For deformed welded wire fabric, the overlap shall meet the requirements of ACI 12.7 and 12.18. For deformed billet-steel bars, the overlap shall meet the requirements of ACI 12.2. For splices other than tension splices, the overlap shall be a minimum of 12" for

welded wire fabric or deformed billet-steel bars. The spacing center-to-center of the circumferential wires in a wire fabric sheet shall be not less than 2 inches nor more than 4 inches. For the wire fabric, the spacing center-to-center of the longitudinal wires shall not be more than 8 inches. The spacing center-to-center of the longitudinal distribution steel for either line of reinforcing in the top slab shall be not more than 16 inches.

5. Concrete Mixture: The aggregates, cement and water shall be proportioned and mixed in a batch mixer to produce a homogeneous concrete meeting the strength requirements of this specification. The proportion of portland cement in the mixture shall not be less than 564 pounds (6 sacks) per cubic yard of concrete.

6. Curing: The precast concrete arch elements shall be cured for a sufficient length of time so that the concrete will develop the specified compressive strength in 28 days or less. Any one of the following methods of curing or combinations thereof shall be used:

a. Steam Curing - The arch elements may be low pressure, steam cured by a system that will maintain a moist atmosphere.

b. Water Curing - The arch elements may be water cured by any method that will keep the sections moist.

c. Membrane Curing - A sealing membrane conforming to the requirements of ASTM Specification C 309 may be applied and shall be left intact until the required concrete compressive strength is attained. The concrete temperature at the time of application shall be within + 10 degree F of the atmospheric temperature. All surfaces shall be kept moist prior to the application of the compounds and shall be damp when the compound is applied.

7. Test Cylinders: During casting of the arch elements, the Contractor shall make test cylinders under the supervision of a representative of the Owner. 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-192 and shall be used to determine the 28-day compressive strength requirements (fc'). Failure of any of the 28-day 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 and test core specimens from the segments to determine there adequacy.

8. Joints: The arch elements shall be produced with butt ends. The ends of the arch elements shall be such that when the elements are laid together they will make a continuous line of arches with a smooth interior free of appreciable irregularities, all compatible with the permissible variations specified below under "Quality Control." The joint width shall not exceed 3/4 inches.

9. Storage at Manufacture: The arch elements shall be stored in such a manner to prevent cracking or damage. The segments shall not be stored in an upright position until the compressive strength is a minimum of 4,000 psi.

10. Quality Control: The dimensional tolerance of the arch elements shall conform to the following:

a. Internal Dimensions - The internal dimension shall vary not more than 1 percent from the design dimensions nor more than 1 1/2 inches whichever is less. The haunch dimensions shall vary not more than 3/4 inch from the design dimension.

b. Slab and Wall Thickness - The slab and wall thickness shall not be less than that shown in the design by more than 1/4 inch. A thickness more than that required in the design shall not be cause for rejection.

c. Length of Opposite Surfaces - Variations in laying lengths of two opposite surfaces of the arch shall not be more than 5/8 inch in any arch element, except where beveled ends for laying of curves are specified by the purchaser.

d. Length of Element - The underrun in length of an element shall not be more than 1/2 inch in any arch.

e. Position of Reinforcement - The maximum variation in position of the reinforcement shall be + 1/2 inch. In no case shall the cover over the reinforcement be less than 1 1/2 inch for the outside circumferential steel or be less than 1 inch for the inside circumferential steel as measured to the external or internal surface of the arch element. These tolerances or cover requirements do not apply to mating surfaces of the joints.

f. Area of Reinforcement - The areas of steel reinforcement shall be the design steel areas as shown in the manufacturer's shop drawings. Steel areas greater than those required shall not be cause for rejection. The permissible variation in diameter of any reinforcement shall conform to the tolerances prescribed in the ASTM Specification for that type of reinforcement.

11. Marking: The following information shall be clearly marked on each element by indentation, waterproof paint or other approved means:

a. Arch element span and rise.

b. Date of manufacture.

c. Name of trademark of manufacturer.

d. An identification number or letter on the TOP of each element (to insure proper placement).

12. Handling and Storage at Site: Handling devices shall be provided in each arch element for the purpose of handling and placing. Care shall be taken during storage, transporting, hoisting and handling of all elements to prevent cracking or damage. Elements damaged by improper storing, transporting or handling shall be repaired or replaced by the Contractor at his expense.

13. Inspection and Rejection: The quality of materials, the process of manufacture and the finished elements shall be subject to inspection by the Engineer. Precast arch elements shall be subject to rejection on account of failure to conform to any of the specifications requirements. Individual elements 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 joint.

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.

14. Repairs: Arch elements may be repaired, if necessary, because of imperfections in manufacture or handling damage. No repair of the completed arch elements will be allowed unless permitted by the Engineer. The Contractor's proposal for method and materials used in the repairing operation shall be submitted to the Engineer for approval.

15. Installation: The precast arch elements shall be installed in accordance with the details and notes as shown on the plans and in conformance with these specifications. The precast arch elements shall be placed in a manner to best accommodate and facilitate the building of the cast-in-place wingwalls.

a. Placement of the Arch Elements - The elements shall be placed as shown on the plans. Special care shall be taken in setting the elements to the true line and grade. Except for elements set in the precautionary work zone, elements shall be set on 6" x 6" masonite or steel shims. A minimum of 1/2 inch gap shall be provided between the footing and the bottom of the element's vertical legs. The gap shall be filled with cement grout (portland cement and water or cement mortar composed of one part portland cement and three parts of sand, by volume, and water). Elements set in the precautionary work zone shall be initially set and rolled or slid into place using a method developed by the Contractor and

submitted to the Engineer for review and approval. After the elements are rolled or slid into place, they shall be then set on 6" x 6' Masonite or steel shims.

b. External Protection of Butt Joints – All butt joints between adjoining arch elements shall be sealed continuously, with the use of a backer rod and caulk, in a manner to provide and maintain a water-tight and flexible joint as detailed on the plans and per the approval of the Engineer.

c. Additional Joints At Corners: In addition to the joints between the elements, the joints between the corners of the end elements and the wingwalls shall also be sealed to provide and maintain a water-tight and flexible joint as detailed on the plans and per the approval of the Engineer.

d. All Joints shall be wrapped with both membrane waterproofing and non-woven geotextile as shown on the plans.

e. Misalignments: Any element 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.

f. Conflicts: In case of conflict such that 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.

16. Backfilling: Methods of backfilling shall be in conformance with the requirements of the plans and Section 2.16 Form816 for Pervious Structure Backfill. No backfill shall be placed against any structure elements until they have been approved by the Engineer. Backfill against a waterproofed surface shall be placed carefully to avoid damage to the waterproofing material. Backfill shall be placed around the arch elements and deposited on both sides to approximately the same elevation at the same time. At no time shall the difference between the backfilling elevation on opposite sides of the arch elements exceed 1 foot.

Method of Measurement:

The "Precast Reinforced Concrete Arch" 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 "Precast Reinforced Concrete Arch", including spandrel walls, as shown on the plans, completed and accepted, which price shall include full compensation for all design, fabrication, installation, materials, equipment, tools, and labor

incidental thereto. The cost of all work required for placing arch elements into their final position within the precautionary work zone shall be included in the lump sum price under this Item.

Pay Item	Pay Unit
Precast Concrete Arch (32’ x 9’)	L.S.

ITEM # 0651012A – 15" R.C. PIPE

This item shall conform to Section 6.51 CULVERTS of the Form 816, modified as follows:

Trench excavation, dewatering, and backfill for these items shall be in accordance with Item #205100A Earth Trench Excavation and Backfill.

6.51.04--Method of Measurement: Delete this section and replace with:

Method of Measurement: There will be no direct measurement for trench excavation, dewatering or for backfill, bedding material, or for the cost of connecting proposed drainage systems with existing systems, but the cost thereof shall be included in the contract unit price per linear foot for the size and type of pipe being installed.

6.51.05—Basis of Payment: Delete this section and replace with:

Basis for Payment: The work under these items will be paid for at the contract unit price per linear foot of pipe and size specified, complete in place including trench excavation, dewatering, backfill, bedding material and all other materials, equipment, tools, and labor incidental thereto.

ITEM # 0652010A – 15" R.C. CULVERT END

This item shall conform to Section 6.52 CULVERT ENDS of the Form 816, modified as follows:

Trench excavation, dewatering, and backfill for these items shall be in accordance with Item #205100A Earth Trench Excavation and Backfill.

6.52.04--Method of Measurement: Delete this section and replace with:

Method of Measurement: There will be no direct measurement for trench excavation, dewatering or for backfill, bedding material, or for the cost of connecting proposed drainage systems with existing systems, but the cost thereof shall be included in the contract unit price per each for the size and type of culvert end being installed.

6.52.05—Basis of Payment: Delete this section and replace with:

Basis for Payment: The work under these items will be paid for at the contract unit price per each for the size and type of culvert end specified, complete in place including trench excavation, dewatering, backfill, bedding material and all other materials, equipment, tools, and labor incidental thereto.

ITEM #0703011A – INTERMEDIATE RIPRAP
ITEM #0703012A – MODIFIED RIPRAP

Work under this item shall conform to the requirement of Section 7.03 Form 816 supplemented and amended as follows.

7.03.02 - Materials: is amended as follows:

Delete the first paragraph and replace with the following:

1. **Stone:** The stone for this work shall be of a type(s) that are naturally found within the Salmon Brook watershed, and shall conform to the requirements of Article M.12.02 – Section 2. Intermediate Riprap and Section 3. Modified Riprap.

7.03.05 – Basis of Payment: is amended as follows:
Delete the second paragraph and replace with: Excavation and furnishing and placing bedding material will not be measured for separate payment but the cost of this work shall be included in the unit cost of the associated rip rap item.

ITEM #0714020A - TEMPORARY SHEET PILING

Work under this item shall conform to the requirement of Section 7.14 Form 816 supplemented and amended as follows.

7.14.03 - Construction Methods: is amended as follows:

Delete the first and second sentences of the first paragraph and replace with the following:

Temporary sheet piling shall be safely designed and braced as necessary for proper performance of the work. The sheets shall be driven with a vibratory hammer capable of safely and efficiently handling the size sheets as shown on the plans. The contractor will use a whaler to insure that the piles are placed in a straight and uniform line to the dimensions of the proposed footing as shown on the plans or as directed by the engineer. Each sheet shall be tight fitted to the adjacent sheet using the standard tongue and grove. A suitable method of support shall be used to prevent adjacent sheets from "hitch hiking" to a depth below that which is required. Construction shall be such as to permit excavation as required.

ITEM #0822001A- TEMPORARY PRECAST CONCRETE BARRIER CURB

Description: Work under this item shall consist of furnishing, installing, relocating and removing temporary precast concrete barrier curb used to separate traffic from opposing traffic or the work area.

Materials: The materials for this work shall conform to the requirements of Article 8.21.02.

When used barrier curb is furnished, the contractor shall provide documentation stating from where the material came, what project it will be used on, the casting dates, and certification that the barrier conforms to all State requirements.

The delineator shall be fabricated of aluminum, steel, and plastic or of a material approved by the Engineer. The reflective sheeting shall be encapsulated lens sheeting conforming to Article M.18.09. Delineator fastening hardware or adhesive shall be suitable for the purpose intended.

The threaded steel connection rod shall be manufactured in conformance with AASHTO M314, Grade 55. Threads shall be Unified National Coarse Series as specified in ANSI B1.1 and shall have Class 2A threaded tolerances before galvanizing.

Plain steel washers shall be manufactured in accordance with ANSI B18.22.

Heavy hex nuts shall be Grade A, manufactured in conformance with AASHTO M291 and tapped oversize for galvanizing.

The threaded rod, washers and nuts shall be hot-dip galvanized in conformance with AASHTO M232, Class C.

Connection loop bars shall be bent from smooth bars that conform to ASTM A36.

Construction Methods:

1. Precast Unit: Temporary concrete barrier units shall be precast in conformance with the pertinent requirements of Article 8.21.03, except the penetrating sealer protective compound need not be applied to the precast unit.

2. Installation: Temporary precast concrete barrier units shall be placed as shown on the plans or as directed by the Engineer, on a firm even surface so as to produce a smooth continuous barrier curb.

The Contractor shall maintain the temporary concrete barrier during all stages of construction. Any damaged material shall be removed and replaced by the Contractor at his expense.

The Contractor shall relocate the concrete barrier and its appurtenances to locations within the project limits as shown on the plans or as ordered by the Engineer. When the temporary barrier is no longer required, it shall be removed completely from the project and shall remain the property of the Contractor.

3. Delineator: The delineator shall be installed in the center on top of the barrier at the locations designated on the plans. They may be fastened by adhesive or hardware and must be maintained in good condition at all times.

DE-7 delineators shall be used when the barriers are on the right side of traffic or dividing traffic in the same direction. DE-7 A delineators shall be used when the barriers are on the left side of traffic. DE-7B delineators shall be used when the barriers divide opposing traffic lanes. DE-7C delineators shall be used with the yellow side on the left side of traffic when traffic is alternated.

4. Connection Rod: Nuts at the connection rod shall be turned until the washer is drawn up against the connection loop. The connection loops must not be bent in the tightening process. For ease in removing the nuts, the threads may be waxed.

Method of Measurement: This work will be measured for payment along the centerline of the top of the concrete barrier and will be the actual number of linear feet of temporary concrete barrier furnished, installed and accepted.

Relocated temporary concrete barrier curb will not be measured for payment but the cost thereof shall be included in the price per linear foot of "Temporary Precast Concrete Barrier Curb". Relocation of concrete barrier for access to the work area or for the convenience of the contractor will not be measured for payment. Movement of stored barrier or maintenance of the storage area will not be measured for payment.

Delineators will be measured in accordance with Article 12.05.04.

Basis of Payment: This work will be paid for at the contract unit price per linear foot for "Temporary Precast Concrete Barrier Curb" complete in place, which price shall include all furnishing, transportation, initial installation, relocation(s), final removal, storage, materials, reinforcing steel, connecting rods, equipment, tools and labor incidental thereto. Each temporary precast concrete barrier curb will be paid for once regardless of the number of times it is used on the project. Any temporary precast concrete barrier curbs that become lost, damaged or defaced shall be replaced by the contractor at no cost to the Town.

Delineators will be paid for in accordance with Article12.05.05.

Pay Item	Pay Unit
Temporary Precast Concrete Barrier Curb	L.F.

ITEM #0904304A – METAL BRIDGE RAIL – THREE RAIL (COMBINATION)
ITEM #0904306A – METAL BRIDGE RAIL – FOUR RAIL (COMBINATION)
ITEM #0904306A – METAL BRIDGE RAIL – (HANDRAIL)

Description:

Work under this item shall consist of fabricating and installing a metal bridge railing, consisting of extruded aluminum posts and rails with balusters connected to preset anchorages, as shown on the plans, as directed by the Engineer and in accordance with this specification.

Materials:

Materials for this work shall conform to the following requirements:

1 - Metal Bridge Rail: The railing posts, post connection devices, splice bars and rails shall be extruded aluminum and conform to the requirements of ASTM B221, aluminum alloy 6005-T6.

All bolts and socket head cap screws shall be stainless steel and conform to the requirements of ASTM A193, Class 1 or Class 2, Grade B8. Washers shall be stainless steel and conform to the requirements of ASTM A167, Types 302 through 305.

Cone-point rivets shall conform to ASTM B316, aluminum alloy 6061-T6 or ASTM B221, aluminum alloy 6061-T6.

2 - Anodizing: Metal Bridge Rail shall be anodizing in conformance with the requirements of ASTM B580 Type A - Engineering Hard Coat. The color of the anodizing shall be Black. The Contractor shall submit color samples to the Engineer for approval prior to fabrication.

3 - Preset Anchorage: The preset anchorage shall be fabricated as detailed on the contract plans. Preset anchorages configured differently from those detailed on the plans may be used provided they utilize the same materials described below and are approved by the Engineer prior to fabrication.

The wire struts shall be cold-drawn and conform to ASTM A510, Grade 1030 with minimum tensile strength of 100,000 psi. These wire struts shall be securely welded to the ferrules with the welds capable of developing the tensile strength of the struts and the ferrules.

The ferrules, either open end or closed end, shall conform to ASTM A108, Grade 12 L 14. A plastic cap shall be provided for sealing the bottom of each open end ferrule before placing concrete. Closed end ferrules shall provide the minimum full thread length shown on the plans. Removable plastic washers of the same diameter as the ferrules and approximately 5/64” in thickness shall be provided for the top of each ferrule and shall be left in place until the temporary supporting bolts are removed. Removable plastic caps shall be provided for sealing the top of each ferrule until the erection of railing posts.

After fabrication, the preset anchorage shall be hot-dip galvanized in accordance with ASTM A153. The bolts shall be "free running" in the ferrules after galvanization.

Bolts for the preset anchorage shall conform to the requirements of ASTM A193, Class 1 or Class 2, Grade B8 (AISI Type 304). The manufacturer's symbol and the grade shall be clearly marked on the bolt heads. All washers shall be standard size and conform to ASTM A167, Types 302 through 305.

4 - Molded Pads: Molded pads shall be manufactured from new unvulcanized elastomer and unused synthetic fibers, with a weight proportion of fiber content equal to approximately one-half of the total weight of the pad. The pads shall be formed into single sheets of 1/8" minimum thickness, with a tolerance of plus or minus 10 percent. Pads shall have a Shore 'A' Durometer hardness within the range of 70 to 90, and shall have a minimum compressive breakdown of 7,000 psi.

The Contractor shall furnish a Materials Certificate and a Certificate of Compliance in conformance with the requirements of Article 1.06.07 for the following materials: rail posts, rails, post connections devices, rail splices, preset anchorages, bolts, washers and molded pads.

A sample preset anchorage, and samples of all sizes of bolts and washers used with the metal bridge rail, shall be submitted to the Engineer for approval prior to incorporation into the project.

Construction Methods:

Before fabricating any materials, the Contractor shall submit shop drawings to the Engineer for approval in accordance with Article 1.05.02(b). These drawings shall include but not be limited to the following information: The layout plan showing all railing post spacings, expansion joint locations, and material designations.

Aluminum welding shall be in accordance with the American Welding Society "Structural Welding Code-Aluminum", ANSI/AWS D1.2, latest issue.

Riveting shall be done in accordance with Article 6.5 - Riveting, of the "AASHTO Specifications for Aluminum Structures".

The preset anchorages shall be fabricated for installation perpendicular to the grade of the parapet. The anchorages shall be firmly and accurately held in position prior to and during the placing of concrete.

The railings shall be accurately fabricated and installed as shown on the plans. Lengths of rail elements shall be continuous over a minimum of four rail posts wherever possible and in no case less than two. Welding of two or more rails to form an element will not be allowed. Rail splices shall be located in rail panels over open joints in parapets. Splice bars shall have a sliding fit in the rail sections.

For structures having railings with a radius of 400 feet or more, the railing may be sprung into place. For structures having railings with a radius of less than 400 feet, the railing shall be curved. Curving may be done by cold bending or by hot bending. Hot bending shall be done in accordance with Article 6.3 - Heating, of the "AASHTO Specifications for Aluminum Structures".

Aluminum railings shall be carefully adjusted prior to fixing in place to ensure proper matching at abutting joints and correct alignment and curvature throughout their length. After installation, all rails and posts shall be free of burrs, sharp edges and irregularities.

Method of Measurement:

This work will be measured for payment by the actual number of linear feet of metal bridge rail completed and accepted, measured along the rail from one rail end anchorage to the other rail end anchorage.

Basis of Payment:

This work will be paid for at the contract unit price per linear foot of "Metal Bridge Rail – Three Rail (Combination)", "Metal Bridge Rail – Four Rail (Combination)" and Metal Bridge Rail (Handrail), complete and accepted in place, which price shall include all materials, equipment, tools, labor and work incidental.

ITEM #0914022A – REMOVE & STORE METAL FENCE

Description:

This item shall consist of the removal of a portion of the existing metal fence where indicated on the plans. The removed fence shall be cleaned of debris and mortar, stored and protected for reuse in Item #0914024A – Install Salvaged Metal Fence. This item shall consist of all labor, material and equipment necessary to complete the work.

Construction Methods:

The limits of fence to be removed shall be marked in the field for verification prior to removal. The existing fence shall be carefully cut and removed to avoid damage and shall be cleaned of debris and loose mortar, stored and protected for reuse. Any existing concrete fence post base shall be carefully cut as required to remove the fence posts. The fence shall be stored and protected from damage until such time as the fence will be reinstalled.

Method of Measurement:

The work shall be measured for payment by the actual number of linear feet of fence that is removed.

Basis of Payment:

Removal of Metal Fence will be paid for at the contract unit price per linear foot for "Remove & Store Metal Fence", complete which price shall include all materials, equipment, tools, labor and work incidental thereto including cutting of the fence and existing concrete necessary for removal.

Pay Item	Pay Unit
Remove & Store Metal Fence	L.F.

ITEM #0914024A – INSTALL SALVAGED METAL FENCE

Description:

This item shall consist of the installation of existing metal fence that was removed and stored under Item #0914022A. The removed fence shall be sand blasted, painted and installed in areas shown on the plans. This item shall consist of all labor, material and equipment necessary to complete the work.

Construction Methods:

The limits of fence to be reinstalled shall be measured in the field prior to cutting into required lengths for installation. The existing fence shall be sandblasted to clean off existing paint. A primer shall be applied within 24 hours of sandblasting. One coat of paint, gloss black, shall be applied to the fence to be reinstalled. The Contractor shall submit the proposed metal primer and paint for approval based on the type and condition of the existing fence.

The concrete wall will be cored to accommodate the salvaged fence posts. The core depth shall be 24" unless field conditions vary. The actual depth to be used will be determined after the existing fence is removed. The core holes will be filled with non-shrink grout conforming to Form 816, Article M.03.01 (12).

The existing fence will be cut as necessary to reinstall as shown on the existing plans. The fence will be welded as required to the existing fence left in place and for any modifications required to install as shown or as directed by the Engineer. All welding shall be in accordance with the American Welding Society for this use and weld type shall be similar to the existing fence fabrication. The paint shall be touched up as necessary after fence installation.

Method of Measurement:

The work shall be measured for payment by the actual number of linear feet of fence that is installed.

Basis of Payment:

Salvaged metal fence installed will be paid for at the contract unit price per linear foot for "Install Salvaged Metal Fence", complete and accepted, which price shall include all materials, equipment, tools, labor and work incidental thereto including concrete coring, painting, grout and welding.

Pay Item	Pay Unit
Install Salvaged Metal Fence	L.F.

ITEM #0921001A – CONCRETE SIDEWALK

Description:

The Contractor is to construct sidewalks to lines and grades as shown on the drawings or at locations as directed by the Engineer. The sidewalks shall be of monolithic construction and five inches thick, except at industrial and commercial driveways where it shall be eight inches thick and reinforced with 6" x 6" 10/10 steel mesh. Sidewalk construction shall include the removal of existing and construction of new house lateral walks where new sidewalk grades make it necessary. At street corners where the intersection is rounded with a radius of less than 25 feet to the curb, the sidewalk slabs will be a minimum of five feet in length and constructed of five-inch thick concrete. The sidewalk shall pitch to the street at a slope of ¼-inch per foot or as directed by the Engineer.

Pedestrian sidewalk ramps are to be constructed to the lines and grades shown on the plans at locations directed by the Engineer, and shall be a minimum of five inches thick. This work shall also include furnishing and installing Detectable Warning Strips in the locations and to the dimensions and details shown on the plans or as ordered by the Engineer.

Materials:

Concrete: The concrete furnished shall conform with respect to composition, transportation, mixing and placing, to Class "F" Concrete 4,000 PSI, in accordance with Article M.03.01 of Form 816. An approved air-entraining admixture shall be used to entrain 5% to 7% air in the concrete.

Base: The stone base shall be processed aggregate base conforming to Article M.05.01 of Form 816.

Detectable Warning Strips: The Detectable Warning Strip shall be a prefabricated detectable warning surface tile as manufactured from Engineered Plastics Inc. 300 International Drive, Suite 100 Williamsville, NY 14221, telephone number (800) 682-2525 or the approved equal from ADA Fabricators, INC. P.O Box 179 North Billerica, MA 01862 telephone number (978) 262-9900. The tile shall conform to the dimensions shown on the plans and have a brick red homogeneous color throughout in compliance with Federal Standard 595A Color #22144 or approved equal.

The Detectable Warning Strip shall be set directly in poured concrete according to the plans and the manufacturer's specifications or as directed by the Engineer. The Contractor shall place two 11.34 Kg concrete blocks or sandbags on each tile to prevent the tile from floating after installation in wet concrete.

Dowels: Smooth metal dowels shall be 5/8-inch in diameter and 24 inches in length. All metal dowels shall conform to the requirements of ASTM A615 Grade 60. The plastic sleeves of the size required for accepting the 5/8-inch by 24-inch smooth metal dowels shall be "Speed Dowel" sleeves as manufactured by Greenstreak, 3400 Tree Court Industrial Blvd, St. Louis, MO 63122, telephone number (800) 551-5145 or approved equal.

Construction Methods:

Excavation: Excavation, including removal of any existing sidewalk, shall be made to the required depths below the finished grade, as shown on the plans or as directed. All soft and yielding material shall be removed and replaced with suitable material.

When connecting new concrete sidewalk to a section of existing concrete sidewalk, the connection point shall be at the nearest joint in the existing sidewalk.

Base: The processed aggregate base shall be placed in two equal lifts, the full width of the excavation, and shall be compacted to the satisfaction of the Engineer with at least two passes of a motor driven vibratory compactor.

Forms: The forms used shall be five-inch steel or 2" x 6" wood firmly supported and staked to the line and grade given by the Engineer. The forms shall be free from warp and shall be of sufficient strength to resist springing out of shape. All forms shall be cleaned and oiled before use.

Concrete: The concrete shall be proportioned, mixed, placed, etc., in accordance with the provisions of Section 6.01 for Class "F" Concrete, except as modified herein. The concrete shall contain not less than 5% nor more than 7% entrained air at the time the concrete is deposited in the forms. Air-entrainment shall be obtained and the concrete cured in accordance with the provisions of Article 4.01.03 for Concrete Pavement.

Expansion Joints: At maximum intervals of 15 feet, an expansion joint shall be placed to the full depth of the concrete slab. The material for expansion joints shall be either ¼-inch thick cork asphalt or $^{3}/_{8}$-inch thick asphalt impregnated bonded cellular fiber, or approved equal. Expansion joints of the same material shall also be placed at points abutting existing structures.

Surface Finish: The surface finish shall be struck off, forcing coarse aggregate below mortar surface. After strike-off, the surface shall be worked and floated with a wooded, aluminum, or magnesium float followed by steel troweling. The slab shall then be broomed cross-wise with a fine hair broom. The outside edges of the slab shall be edged with a ¼-inch radius tool. All edging lines shall be removed.

Curing: The Contractor shall use a liquid membrane-forming curing compound. The curing compound shall be similar or equal to Demicon "Cure Hard" with fugitive dye and shall meet the latest ASTM Specification C-156. Waterproof paper or plastic membrane are acceptable alternatives.

Newly constructed sidewalk surfaces shall be protected from all foot or vehicular traffic for a period of seven days. The Contractor shall have on the job, at all times, sufficient polyethylene film or waterproof paper to provide complete coverage in the event of rain.

Dowels: Smooth metal dowels, 5/8-inch in diameter, measuring 24 inches in length shall be installed using plastic sleeves within all expansion and contraction joints, concrete driveway aprons, at concrete sidewalk ramps, and at the last end section of each sidewalk slab poured at the end of each

working day. Plastic sleeves shall be installed according to manufacturer instructions and as directed by the Engineer.

Dowels are also to be installed between new and existing concrete slabs. Where new or repaired walks abut up against existing concrete sidewalks, the Contractor shall drill two holes measuring ¾-inches in diameter and 12 inches in depth into the existing concrete slab. The dowels, with plastic sleeve, shall be set into the existing sidewalk slab prior to the placement of concrete. The dowels are to be level with the latitude pitch of the sidewalk and shall conform to details of these specifications.

Temperature: No concrete is to be placed when air temperature is below 40°F, or at 45°F and falling, unless prior approval is given by the Engineer. In the event weather conditions may be such that concrete that is not completely cured is subject to freezing, the Contractor shall provide a minimum of a six-inch layer of hay, straw, or thermal blankets for protection. Any concrete laid during cold weather that is damaged by freezing shall be the responsibility of the Contractor and shall be replaced at his expense.

Method of Measurement: This work will be measured for payment as follows:

Concrete Sidewalk: This work will be measured by the actual number of square feet of completed and accepted concrete sidewalk.

Excavation**:** Excavation below the finished grade of the sidewalk, backfilling, and disposal of surplus material will not be measured for payment, but the cost shall be included in the price bid for the sidewalk. Excavation above the finished grade of the sidewalk will be measured and paid for in accordance with the Earth Excavation item.

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

Basis of Payment: Concrete Sidewalk shall be measured and paid for at the Contract unit price per square foot as contained in the Bid Proposal, complete in place, which price shall include the furnishing and placement of processed aggregate base, concrete, dowels, excavation, and all other materials and all labor, tools, and equipment necessary for completion of the work.

Pedestrian Ramps shall be measured and paid for as a unit at the Contract unit price for each Pedestrian Ramp as contained in the Bid Proposal, which price shall include the processed aggregate base, excavation, detectable warning strip, and all other materials and all labor, tools, and equipment necessary for completion of the work.

ITEM #0949062A – PENNISETUM ALOPECUROIDES, FOUNTAIN GRASS 2 GAL.
ITEM #0949430A – COREOPSIS VERTICILLATA 'CRÈME BRULEE', CRÈME BRULEE COREPSIS 2 GAL.
ITEM #0949431A – MALUS 'SUGARTYME', SUGARTYME CRAB 2 1/2"- 3" CAL. B&B

Description:

These items shall consist of removing existing plants and replanting with new plants of the same variety where indicated on the plans or as directed by the Engineer and in accordance with these specifications. These items shall also include the planting soil, weed control barrier and mulch in accordance with the details.

Materials:

A. Mulch materials for this work shall conform to the requirements of Article M.13.05, Form 816.

B. Planting soil shall conform to the requirements of Article M 13.01-1, Form 816.

C. Plant materials shall conform to the requirements of Article M.13.07, Form 816.

Construction Method:

The intention is to minimize the disturbance to existing plantings on the northeast side of the roadway (Addison Mill Apartments). The Contractor's proposed disturbance limits and sedimentation control system location in the area of the landscape planting beds shall be reviewed in the field with the Engineer. These limits will determine the extent of the plant removal required and all plants to remain shall protected from damage by the Contractor. Any damaged plants shall be replaced in kind by the Contractor with no additional cost to the project.

The Contractor shall remove the designated plants with care so as not to damage any plants to remain. The new plants shall be installed in accordance with Section 9.49.03 of Form 816.

Method of Measurement:

The quantity for which payment will be made will be the number of each size and kind of plant counted in place, planted and accepted including all planting soil, weed control barrier and mulch.

Basis of Payment:

Payment for this work will be made at the contract unit price each for the kind and size of plant, completed and accepted in place. The unit prices shall include furnishing and placing all materials, equipment, tools, labor, transportation and all work incidental thereto, including the plants, planting soil, weed control barrier and mulch.

Pay Item	Pay Unit
Pennisetum Alopecuroides, Fountain Grass	2 Gal.
Coreopsis Verticillata 'Crème Brulee', Crème Brulee Corepsis	2 Gal.
Malus "Sugartyme", Sugartyme Crab	2 1/2"- 3" Cal.

ITEM #0950005A – TURF ESTABLISHMENT

Description:

The work included in this item shall consist of providing an accepted uniform stand of established perennial turf grasses or wetland vegetation by furnishing and placing fertilizer, seed, and mulch on all areas to be treated as shown on the plans or where designated by the Engineer.

The work will also include the installation of erosion control matting of the type indicated where shown on the plans or as directed by the Engineer.

Materials:

The materials for this work shall conform to the requirements of Section M.13 of the Form 816, except as noted below.

Seed mix for roadside areas shall consist of 70% Red Fescue, 20% Kentucky Blue Grass, and 10% Perennial Rye Grass or other mix for high maintenance lawn areas as approved by the Engineer.

The wetland seed mix to be used shall be 25% New England Roadside Matrix Wet Meadow Seed Mix and 75% New England Erosion Control / Restoration Mix, as listed within New England Wetland Plants, Inc.'s catalog or approved equal.

Erosion Control Matting shall be a product approved by the Connecticut Department of Transportation for the intended application as described in the "Qualified Products List" publication, latest edition.

Hydroseeding, when required by the Engineer, shall be performed using a homogenous slurry consisting of wood fiber mulch, fertilizer, live seed, and organic tackifiers conforming to Section M.13 of the Form 816.

Material certificates shall be provided for all materials supplied under this item.

Construction Methods:

Construction Methods shall be those established as agronomically acceptable and feasible and which are approved by the Engineer.

1. Preparation of the Seedbed:
(a) Level areas, medians, interchanges and lawns: These areas shall be made friable and receptive for seeding by disking or by other approved methods to the satisfaction of the Engineer. In all cases the final prepared and seeded soil surface shall meet the lines and grades for such surface as shown in the plans, or as directed by the Engineer.

(b) Slope and Embankment Areas: These areas shall be made friable and receptive to seeding by approved methods which will not disrupt the line and grade of the slope surface. In no event will seeding be permitted on hard or crusted soil surface.

(c) All areas to be seeded shall be reasonably free from weeds taller than 3 inches. Removal of weed growth from the slope areas shall be by approved methods, including hand-mowing, which do not rut or scar the slope surface, or cause excessive disruption of the slope line or grade. Seeding on level areas shall not be permitted until substantially all weed growth is removed. Seeding on slope areas shall not be permitted without removal or cutting of weed growth except by written permission of the Engineer.

2. Seeding Season: The calendar dates for seeding shall be:
Spring—March 15 to June 15
Fall—August 15 to October 15

All disturbed soil areas shall be treated during the seeding seasons as follows:
(a) Areas at final grade: Seeding will be accomplished.
(b) "Out-of-season" seedings shall be performed in the same manner as "in-season" seedings. Since acceptable turf establishment is less likely, the Contractor shall be responsible for "in-season" reseeding until the turf stand conforms to this specification.

(c) During "out-of-season" periods unseeded areas shall be treated in accordance with Section 2.10, Water Pollution Control.

3. Seeding Methods: The seed mixture shall be applied by any agronomically acceptable procedure. The rate of application shall be no less than 175 pounds per acre or according to manufacturer instructions. Fertilizer conforming to M.13.03 shall be initially applied at a rate of 320 pounds per acre during or preceding seeding. When wood fiber mulch is used, it shall be applied in a water slurry at a rate of 2,000 pounds per acre with or immediately after the application of seed, fertilizer and limestone.

When hydroseeding is required by the Engineer, it shall be performed by a qualified Contractor who has a minimum of three year experience in the successful performance of this work and has been approved by the Engineer. Hydroseed mix shall be applied in a slurry consisting of wood fiber mulch, fertilizer, live seed, and organic tackifiers with each component applied at the rate described above. The slurry shall be hydraulically sprayed on the soil surface as required to form a blotter-like ground cover with a uniform coating. Contractor shall exercise special care as required to prevent slurry from being sprayed onto adjacent paved areas, sidewalks, buildings, or signs. All slurry sprayed onto adjacent surfaces shall be cleaned at the Contractor’s expense.

When the grass seeding growth has attained a height of 6 inches, the specified areas designated herein shall be mowed to a height of 3 inches. Following mowing, all seeding grass areas (mowed and un-mowed) shall receive a uniform application of fertilizer hydraulically placed at the rate of 320 pounds per acre.

4. Compaction: The Contractor shall keep all equipment and vehicular and pedestrian traffic off areas that have been seeded to prevent excessive compaction and damage to young plants. Where such compaction has occurred, the Contractor shall rework the soil to make a suitable seedbed; then re-seed and mulch such areas with the full amounts of the specified materials, at no extra expense to the State.

5. Stand of Perennial Turf Grasses: The Contractor shall provide and maintain a uniform stand of established turf grass or wetland vegetation having attained a height of 6 inches consisting of no less than 100 plants per square foot throughout the seeded areas until the entire project has been accepted.

6. Establishment: The Contractor shall keep all seeded areas free from weeds and debris, such as stones, cables, baling wire, and he shall mow at his own expense, on a one-time-only basis, all slopes 4:1 or less (flatter) and level turf established (seeded) areas to a height of 3 inches when the grass growth attains a height of 6 inches. Clean-up shall include, but not be limited to, the removal of all debris from the turf establishment operations on the shoulders, pavement, and/or elsewhere on adjacent properties publicly and privately owned.

7. Erosion Control Matting: Erosion control matting shall be installed following seeding where called for on the plans or as directed by the Engineer. Staples shall be installed as per Manufacturer's recommendations. Where two lengths of matting are joined, the end of the up-grade strip shall overlap the down-grade strip. The Contractor shall maintain and protect the areas with erosion control matting until such time as the turf grass is established. The Contractor shall replace or repair at his own expense any and all erosion control matting areas damaged by fire, water or other causes including the operation of construction equipment. No mowing will be required in the locations where erosion control matting is installed.

Method of Measurement: This work will be measured for payment by the number of square yards of surface area of accepted established perennial turf grass or wetland vegetation as specified or by the number of square yards surface area of seeding actually covered and as specified.

Restoration of areas disturbed for staging, storage of materials, or other area disturbed for the convenience of the Contractor will not be measured for payment.

Erosion control matting will be measured by the number of square of surface area of erosion control matting installed and accepted.

Basis of Payment: This work will be paid for at the contract unit price per square yard for "Turf Establishment", “Turf Establishment-Hydroseeding” or “Wetland Seeding”, which price shall include all materials, mowing, maintenance, equipment, tools, labor, and work incidental thereto. Partial payment of up to 60% may be made for work completed, but not accepted.

Erosion control matting will be paid for at the contract unit price per square yard for "Erosion Control Matting" complete in place and accepted, which price shall include the hay mulch, netting, staples, maintenance, equipment, tools, labor, and work incidental thereto.

ITEM #0970006A – TRAFFIC PERSON (MUNICIPAL POLICE OFFICER)
ITEM #0970007A – TRAFFIC PERSON (UNIFORMED FLAGGER)

This item shall conform to Section 9.70 TRAFFICPERSON, of the Form 816 as amended below:

Description: Add the following to the first paragraph of Section 9.70.01

"Trafficpersons shall consist of uniformed flaggers meeting acceptable criteria or extra duty officers of the Glastonbury Police Department. The Contractor shall provide Uniformed Flaggers meeting the requirements of this specification as required for safe traffic operations in the project area. Extra-duty police officers will be used only when specifically required by the Police Chief, as the Legal Traffic Authority, who will make this determination based on the Contractor's proposed operations, traffic volumes, and traffic conditions."

"All work under this item shall be paid only for the duration of the Contract as contained in the Special Conditions under 'Time for Completion/Notice to Proceed' and for any time extensions granted in writing by the Town. Payment for police officers required after the duration of the Contract and approved time extensions shall be made directly by the Town and such costs deducted from future payments due the Contractor."

Basis of Payment: Replace Section 9.70.05 with the following:

"There will be no direct payment for safety garments or STOP/SLOW paddles. All costs associated with furnishing safety garments and STOP/SLOW paddles shall be considered included in the general cost of the item.

1. Uniformed Flagger: Uniformed flaggers will be paid for at the contract unit price per hour for "Trafficperson (Uniformed Flagger)" as listed in the bid proposal, which price shall include all compensation, insurance benefits, and any other cost or liability incidental to the furnishing of the trafficpersons ordered."

2. Police Officers: The sum of money shown on the bid proposal as "Estimated Cost" for "Trafficperson (Municipal Police Officer)" will be considered the bid price even though payment will be made as described below. The estimated cost figure is not to be altered in any manner by the bidder. Should the bidder alter the amount shown, the altered figures will be disregarded and the original price will be used to determine the total amount for the contract.

Police officers will be paid for based on the actual invoice amount plus a 5% markup. Contractor shall provide copies of the Police invoices with the pay application.

ITEM #0971001A - MAINTENANCE AND PROTECTION OF TRAFFIC

Description:

During construction of the bridge, Addison Road shall be closed to traffic. The Contractor shall setup and maintain the scheme for maintenance of traffic, including any detours, as shown on the plans or as requested by the Town. An alternate scheme offered by the Contractor may be implemented, at no additional cost, if it is acceptable to the Engineer.

Construction Method:

1. The Contractor shall furnish and erect signs legally closing the roadway to traffic, as shown on the plans or directed by the Engineer, prior to commencing any work on the Project.

2. The Contractor shall furnish a sufficient number of signs, barricades, drums, traffic cones and delineators to forewarn traffic of the construction as shown on the plans contained within or as directed by the Engineer.

3. The Contractor shall also provide such safety measures, pavement markings, warning devices and signs as deemed necessary to safeguard and guide the traveling public through detours ordered by the Engineer, included in the approved scheme for maintenance of traffic, or as shown on the plans. The Contractor shall erect, maintain, move, adjust, clean, relocate and store these signs, barricades, drums, traffic cones and delineators when, where and as directed by the Engineer.

4. The use of unauthorized or unapproved signs, barricades, drums, traffic cones or delineators will not be permitted.

5. All signs in any one signing pattern shall be mounted the same height above the roadway. The Contractor shall keep all signs in proper position, clean and legible at all times. Care shall be taken so that weeds, shrubbery, construction materials or equipment, and soil, are not allowed to obscure any sign, light, or barricade. Signs that do not apply to existing conditions shall be removed or adjusted so that the legend is not visible to approaching traffic.

6. The Contractor, when ordered by the Engineer, shall remove snow and take care of icy conditions on temporary, new and existing sidewalks on any part of the right-of-way within the limits of the project. Payment for the cost thereof, will be made as extra work.

7. Should the Contractor fail to perform any of the work required under this section, the Town may perform or arrange for others to perform such work. In such cases, the Town will deduct from money due or to become due the Contractor all expenses connected there with which are found to be greater than the cost to the Town had the Contractor performed the specified work.

NOTE:The Town of Glastonbury **CHIEF OF POLICE**, acting in the capacity of the **LEGAL TRAFFIC AUTHORITY**, shall be the sole and final authority for the maintenance And Protection of Traffic.

Method of Measurement:

This item will not be measured for payment.

Basis of Payment:

This work will be paid for at the contract lump sum price for "Maintenance and Protection of Traffic." This price shall include all costs for labor, equipment and services involved in the erection, maintenance, moving, adjusting, cleaning, relocating and storing of signs, barricades, drums, traffic cones and delineators furnished by the Contractor as well as all costs of labor and equipment involved in the maintenance of traffic lanes and detours, except for pavement markings, ordered or included in the approved scheme for maintenance of traffic. "Maintenance and Protection of Traffic" does not include the cost of signs, barricades, drums, traffic cones, delineators, or the furnishing and placing of materials such as borrow, gravel, crushed stone, bituminous concrete for patching and pipe. These items will be paid for at contract unit prices, or in the absence of applicable contract unit prices, as extra work. If the Engineer requires the Contractor to provide facilities in excess of the requirements of the adopted scheme for maintenance and protection of traffic, the Contractor shall perform the required work; and payment for the cost thereof will be made at applicable contract unit prices, or in the absence of applicable contract unit prices, as extra work.

ITEM #0974001A - REMOVAL OF EXISTING MASONRY

Work under this item shall conform to the requirements of Section 9.74 of Form 816,amended as follows:

Article 9.74.02 - Construction Methods: Add the following:

The Contractor's attention is drawn to the fact that the bridge substructure (and superstructure) removal is in close proximity to an historic mill building that has been renovated for apartments. Removal of existing masonry in this area must be completed in such a manner so as to prevent damage to the existing apartment building, utility installations, and portions of existing structures or utilities to remain.

When construction activities occur in the vicinity of existing building or wall foundations, the Contractor shall record by means of photographs and field measurements during construction any movement or damage to the existing facilities. The contractor shall be responsible for any damage incurred to existing facilities caused by his operations and shall make due compensation for any damages without cost to the Town.

Prior to initiating work, the Contractor shall submit for approval a demolition plan. This demolition plan shall include plans and written documentation describing his methods of removal, equipment means and bridge substructure removal timeframe. Approval of the Contractor's demolition plan shall not be considered as relieving the Contractor of any of his responsibility.

All debris shall be disposed of, offsite, by the Contractor.

ITEM #0979003A - CONSTRUCTION BARRICADE TYPE III

Article 9.79.01 – Description: The Contractor shall furnish construction barricades to conform to the requirements of NCHRP Report 350 (TL-3) and to the requirements stated in Article 9.71 "Maintenance and Protection of Traffic," as shown on the plans and/or as directed by the Engineer.

Article 9.79.02 – Materials: Prior to using the construction barricades, 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 (TL-3).

Alternate stripes of white and orange Type III or Type VI reflective sheeting shall be applied to the horizontal members as shown on the plans. Application of the reflective sheeting shall conform to the requirements specified by the reflective sheeting manufacturer. Only one type of sheeting shall be used on a barricade and all barricades furnished shall have the same type of reflective sheeting. Reflective sheeting shall conform to the requirements of Article M.18.09.01.

Construction barricades shall be designed and fabricated so as to prevent them from being blown over or displaced by the wind from passing vehicles. Construction barricades shall be approved by the Engineer before they are used.

Article 9.79.03 – Construction Methods: Ineffective barricades, as determined by the Engineer and in accordance with the ATSSA guidelines contained in "Quality Standards for Work Zone Traffic Control Devices", shall be replaced by the Contractor at no cost to the State.

Barricades that are no longer required shall be removed from the project and shall remain the property of the Contractor.

Article 9.79.04 – Method of Measurement: Construction Barricade Type III will be measured for payment by the number of construction barricades required and used.

Article 9.79.05 – Basis of Payment: "Construction Barricade Type III" required and used will be paid for at the Contract unit price per each. Each barricade will be paid for once, regardless of the number of times it is used.

Pay Item	Pay Unit
Construction Barricade Type III	EA.

ITEM NO. 1206023A - REMOVAL AND RELOCATION OF EXISTING SIGNS

Section 12.06 is supplemented as follows:

Article 12.06.01 – Description is supplemented as follows:
Work under this item shall consist of the removal and/or relocation of designated extruded aluminum and sheet aluminum side-mounted signs, sign posts, sign supports, and foundations where indicated on the plans or as directed by the Engineer.

Article 12.06.03 – Construction Methods is supplemented as follows:
The Contractor shall take care during the removal of existing signs, sign posts, and sign supports that are to be relocated so that they are not damaged. Any material that is damaged shall be replaced by the Contractor at no cost to the Town.

Sheet aluminum signs designated for removal are to be salvaged if they are in suitable condition as determined by the Engineer. Extruded aluminum signs, sheet aluminum signs not suitable for salvage, sign posts, sign supports, and foundations designated for removal shall be removed and disposed of by the Contractor as directed by the Engineer and in accordance with existing standards for removal of signing.

Article 12.06.04 – Method of Measurement is replaced with the following:
Payment under Removal and Relocation of Existing Signs shall be at the contract lump sum price which shall include all extruded aluminum and sheet aluminum side-mounted signs, sign posts, and sign supports designated for relocation, all sheet aluminum side-mounted signs designated for salvage, all extruded aluminum and sheet aluminum signs, sign posts, sign supports, and foundations designated for removal and disposal, and all work and equipment required.

Article 12.06.05 – Basis of Payment is replaced with the following:
This work will be paid for at the contract lump sum price for "Removal and Relocation of Existing Signs" which price shall include relocating designated extruded aluminum and sheet aluminum side-mounted signs, sign posts, and sign supports, removing and disposing of designated extruded aluminum and sheet aluminum side-mounted signs, sign posts, sign supports, and foundations, and all equipment, material, tools and labor incidental thereto. This price shall also include the loading, transporting, and unloading of sheet aluminum side-mounted signs designated for salvage and all equipment, material, tools and labor incidental thereto.

Pay Item	Pay Unit
Removal and Relocation of Existing Signs	L.S.

ITEM #1220011A - CONSTRUCTION SIGNS – TYPE III REFLECTIVE SHEETING

Article 12.20.01 – **Description:** The Contractor shall furnish construction signs with Type III reflective sheeting and their required portable supports or metal sign posts that conform to the requirements of NCHRP Report 350 (TL-3) and to the signing requirements stated in Article 9.71 "Maintenance and Protection of Traffic," as shown on the plans and/or as directed by the Engineer.

Article 12.20.02 – Materials: Prior to using the construction signs and their portable supports, 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).

Portable sign supports shall be designed and fabricated so that the signs do not blow over or become displaced by the wind from passing vehicles. Portable sign supports shall be approved by the Engineer before they are used.

Mounting height of signs on portable sign supports shall be a minimum of 1 foot and a maximum of 2 feet, measured from the pavement to the bottom of the sign.

All sign faces shall be rigid and reflectorized. Reflective sheeting shall conform to the requirements of Article M.18.09.01 (Type III). Sheet aluminum sign blanks shall conform to the requirements of Article M.18.13. Metal sign posts shall conform to the requirements of Article M.18.14. Application of reflective sheeting, legends, symbols, and borders shall conform to the requirements specified by the reflective sheeting manufacturer. Attachments shall be provided so that the signs can be firmly attached to the portable sign supports or metal posts without causing damage to the signs.

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 above 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 12.20.03 – Construction Methods: Ineffective signs, as determined by the Engineer and in accordance with the ATSSA guidelines contained in "Quality Standards for Work Zone Traffic Control Devices", shall be replaced by the Contractor at no cost to the State.

Signs and their portable supports or metal posts that are no longer required shall be removed from the project and shall remain the property of the Contractor.

Article 12.20.04 – Method of Measurement: Construction Signs - Type III Reflective Sheeting will be measured for payment by the number of square feet of sign face. 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 at the Contract unit price per square foot. 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.

Pay Item	Pay Unit
Construction Signs – Type III Reflective Sheeting	S.F.

ITEM #1300005A – RELOCATION OF WATER MAIN

Description:

Reference to "District" in this Item refers to "The Metropolitan District".

The Contractor shall furnish and install restrained joint ductile iron pipe, of the sizes indicated, and all the fittings and appurtenances to the lines and grades shown on the Contract Drawings, complete as shown, specified or directed, including but not limited to; pressure reducing valves, vaults, bends, restraint, blow off assemblies, gate/butterfly valves, air valves, sterilization fittings, tapping sleeves, tapping gates, copper bleeder, RCP sleeve, gate boxes, tees, thrust blocks and anchors, transporting materials, digging test pits, the clearing, trenching, disposing of unused excavated materials, removing and disposing of sections of the present water mains and concrete anchors, furnishing, installing and field testing the pipelines complete with lacings and harnessing, concrete anchor/thrust blocks, pipe insulation and jacketing, utility identification tape, all trenching, rock removal, refilling trenches, filter fabric, furnishing additional material for refilling, trench compaction/testing, temporary surface restoration, miscellaneous grading, sheeting, bracing, pumping and all incidental work where required, to the specifications and details of the District, except as otherwise herein provided for. The Contractor shall also furnish and install the required pipe insulation and jacketing to enclose the insulation over pipe, mechanical joints, fittings, expansion joints, etc. as shown on the Contract Drawings, complete as shown, specified or directed, including but not limited to; transporting materials, cleaning and preparing pipe surfaces and furnishing and installing the insulation and jacketing to the specifications and details of the District.

Materials:

All materials used shall be from manufacturers and models as specified in the MDC "Approved Materials List For Water Main Installations" unless otherwise approved by the Engineer. The ductile iron pipe shall be restrained joint ductile iron pipe.

Submittals: Six (6) sets of the manufacturer's literature and/or shop drawings for the materials of this section shall be submitted for approval. The Contractor shall furnish detailed drawings as follows and no work shall be fabricated until they have been approved by the Engineer:

1. Dimensions and general details for typical length of pipe.

2. Detail of joint between pipes for both push-on and restrained joints together with installation instructions.

3. Dimensions and general details for all fittings including joint details for both mechanical and restrained joints.

4. Location plans or lists showing number of pipes and fittings and other such information as needed for installation.

5. Insulation shall be FOAMGLAS® cellular glass insulation manufactured in accordance with ASTM C552, "Standard Specification for Cellular Glass Thermal Insulation", by Pittsburgh Corning Corporation whose quality system for manufacturing, inspecting, and testing of FOAMGLAS® Insulation is certified to meet the requirements of ISO 9002 or approved equal. The FOAMGLAS® Insulation shall be fabricated to accommodate the size and shape of all fittings to be insulated including bends, tees, expansion couplings and valves. The FOAMGLAS® Insulation shall be fabricated in half sections wherever possible. For large diameter piping where half sections are not practical, curved sidewall segments are preferred. Wherever possible, the insulation should be factory jacketed with the following protective membranes or approved equal: PITTWRAP® SS Jacketing - a 70 mil thick self-sealing high polymer asphalt membrane with an integral glass scrim and an aluminized Mylar film on the surface.

6. Pipe covering protection saddles shall be provided to prevent crushing of insulation at cradle installations. Protection saddles shall be Fig. 654 as manufactured by the PHD Manufacturing, Inc. of Columbiana, Ohio or approved equal.

7. Mastic shall be PITTCOTE® 300 Finish, an asphalt cutback mastic or approved equal.

8. Reinforcing Fabric shall be PC® Fabric 79 open mesh polyester fabric with a 6 x 5.5 mesh/inch configuration or approved equal.

9. Sealant shall be PITTSEAL® 444N sealant, a non-setting butyl sealant with a minimum 85% solids content or approved equal.

Prior to pipe-laying, the Contractor shall dig test pits where the new pipe connects to the present water main to ascertain the location, elevation and cross sectional dimensions of the present mains.

Pipe Specifications: All ductile iron pipe with push-on joints shall be the 60-42-10 grade cast in revolving molds in full accord with the following American National Standard, except for details for the joints and other modifications stated herein: "Ductile Iron Pipe, Centrifugally Cast in Metal Molds or Sand-Lined Molds, for Water or Other Liquids".

ANSI/AWWA C151/A 21.51, furnished in 18-foot or 20-foot lengths. Push-on joints for such pipe shall be in accordance with ANSI/AWWA C111/A 21.11.

All requirements of the American National Standards Institute Specifications will be rigidly enforced and the foundry shall submit regularly to the Engineer, single copies of the report of tensile tests and low temperature impact tests as required in Section 51-12 and 51-13 of the ANSI/AWWA C151/A 21.51.

The Contractor shall submit to the Engineer a certified statement that the inspection and all of the specified tests have been made and met as required in Section 511.4.2 of ANSI/AWWA C151/ A21.51.

The ductile iron pipe to be furnished under this Contract shall conform to the following dimensions:

Size (Inches)	Thickness (Inches)	Thickness (Class)
4	0.35	54
6	0.37	54
8	0.39	54
12	0.43	54

Where shown, specified or ordered, the pipe shall have push-on joints of the type which employs a single elongated, grooved rubber gasket to affect a watertight joint seal. The joints shall conform to the latest American National Standard for "Rubber Gasket Joints for Ductile Iron and Gray Iron Pressure Pipe and Fittings", ANSI/AWWA C111/A21.11, except as otherwise specified herein. The rubber gaskets shall be manufactured from high quality rubber satisfactory to the Engineer and shall be similar to the gaskets used in the Tyton joint as manufactured by the United States Pipe and Foundry Company or the Fastite joint as manufactured by the American Cast Iron Pipe Company or the Grip-Tite joint as manufactured by Griffin Pipe Products Co. or approved equal.

Where shown, specified or ordered, the pipe shall have restrained joints of a type which employs a single elongated, rubber gasket to affect a watertight joint seal. The joints shall conform in general to ANSI/AWWA C111/A21.11. The rubber gaskets shall be manufactured from high quality rubber satisfactory to the Engineer. The restrained joint pipe shall be as manufactured by McWane, Super Lock, TR Flex, or approved equal.

The grooved rubber gaskets and joint lubricant shall be furnished with the pipe and shall be considered included in the price bid per linear feet of pipe. The gasket shall be plainly identified as to pipe size and packaged in a suitable and satisfactory manner for shipment.

Each pipe shall have cast or stamped on it the maker's name or mark, the year in which the pipe is cast, and the letters "DI" or "DUCTILE" as required by the American National Standards Institute Specifications. The weight and thickness class shall be painted on each pipe, as required by the American National Standards Institute Specifications, and a record of weight for each pipe before the application of a lining or coating shall be submitted to the Engineer.

Fitting Specifications: All ductile iron fittings to be furnished under this Contract shall conform to the American National Standard for "Ductile-Iron and Gray-Iron Fittings, 3-inch through 48-inch, for Water and other Liquids", ANSI/AWWA C110/A21.10. In addition to the marking required by the American National Standards Institute Specifications, the year of casting shall be cast on all fittings. Single copies of the results of tests required by the ANSI/AWWA C110-A21.10 shall be submitted to the Engineer.

Bolt holes in the mechanical joint bells of all fittings shall straddle the vertical centerline of the fitting (fitting laying in horizontal position).

Unless otherwise shown, specified or ordered, all fittings shall be mechanical joint (MJ).

Joint Accessories: All joint accessories shall be furnished with each pipe and fitting and shall be plainly identified as to pipe size. A certified statement that all required tests on the joint accessories have been made and met as specified shall be submitted to the Engineer.

Lining and Coating: All pipe and fittings, except sleeves, caps and plugs shall be lined with cement mortar in accord with the American National Standard for "Cement Mortar Lining for Ductile-Iron Pipe and Fittings for Water", ANSI/AWWA C104/A21.4. However, linings with thickness twice those specified in Section 4-10.1 shall be furnished. Thickness determinations, in accord with Section 4-9, shall be made on at least one fitting of each type.

All pipe and fittings, including steel sleeves, caps, plugs, tees, bends and reducers, shall be coated inside and outside with an approved bituminous material, neither sufficiently soft to flow when exposed to the summer sun, nor brittle enough to crack and scale off when exposed to temperatures below freezing.

Coating may be applied by painting, dipping or spraying, but in no case are the pipe fittings or the coating material to be heated to a high enough temperature to be detrimental to the cement lining. In addition, the coating of the interior shall conform to the requirements of ANSI/AWWA C104/A21.1.

The Contractor shall submit to the Engineer a certified statement that the inspection and all of the specified tests have been made and met.

THE FOLLOWING ARE ACCEPTABLE PIPE MANUFACTURERS:

Atlantic States Pipe (McWane)
United States Pipe & Foundry Co.
Griffin Pipe Products, Inc.
Clow Corp. (McWane)
ACIPCO

Inspection: All pipe and fittings shall be subject to inspection by the Engineer after delivery to the job site and may also be subject to inspection at the foundry by a representative of the District.

Harnessing Specifications: Eyebolts and lacing rods shall be of A-36 steel as manufactured by Star National Products, Columbus, Ohio or approved equal. All components shall be hot -dipped galvanized.

Retainer glands for mechanical joints shall conform to ANSI/AWWA C111/A21.11 and the following additional requirements:

1. All retainer glands shall be ductile iron and all retaining devices shall be heat treated ductile iron.

2. All retainer glands shall have a minimum rated working pressure of 250 psi.

The retainer glands shall be Megalug Series 1100 as manufactured by EBAA Iron Sales, Inc. Eastland, Texas or approved equal.

Components of the harnessing system for push-on joint ductile iron pipe shall be in general accord with the above requirements for lacing rods and retainer glands. The harnessing system shall be the Series 1100HD Megalug Harness or Series 800 Coverall, both as manufactured by EBAA Iron Sales, Inc., Eastland, Texas or approved equal.

Trench Refill: Trench refill materials shall meet the following requirements:

Native Backfill: Native backfill shall consist of granular soil excavated on site meeting the approval of the Engineer. Materials shall be of such a nature that they will form a stable dense fill. Materials shall not contain stones larger than 6-inch, vegetation, masses of roots, individual roots more than 12-feet long or more than ½-inch in diameter, trash, clays, or plastic fines. Organic matter shall not exceed two percent (2%). Non-plastic fines (silts) shall not exceed 20 percent (20%).

Bank Gravel: Bank gravel shall conform to the requirements of Article M.02.01-2, CDOT Form 816.

Crushed Stone: Crushed stone shall conform to the requirements of Article M.02.01-1 Grading A, CDOT Form 816 and Sub article M.02.02-2(a), CDOT Form 816, for loss on abrasion.

Granular Base: Granular base shall conform to the requirements of Article M.02.03, Grading "C", CTDOT Form 816.
Sand: Sand shall conform to the requirements of Sub article M.11.04c, CDOT Form 816.

Utility Identification Tape: Utility identification tape shall be 6-inch wide non-detectable, designed to withstand extended underground exposure, colored blue and be durably imprinted with an appropriate warning indicating the presence of the buried pipe.

Ductile Iron Pipe and Fittings: Refer to the "Ductile Iron Pipe (Water Main)" specification.

Gate Valve, Extension Stem and Gate Box: Refer to MDC Detail.

Concrete anchor/ Thrust blocks: Anchors and thrust blocks shall be Class "A" concrete conforming to Article M.03.01.

Harnessing: Refer to MDC Detail.

Filter fabric: Fabric shall conform to Article M.08.01-26.

Construction Methods:

Transporting and Distributing Pipe: The Contractor shall transport the pipe and fittings from the place of manufacture, shall secure all permits which may be necessary, and comply with the requirements of the Connecticut Bureau of Highways, Cities and Towns, concerning heavy transporting over State, City and Town highways.

During loading, transportation and unloading, more than ordinary care shall be taken to prevent injury to the pipes. Such work shall be done with each section of the pipe under full control at all times and under no condition shall a pipe be dropped on the ground. Pipes shall be placed on sand beds or other methods may be employed to avoid chances of pipe being frozen to the ground surface.

In distributing the pipe in the field, as permitted, each piece shall be placed as near as possible to the point where it is to be installed and faced in the proper direction. In case any pipe received damage from handling or other cause and made unacceptable to the Engineer, it shall be replaced with a new pipe at the expense of the Contractor. The Contractor is cautioned that State, City, or Town authorities may not permit storing pipe, etc., within street or highway limits.
Clearing Trees and Bushes: No trees within streets and highways, or adjacent to the normal trench therein, shall be damaged or removed. In streets and highways where there is no permanent paving, the Contractor shall, unless otherwise directed, remove and dispose of only those trees, bushes or shrubs required for construction and approved by the Engineer. The unlimited removal of trees and brush will generally not be required or permitted. All trees, bushes or shrubs which are not to be removed shall be preserved and protected by the Contractor. Should any trees, bushes or shrubs, which are to be preserved and protected, become damaged by the conduct of the work, the Contractor shall replace them at his own expense. Brush, small branches, trash, large trunks, stumps and all other surplus material and debris shall be removed from the site of the work.

Trenching: Prior to any excavation, the Contractor shall notify all affected utilities in accord with Public Act 77-350 (CALL BEFORE YOU DIG 1-800-922-4455).

The trench for the pipe shall be 18-inches beyond the outside of the barrel of the pipe on each side, the top of the barrel of the pipe shall be as shown on the Contract Drawings or as directed by the Engineer; and the bottom of the trench shall be at the bottom of the pipe. The Contractor alone shall be responsible for the stability and safety of the trenches and adjacent structures, and shall use such trench support and bracing as necessary without additional payment therefor. Pavement cuts shall be made with the edges reasonably smooth and without cracking or damage to the pavement outside the limits of the portion excavated. The methods used and the location of such cuts shall conform to the requirements and specifications of the City or State. Repairs to pavement shall be made in accordance with the requirements and specifications of the City/Town or State.

In any area to receive fill, no pipe trench shall be excavated until the fill has been placed and compacted to a level at least 3-feet above the top of the pipe to be installed.

The Contractor may be required to excavate locally to determine the location and depth of existing underground structures on the lines of the pipe well in advance of the pipe laying. There will be no additional payment for this work, including backfilling and temporary surfacing.

Sheeting, Bracing and Pumping: The Contractor shall furnish and put in place such sheeting and bracing as may be necessary, to support the sides of the excavation, to prevent undermining of the pavement or to protect from possible injury any pipes, sewers, ducts, poles, conduits or other structures existing in the streets, or highways, and shall remove such sheeting and bracing as the trench is refilled unless the Engineer shall order it left in place.

The Contractor shall maintain all excavations in proper condition for carrying on the work, and to this end shall do all bailing, draining, or pumping which may be necessary to keep the trenches or other excavations free of water. No direct payment will be made for this work but the cost thereof will be considered as having been included in the price bid per linear feet of pipe.

If the Contractor installs and operates wellpoints on any section of the work, the expense of the same shall be borne by the Contractor.

Protection of Pipes, Drains, Culverts, etc.: All existing gas pipes, water pipes, sewers, drains, manholes, catch basins, culverts, electrical conduits, telephone ducts, utility poles or other structures which are uncovered by the excavation, and which do not, in the opinion of the Engineer, require to be changed in location, shall be carefully supported and protected from injury by the Contractor; and in case of damage, they shall be restored by him without compensation; therefore, to as good condition as that in which they were found and shall be kept in repair during the existence of this Contract.

Laying Ductile Iron Pipe: Proper and suitable tools and appliances for safe and convenient handling and laying of pipe shall be used, and care shall be taken to prevent the coating of the pipe from being damaged, particularly on the inside of the pipes. The Contractor shall not start any pipe work until he has satisfied the Engineer that he has on hand and available the following minimum equipment:

1. Wheel pipe cutters, hydraulic pipe cutter or a pipe saw for the sizes of pipe to be laid;

2. Ratchet type socket wrenches for mechanical joint bolts and nuts;

3. At least two expandable pipe stops of the proper size for closing the end of the pipe being laid when not actually laying pipe.

All pipes shall be carefully examined for defects and no pipe or other casting shall be laid which is known to be defective, and should any defective pipe or other casting be discovered after being laid, it shall be removed and replaced with a sound casting at the expense of the Contractor.

The pipe shall be laid upon sound soil, cut true and even so that the barrel of the pipe will have a bearing for its full length. In the event the trench is excavated below the grade of the bottom of the pipe, the trench will be brought up to grade with acceptable crushed stone or processed gravel, pneumatically tamped, at the expense of the Contractor, before the pipe is laid.

The utility identification tape shall be place approximately two (2) feet above the top of the pipe.

When not actually laying pipe (e.g. overnight, weekends, holidays, etc.) the open ends of the pipe shall be kept plugged with approved watertight night caps furnished by the Contractor.

The Contractor shall take all necessary precautions to prevent water from entering the pipe during installation of the pipeline.

Unless shown otherwise on the Contract Drawings or directed otherwise by the Engineer, the pipeline shall be installed a minimum of four (4) feet - six (6) inches below finished grade. The pipeline shall also be installed to provide at least eighteen (18) inches of vertical clearance between the water pipe and storm drains or sanitary sewers.

Cutting Pipe: Whenever the pipes require cutting, an approved saw, wheel, or hydraulic type cutter shall be used. This work shall be done by the Contractor without extra compensation, in a manner satisfactory to the Engineer, and only experienced men shall be engaged thereon.

Joints: On pipe with rubber gasket push-on joints, the gasket shall be installed in the socket of the pipe previously laid and the gasket then lubricated. The plain end of the pipe being laid shall then be inserted and pulled or pushed to the full depth of the socket. An approved jack-type tool shall be used to assemble pipe 10-inchs and larger. Plain ends of cut pipe shall be filed or ground to a taper to prevent damage to the gasket during insertion.

On fittings, butterfly and gate valves with mechanical joints, the follower ring and rubber gaskets shall be placed on the plain end of the pipe being (or previously) laid and entered into the socket of the fitting. The gasket shall then be evenly seated in the socket, the follower ring moved up to the face of the gasket and the "T" bolts inserted and made finger tight. The "T" bolts shall then be tightened with a ratchet or torque wrench to between 60 and 80 foot-pounds. See S-1.19 for additional joint requirements.

Joint Restraints: Where and as shown on the Contract Drawings, or as directed by the Engineer, retaining glands or eye bolts and lacing rods shall be installed with the standard lacing details shown for mechanical joint pipe or fittings.

The retaining glands shall be installed in lieu of the standard mechanical joint gland. The "T" bolts shall be tightened with a ratchet or torque wrench to between 60 and 80 foot-pounds. Only then shall the set screws be tightened to a maximum of 70 foot-pounds, tightening 180 degrees apart and making a final check with the wrench to ascertain that all set screws have 70 foot-pounds. The joint is then complete. Torque settings shall be done with the pipe laid in the trench in place.

Retaining glands shall also be installed adjacent to the pipe bells. No "T" bolts will be installed; however, the set screws will be installed as above.

The standard mechanical joint gland placed behind the pipe shall be installed snugly against the back of the bell to preclude movement. No "T" bolts will be installed on this gland.

Other special lacing or harnessing, if shown on the Contract Drawings, or directed by the Engineer shall be installed by the Contractor to the satisfaction of the Engineer.

Insulation shall be applied to piping with all joints tightly butted. Joint sealant shall completely fill spaces between sections. Metal bands at the rate of 2 per section shall secure sections to pipe but should not be allowed to crush insulation. Cracked or broken sections shall be replaced. Spaces between sections, mechanical joints and expansion joints shall be packed with a light density fiberglass. Installation of insulation, jacket and finish shall be applied per manufacturers' recommendation.

Refilling Trenches: As soon as practicable after the pipes have been laid, the trenches shall be refilled at least to a level 2-feet above the top of the pipe with approved gravel, deposited in layers no more than 6-inchs in depth and satisfactorily compacted with pneumatic hand tampers, each layer to be leveled and thoroughly compacted to the satisfaction of the Engineer before the next layer is deposited. There will be no additional payment for necessary borrow to refill to this level. Special care shall be taken to consolidate the gravel under the pipes and the whole work of refilling shall be done in a manner which will prevent subsequent settlement and injury to the pipe. Above this level except for the surfacing material, the Contractor may use approved material from the trench excavation.

Trench Backfill: Backfill above the 24-inch level will comply with and be paid for under the appropriate items included in this Contract.

Frost in Trench or Refill: Every effort shall be extended to eliminate the presence of frost in the bottom and sides of the trench and refill material. The Contractor shall cover and heat the trench or take such other means as necessary to eliminate the frost and chance of subsequent pipe settlement.

Cleaning: Prior to the installation of the pipeline, the Contractor shall clean the interior of the pipelines to the satisfaction of the Engineer, by such means as the Engineer approves.

Filling, Sterilizing and Flushing: At the location(s) as shown on the Contract Drawings or as ordered by the Engineer, the Contractor shall install an appropriately sized chlorination inlet, chlorination blow-off and sterilization sampling connection point on the crown of the pipe for sterilization testing. All costs for providing and installing said fittings shall be included in the unit price bid per foot of pipe or pipeline installed. As soon as practicable after the Contractor has completed installation of the pipeline to include a successful leakage and hydrostatic test, the District will fill, and flush the pipeline. The Contractor shall supply labor to assist the District in filling and flushing the pipeline. If the pipeline is not connected to an existing operating water main, the Contractor shall furnish all labor, materials, equipment, at no extra cost to the District or State, to temporarily connect a District water main to the pipeline to be tested. The Contractor will not be charged for the District water used in this operation. The Contractor shall be responsible for labor, equipment and material necessary for erosion control.

Subsequent to sterilizing and flushing the water main(s), the District will test the water in accord with required state regulations. Should the water fail to pass the required tests and it is determined that the failure was caused by the Contractor's operations, all costs for re-sterilization, re-flushing, re-testing, etc., shall be borne by the Contractor.

The Contractor will attempt to minimize any damage to the road work that may occur during the flushing operation; however, he shall repair any such minor damage and the cost thereof will be considered as included in the price bid per linear feet of pipe.

Disinfecting and Flushing Water Mains Continuous Hypochlorite Feed Method

The work specified in this section describes continuous feed method of disinfecting newly constructed potable-water mains. The Contractor installing water mains and appurtenances such as pipe, valves, fittings and accessories within the Owner service area is responsible for disinfecting the water main and pipe sections. The Owner requires the Contractor to adhere to the strict standards stipulated in latest edition of AWWA C651, "Standard for Disinfecting Water Mains" when performing disinfection procedures. The standards represent the physical, chemical and bacteriological parameters that must be satisfied prior to determining if newly installed water mains can be placed into service.

The Contractor installing water mains and appurtenances within the Owner service area is responsible for all operations related to disinfecting water mains and pipe sections except working on the existing water distribution system. The gates within the existing water distribution system shall be operated only by the Owner.

The Contractor shall be required to issue a submittal for the subcontractor that will be performing the chlorine injection. The submittal shall include a minimum of three disinfection jobs of equal size and scope within the last two years and three references with contact information to establish the minimum level of required experience to perform the chlorine injection on the project. The Contractor shall be allowed to proceed with the implementation of this Section only if the submittal has been approved by the Owner.

After flushing and subsequent to performing the disinfection operation, the Owner will collect and analyze two complete sets of water samples**.** The two sets of water samples will be collected approximately twenty-four hours apart from each other. The first sample will be taken 2 hours after flushing and the second sample 24 hours after the first sample. Anticipate approximately two business days for sampling and test results. The Owner will compare the results from the water samples collected to the maximum allowable limits for each parameter. If all parameters are satisfactory then the water main is considered to have passed and can now be opened for service. It is important to note that if any one parameter fails then two additional water samples will be collected twenty-four hours apart from each other. The parameters used to compare to the water sample results are listed in Table 1.

Use of Owner supplied water for flushing purposes may be limited during periods of high demand or when temperatures exceed 95 degrees Fahrenheit.

Submittals

The Contractor shall be responsible for developing a detailed plan that discusses at a minimum the scouring full pipe diameter flushing, methods for handling the volume of water from the flushing operation, disinfecting procedure with liquid sodium hypochlorite solution, de-chlorination procedure

and sampling for each section of new water main to be tested. In accordance with Section 01300 Submittals, the Contractor shall provide a detailed submittal to the Engineer and Owner that outlines the specifics of the proposed procedures for each location.

SODIUM HYPOCHLORITE SOLUTION

Sodium hypochlorite conforming to ANSI/AWWA B300 is available in liquid form in glass, rubber-lined or plastic containers typically ranging in size from 1 quart to 5 gallons. Sodium hypochlorite contains approximately 5% to 15% available chlorine, and the storage conditions and time must be controlled to minimize its deterioration.

Execution

The sanitary handling of materials, the practices during construction, and the continual inspection of the work are the primary means for ensuring the sanitary condition of the water main. The effectiveness of disinfection depends on maintaining clean pipes and avoiding major contamination during construction activities.

PREVENTATIVE AND CORRECTIVE MEASURES DURING CONSTRUCTION

Heavy particles generally harbor bacteria and prevent elevated chlorine concentrations from contacting and killing these organisms. The procedures of this specification must be observed to assure that a water main and its appurtenances have been thoroughly cleaned for the final disinfection by chlorination. Also, any connection of a new water main to the active distribution system prior to the receipt of satisfactory physical and bacteriological sample results may constitute a cross-connection. Therefore, new water mains must be isolated until physical and bacteriological tests, immediately after and 24 hours following flushing of the water main, are satisfactorily completed and meeting Owner specifications.

A successful disinfection process begins at the early stages of construction. The Contractor must protect piping systems from contamination including interiors of pipes, fittings and valves. Pipe and appurtenances delivered for construction shall be capped or bagged to minimize the entrance of foreign material. All openings in the pipeline shall be closed with watertight plugs when pipe laying is stopped at the close of the day's work or for other reasons, such as rest breaks or meal periods. Rodent-proof plugs may be used when watertight plugs are not practicable and when thorough cleaning will be performed by flushing or other means. The sanitary handling of materials, the practices during construction, and the continual inspection of the work are the primary means for ensuring the sanitary condition of the water main.

Delay in placement of delivered pipe invites contamination. The more closely the rate of delivery is correlated to the rate of pipe laying, the lower the risk of contamination.

JOINTS. Joints of all pipes in the trench shall be completed before work is stopped. If water accumulates in the trench, the plugs shall remain in place until the trench is dry.

SEALING MATERIALS. No contaminated material or any material capable of supporting prolific growth of microorganisms shall be used for sealing joints. Sealing material or gaskets shall be handled in a manner that avoids contamination. The lubricant used in the installation of sealing gaskets shall be suitable for use in potable water and approved by the pipe manufacturer, and not contribute odors. It shall be delivered to the job in closed containers and shall be kept clean and applied with dedicated, clean applicator brushes.

CLEANING AND SWABBING. Each pipe section that is being readied for assembly in the field and just prior to installation, shall have the interior pipe surface swabbed with a 1% to 5% hypochlorite disinfecting solution using mechanical means like pulling a chlorine soaked mop or pigging device through the pipe or by power washing . If in the opinion of the Engineer, any dirt enters the pipe while being installed, the pipe will be swabbed again with 1% to 5%. The cleaning method used shall not force mud or debris into the interior pipe-joint spaces and shall be acceptable to the Engineer.

WET TRENCH CONSTRUCTION. If it is not possible to keep the pipe and fittings dry during installation, the water that may enter the pipe-joint spaces shall contain an available chlorine concentration of approximately 25 mg/L. This may be accomplished by adding calcium hypochlorite granules or tablets to each length of the pipe before it is lowered into a wet trench or by treating the trench water with hypochlorite tablets.

FLOODING BY STORM OR ACCIDENT DURING CONSTRUCTION. If the main is flooded during construction, it shall be cleared of the floodwater by draining and flushing with potable water until the main is clean. The section exposed to the floodwater shall then be filled with chlorinated potable water that, at the end of a 24-hour holding period, will have a free chlorine residual of not less than 25 mg/L. The chlorinated water may then be drained or flushed from the main.

PREFLUSHING OF SOURCE WATER.
The source water used for disinfection and pressure testing shall be flushed prior to its use to ensure that normally occurring contaminants or debris are not introduced into the new water main pipe. The Owner will be responsible for operating gate valves in the street as necessary. Adequate drainage must be provided during flushing, away from the construction area. The contractor shall be responsible for constructing temporary discharge piping and/or materials as necessary, at no additional cost to the Owner.

CONTINUOUS FEED METHOD OF CHLORINATION

Hypo-chlorination utilizes a concentrated dose of chlorine solution, usually 25 ppm for a 24 hour period, to eradicate bacterial contamination. This is a critical operation that requires skilled personnel and therefore the Owner reserves his right to request the replacement of any Contractor / Subcontractor's personnel for lack of skills performing these tests The Contractor shall not be compensated for the replacement of his Subcontractor or its personnel if requested by the Owner as a result of lack of skills in performing these tests. The Owner has developed safe and effective hypo-chlorination procedures**.** These procedures allow for disinfecting a new section of the MDC water

distribution system, minimizing the risk to the field crews, to customers and to the environment. These procedures are to be followed when disinfecting all new pipelines which utilize the injection of sodium hypochlorite.

FINAL FLUSHING

After the applicable retention period of 24 hours, heavily chlorinated water should not remain in prolonged contact with the pipe. In order to prevent damage to the pipe lining or to prevent corrosion damage to the pipe itself, the heavily chlorinated water shall be flushed from the main, fittings, valves and branches until chlorine measurements show that the concentration in the main is no higher than that generally prevailing in the distribution system.

The Contractor shall make arrangements with the Owner to flush the new water main following disinfection. Owner forces shall be responsible for operating the gate valves in the street as necessary. It is important to note here that the new water main shall be kept isolated from the active distribution system using a physical separation until disinfectant has been flushed and satisfactory bacteriological, physical and VOC testing has been completed. Operation of all valves used in filling and flushing the line shall be performed by Owner personnel.

The Contractor shall be responsible for supplying necessary materials, equipment and appurtenances for neutralizing the chlorine and to perform all flushing operations except the operating of gate valves within the existing water distribution system. The minimum materials and equipment required to flush and neutralize the water main are:

- Five 3-inch x 20-foot rubber hoses, each with 3-inch male x female Camlock Couplings.
- Dechlorination device, model 3M-CLA, manufactured by Measurement Technologies, Sammamish WA or approved equal.
- Standard hydrant wrench.
- 90-degree ductile iron elbow with retaining gland, either 4 or 6-inch depending on blow off size.
- Customized 4 or 6-inch, 3/8-inch thick metal plate that bolts on to the 90-degree ductile iron elbow with 2-1/2-inch male fire connection (NST) thread. 4 or 6-inch depends on the blow off size.
- Ascorbic acid powder supplied by Bran NU Labs in Meriden CT or approved equal.

The Contractor shall also be responsible for determining where the water will drain during the flushing operation so as not to cause localized flooding or cause damage to property or the environment. The environment to which the chlorinated water is to be discharged shall be inspected.

Following neutralization of the chlorinated water, the level of chlorine shall be between 0.1 and 0.8 mg/l and in no case higher than the chlorine level in the distribution system. It is important to note that during the summer months water mains tend to take longer to disinfect due to higher ambient temperatures increasing the bacterial count. Usually, additional flushing will result in successfully disinfecting the water main.

DISINFECTION TESTS

Following disinfection and flushing, Owner forces will collect and analyze water samples from the new main utilizing a copper sterilization sampling fitting located no more than every 1,200 feet along the newly constructed water main. Two sets of water samples will be collected: the first approximately 2 hours following the flushing operation, and the second set of samples will be collected 24 hours after the first set of samples was taken. The results are available approximately two business days following collection. The analytical results for the samples will be compared to the maximum allowable limits for each parameter as established by the Owner shown in Table 1. If the parameters are satisfactory for BOTH sets of water samples, then the water main is considered passing and can be opened for service.

To ensure the water sample integrity, the Owner requires the person taking the sample to complete a "Chain of Custody" form, see attachment. This form must accompany the water sample when transporting to the Owner's laboratory at Reservoir 6 prior to analyzing.

Table 1
Physical, Chemical and Bacteriological Parameters for Water Mains

Parameter	Maximum Allowable Limit
pH	6.4 to 10
Color	15 units
Turbidity	1.0 NTU
Odor	2
Hardness	60 ppm.
Specific Conductance	150 microhms at 25 ^{o}C
Coliform Bacteria	0 per 100 milliliters
Standard Heterotrophic Plate Count	< 500 per milliliter at 35 ^{o}C
Chlorine Residual	<0.1- 0.8 ppm.
Volatile Organic Compounds (VOC)	See attached **Procedure**

RESAMPLING

If the initial disinfection fails to produce satisfactory physical and bacteriological results for EITHER set of water samples, the new main shall be re-flushed and re-sampled (two sets of water samples).

If the new water main fails two rounds of sampling, the Owner shall determine if re-disinfection is needed or if the new main should only be flushed.

ATTACHMENT-CHAIN OF CUSTODY FORM

MDC - Sample Collection \ Chain of Custody
Distribution Specials
New Mains

Project DVW (when applicable to Developer Permit Agreement):

Project Name (for all projects): _____

Town: _____

Sample I.D.	Location (street)	Size of Main	Length of Main
S1			
S2			
S3			
S4			

Is a VOC being submitted? **YES / NO**

Time Collected

S1	S2	S3	S4

Chlorine residual

S1	S2	S3	S4

Collected by _____

Any observations that might affect the physical and bacteriological quality of the water should be noted below:

_____

_____

Relinquished By:	Date / Time:
Received By:	Date / Time:
Relinquished By:	Date / Time:
Received By:	Date / Time:

Hydrostatic Testing: The Contractor shall test the pipeline for leakage between test bulkheads and/or main valves. The pipeline will be filled with water and tested in accord with the latest ANSI/AWWA C600 under a pressure of 150 psi. Under the test pressure, all visible leaks shall be made tight to the satisfaction of the Engineer. The total leakage per 24 hours from the line thus tested shall not exceed the requirements for leakage as specified in the latest ANSI/AWWA Standard for "Installation of Ductile Iron Water Mains and Their Appurtenances", C600. Visible leaks shall be repaired by the Contractor even though the total leakage of the portion in question may be less than the above-mentioned permissible limit. Test pressure shall be applied for at least two hours and as much longer as required to permit inspection for leaks. Should the leakage exceed the maximum specified amount and investigation show this leakage to be at the joints or caused by defective work elsewhere, such defective work shall be repaired to the satisfaction of the Engineer or, if he so orders, the pipe or pipes shall be replaced by the Contractor at his own expense and repairs or replacement shall be continued and the test repeated until the leakage under the test pressure is within the limit prescribed and the work left in a manner entirely satisfactory to the Engineer.

The District will not charge the Contractor for District water used for testing. The Contractor shall be responsible for any damage to the pipeline or to adjoining property due to the testing and shall furnish all labor, material and equipment for testing.

No direct payment will be made for any work done or materials used in making the pipeline tight.

Air Valve Assembly:
All brass fittings shall be of standard design generally used by water utilities and be in accord with ASTM B62 and ANSI/AWWA C800.

The corporation stops and angle valves shall be of good, tough, composition bronze well-mixed and free from flaws and imperfections. The corporation stops shall be of a type suitable for use in ductile iron mains. The inlet end shall have an inlet taper thread type known as the "Mueller Taper Thread".

Compression fittings, valves, etc. shall be of the design employing the pipe clamp feature.

The gate valve box shall conform to the following requirements:

1. Cast iron shall conform to ASTM A48, Class 25.

2. Top section shall be of the top flange design and shall have no bead on the bottom.

3. The word "WATER" shall be cast with raised letters in the center of the cover.

4. Base section shall be of the Dwyer design which centers the operating nut for positive access to the valve.

5. For specific gate box details, see the MDC Details.

Inspection Before Installation: All tubing and fittings shall be carefully examined for defects and no material shall be installed which is known to be defective and should any defective tubing or fitting be discovered after being installed, it shall be removed and replaced with sound material at no additional cost to the District.

Installation: The air valves, chlorination valve and blow-off shall be installed according to the details and to the satisfaction of the Engineer. To properly receive the air valve or other assembly the ductile iron pipe shall be drilled and tapped. All tapped holes for corporation stops shall be tapped Mueller Thread.

All tapped holes in ductile iron pipe shall be cleaned by running the correct size tap into the hole immediately prior to installing the corporation.

Gate valve boxes shall be set plumb and centered on the fitting, etc. Earth fill shall be carefully tamped around the gate box to a distance of 4 feet on all sides of the box or to the undistributed trench face, if less than 4 feet.

Excavation and refill shall conform to the requirements under other applicable Contract Sections.

12-Inch and Smaller Gate Valves:
Quality Assurance: All gate valves, accessories and gate boxes shall be inspected and tested at the foundry as required by the standard specifications to which the material is manufactured.

A certified statement that inspection and all of the specified tests have been made and met shall also be submitted.

All gate valves, accessories and gate boxes shall be subject to inspection by the Engineer after delivery to the job site and may also be subject to inspection at the foundry by a representative of the District.

In addition the District reserves the right to have any or all materials inspected and/or tested by an independent service at either the manufacturer's plant or elsewhere. Such inspection and/or tests shall be at the District's expense.

A certified statement that inspection and all of the specified tests have been made and met shall also be submitted.

Gate Valve: The gate valve shall conform to ANSI/AWWA C500, ANSI/AWWA C509 and the following additional requirements:

1. Valve shall be double disc or resilient sealed.

2. Bolts and nuts for connecting O-ring seal plates and bonnet to body shall either be copper-silicon alloy or stainless steel.

3. Valve shall be furnished with O-ring seals utilizing two O-rings, consistent with appropriate specifications.

4. Valve shall have mechanical joint ends, unless otherwise specifically indicated, which shall conform to ANSI/AWWA C111/A21.11. All joint accessories shall be furnished with each valve.

5. Direction to open (right-hand or left-hand) shall be as shown on the contract Drawings.

6. Operating nut shall be 2" square.

Gate Valve Box: The gate valve box shall conform to the following requirements:

1. Cast iron shall conform to ASTM A48, Class 25.

2. Top section shall be of the top flange design and shall have no bead on the bottom.

3. The word "WATER" shall be cast with raised letters in the center of the cover.

4. Base section shall be of the Dwyer design which centers the operating nut for positive access to the valve.

5. For specific gate box details, see the MDC Details.

Extension Stem: The extension stem shall be fabricated from steel conforming to ASTM A 36. Galvanizing shall conform to the latest edition of ASTM A 123.

Inspection Before Installation: The gate valve, gate box, etc. shall be subject to a careful inspection before being installed. The valve shall be run through a full open-close cycle to insure proper operation.

Installation of Gate Valve: The gate valve shall be installed according to the details shown and to the satisfaction of the Engineer.

All debris and foreign material shall be cleared from valve openings and seats. All mechanisms shall be checked and all nuts and bolts checked for tightness.

The valve box shall be set plumb and centered directly over the operating nut of the valves. Earth fill shall be carefully tamped around the valve box to a distance of 4 feet on all sides of the box or to the undisturbed trench face, if less than 4 feet.
Where and as shown on the Contract Drawings, or ordered, a valve extension stem shall be installed. An extension stem will be ordered when the valve-operating nut is more than 4.5 feet below finished grade.

Excavation and refill shall conform to the requirements under other applicable Contract Sections.

Tapping Sleeve and Tapping Valve:
The Metropolitan District forces will make the actual tap into the water main.

Quality Assurance: All tapping sleeves, gates valves and gate valve boxes shall be inspected and tested at the foundry as required by the standard specifications to which the material is manufactured.

All tapping sleeves, gate valves and gate valve boxes shall be subject to inspection by the Engineer after delivery to the job site and may also be subject to inspection at the foundry by a representative of the District.

In addition, the District reserves the right to have any or all tapping sleeves, gate valves and gate boxes inspected and/or tested by an independent service at either the manufacturer's plant or elsewhere. Such inspection and/or tests shall be at the District's expense.

A certified statement that inspection and all of the specified tests have been made and met shall also be submitted.

Tapping Sleeve: The tapping sleeve shall conform to ANSI/AWWA C110 and the following additional requirements:

1. Sleeve shall be coated inside and outside with two coats of asphalt varnish or pipe dip.

2. A test plug shall be provided on all tapping sleeves.

3. Sleeve shall be furnished with all necessary bolts, nuts, gaskets and lubricants for assembly and installation.

4. Sleeve shall be of the split bolted type with recessed flanged outlets to connect to tapping gate valves.

5. Tapping sleeve shall be of approved stainless steel.

Tapping Gate Valve: The tapping gate valve (may be of the double disc or resilient seated type) shall conform to ANSI/AWWA C500 or C509 and the following additional requirements:

1. Tapping gate valve may be of double disc type or resilient seated type.

2. Valve inlet shall be flanged with raised face for proper alignment with the sleeve outlet.

3. Valve outlet shall be mechanical joint, in accordance with ANSI/AWWA C111/A21.11, with all mechanical joint accessories furnished.

4. Valve shall be manufactured with oversize seat rings to permit the use of a full-size cutter (of nominal tapping gate size). Valve shall be compatible with a Mueller Model C-1 machine.

5. Bolts and nuts for connecting O-ring seals and bonnet to body shall either be copper-silicon or stainless steel.

6. Direction to open (right-hand or left-hand) shall be as shown on the Contract Drawings.

7. Operating nut shall be 2" square.

Gate Valve Box: The gate valve box shall conform to the following requirements:

1. Cast iron shall conform to ASTM A48, Class 25.

2. Top section shall be of the top flange design and shall have no bead on the bottom.

3. The word "WATER" shall be cast with raised letters in the center of the cover.

4. Base section shall be of the Dwyer design which centers the operating nut for positive access to the valve.

5. For specific gate box details, see the MDC Details.

Extension Stem: The extension stem shall be fabricated from steel conforming to ASTM A 36. Galvanizing shall conform to ASTM A 123.

Extension stem shall conform to the details.

Inspection Before Installation: Tapping sleeves, tapping gate valves, gate boxes, etc., shall be subject to a careful inspection before being installed. Valves shall be run through a full open-close cycle to insure proper operation.

Installation of Tapping Sleeves and Taping Gate Valve: The tapping sleeve and tapping gate valve shall be installed according to the details shown on the Contract Drawings, and to the satisfaction of the Engineer.

The tapping sleeve location on the pipe shall be carefully cleaned and inspected prior to installing the sleeve. Both the sleeve and valve shall be carefully installed and supported in position free from distortion and/or strain, by the Contractor’s forces. The excavation for said assembly shall be properly supported and dewatered, all in accord with OSHA requirements.

All debris and foreign material shall be cleaned from sleeve and valve openings and seats. All mechanisms shall be checked and all nuts and bolts checked for tightness. The Contractor shall construct a poured concrete thrust block on the backside of the tapping sleeve in accord with the details as shown on the Contract Drawings and the Developer’s Manual.

Subsequent to tapping the main (performed by the District), the valve box shall be set plumb and centered directly over the operating nut of the valve. Earth fill shall be carefully tamped around the valve box to a distance of 4 feet on all sides of the box or to the undisturbed trench face, if less than 4 feet.

Where and as shown on the Contract Drawings, or ordered, valve extension stems shall be installed. An extension stem will be ordered when the valve-operating nut is more than 4.5 feet below finished grade.

Excavation and refill shall conform to the requirements under other applicable Contract Sections. Temporary and permanent paved and unpaved surface restoration shall conform to the requirements under other applicable Contract Sections.

Tapping Existing Water Main (For tapping size of 12-inches or less): At least ten (10) working days prior to the scheduled tapping date, the Systems Repair Activity of the Operations Function of the Metropolitan District shall be contacted at telephone 278-7850 extension 3629 to confirm the scheduled date. District forces will install the tapping machine and perform all tapping operations on the existing water main.

All materials and fittings used for the installation of the butterfly valves or gate valves with no shut-down shall be in accordance with AWWA standards.

Blow-Off Assembly:
Quality Assurance: All blow-off assemblies including gate valves and fittings shall be inspected and tested at the foundry as required by the standard specifications to which the material is manufactured.

All blow-off assemblies including valves and fittings shall be subject to inspection by the Engineer after delivery to the job site and may also be subject to inspection at the foundry by a representative of the District.

In addition, the District reserves the right to have any or all blow-off assemblies including valves, fittings and special castings inspected and/or tested by an independent service at either the manufacturer's plant or elsewhere. Such inspection and/or the tests shall be at the District's expense. A certified statement that inspection and all of the specified tests have been made and met shall also be submitted.

Inspection Before Installation: Blow-off assemblies including gate valves, pipe, fittings, gate boxes, etc. shall be subject to a careful inspection before being installed. Valves shall be run through a full open-close cycle to insure proper operation.

Installation of Blow-off Assemblies: Blow-off assemblies including piping, gate valves, fittings, etc. shall be installed according to the details shown and to the satisfaction of the Engineer.

All debris and foreign material shall be cleared from valve openings. The blow-off assembly shall be set plumb. Blow-off assemblies and connecting pipe shall have at least the same depth of cover as the distributing main.

Special trench refill shall be placed over the pipe and fittings from the bottom of the trench to 2 feet above the top of the pipe and fittings.

Ductile iron pipe and harnessing shall be installed in accord with the specifications.

The utility identification tape shall be placed approximately two (2) feet above the top of the pipe.

Gate valves and gate boxes shall be installed in accord with the specifications.

Three-quarter inch (3/4") crushed stone, special trench refill and concrete shall be placed in accord with the specifications.

Excavation and refill shall conform to the requirements under other applicable Contract Sections. Temporary and permanent paved and unpaved surface restoration shall conform to the requirements under other applicable Contract Sections.

Method of Measurement: This work will be paid for on a lump sum basis and this shall include all the work as described above which may be necessary to properly complete the item.

Gravel fill from the bottom of the trench to the level 24-inches above the top of the pipe will not be measured for payment, but will be included in the cost of the pipe.

Basis of Payment: This work will be paid for at the contract lump sum for "Water Main Relocation" complete and in place. The price shall include the cost of digging test pits; transporting the materials; clearing, trenching; disposing of excavated materials, removing and disposing of the present water pipes and any appurtenances as needed; furnishing and installing the pipelines complete as shown on plans or as directed, with lacing and harnessing where required, including fittings, pressure reducing valves, vaults, bends, restraint, filter fabric, bank gravel, sand, blow off assemblies, gate/butterfly valves, air valves, sterilization fittings, tapping sleeves, tapping gates, copper bleeder, RCP sleeve, gate boxes, tees, thrust blocks, anchors, pipe insulation and jacketing, utility identification tape and fire hydrant assemblies; refilling trenches; furnishing the additional materials; temporary resurfacing; grading; sheeting; bracing; pumping and all incidental work, except as otherwise herein provided for. No claim will be allowed because the number of pipes and joints may be greater than estimated by the Contractor. The price shall also include all material, transportation, labor, including labor required to assist the District during the testing, and equipment necessary to construct the pipelines in accordance with the Contract Drawings, the Specifications and the requirements of the Engineer there under.

The cost of all excavation, disposing of excavated material, except that which is suitable for refilling, and furnishing other materials for refilling, unless otherwise specified, will be considered as having been included in the lump sum price bid.

No direct payment will be made for any work done or materials used in making the pipeline tight.

ITEM #1401054A HANDLING SANITARY SEWAGE (SANITARY SEWER)

Description:

Reference to "Town" in this Item indicates the Town of Glastonbury Water Pollution Control Authority.

Under this Item, the Contractor shall provide, install, maintain, and operate temporary facilities such as pipes, dams, flumes, pumping equipment, hoses, conduits, excavation, backfilling and all other labor, equipment and materials necessary to maintain sanitary sewage flows during the relocation or reconstruction of existing sanitary sewer facilities without interruption.

No discharge of sewage to any stream, brook or river will be permitted at any time.

Construction Methods:

The Contractor may select and employ the method or procedure of his choice to handle all flows to keep the sewer system in service during the prosecution of relocation or reconstruction work. The selected method or procedure must not create any public nuisance or health hazard and must be approved by the Engineer.

The Town will not assume any liability for additional costs or delays incurred by the Contractor while handling sanitary flows during the prosecution of the work contemplated herein.

Basis of Payment:

For providing all the necessary excavation, backfilling, labor, equipment, tools and materials required to adequately and successfully handle or pump sanitary sewage flows and/or combined flows, in accordance with all existing state, county, federal and local regulations, laws, ordinances or requirements, the Contractor will be paid the lump sum price for "HANDLING SANITARY SEWAGE (SANITARY SEWER)", as described hereinbefore, where and as deemed necessary, during the prosecution of relocation or reconstruction work shown on the Plans.

ITEM #1401242A –8" DUCTILE IRON PIPE (SANITARY SEWER)

Description:

The Contractor shall furnish, lay, joint and test all ductile iron gravity type sanitary sewer pipe, fittings (including special castings), and appurtenant materials and equipment, all as indicated on the drawings and as herein specified.

Materials:

All ductile iron gravity sewer pipe shall be Class 52 with push-on joints, meeting the requirements of ASTM A-746. Interior lining shall be Protecto 401 ceramic epoxy lining or approved equal. Exterior of pipe to receive standard asphaltic coating.

Adapters: Where it is necessary to joint pipe of different type, the Contractor shall furnish and install the necessary adapters unless solid sleeves are indicated on the drawings or permitted. Adapters shall have ends conforming to the above specifications for the appropriate type of joint to receive the adjoining pipe. Adapters joining two classes of pipe may be of the lighter class provided that the annular space in bell-and-spigot type joints will be sufficient for proper jointing.

Joints for push-on and mechanical joint pipe shall conform to ANSI A21.11. The plain end of push-on pipe shall be factory machined to a true circle and chamfered to facilitate fitting the gasket. Push-on and mechanical joint pipe and fittings shall be provided with sufficient quantities of accessories conforming to ANSI A21.11.

Elastomeric gaskets shall be of a composition suitable for exposure to the liquid within the pipe.

Flexible Connections: Where flexible connections in the piping are specified or indicated on the drawings, they shall be obtained by the use of sleeve-type couplings, split couplings, or mechanical joint pipe and/or fittings as herein specified.

Sleeve-Type Couplings: To ensure correct fitting of pipe and couplings, all sleeve-type couplings and accessories shall be furnished by the supplier of the pipe and shall be of a pressure rating at least equal to that of the pipeline in which they are to be installed. Sleeve-type couplings shall be made by Dresser Mfg. Div., Bradford, PA; Smith-Blair, Inc., San Francisco, CA; R.H. Baker & Co., Inc., Huntington Park, CA; or be acceptable equivalent products.

Couplings for buried pipe shall be of cast iron and shall be Dresser Style 53 or 153, Smith-Blair Style 431, Baker Allcast, or acceptable equivalent products. The couplings shall be provided with galvanized steel bolts and nuts.

All couplings shall be furnished with the pipe stop removed. Couplings shall be provided with gaskets of a composition suitable for exposure to the liquid within the pipe.

Coating: Unless otherwise specified, the inside and outside of all pipe and fittings shall be coated with the standard bituminous coating specified under the appropriate ANSI Standard for pipe and fittings.

The outside of pipe and fittings within structures shall not be coated with the bituminous coating, but shall be thoroughly cleaned and given one shop coat of Inertol Rust-inhibitive Primer 621 made by Koppers Co., Inc., Pittsburgh, PA; Multiprime made by PPG Industries, Inc., Pittburgh, PA; Chromox 13R50 Primer made by Mobil Chemical Co., Edison, NJ; or an acceptable equivalent product.

Castings to be encased in concrete shall not be coated. Machined surfaces shall be cleaned and coated with a suitable rust-preventative coating at the shop immediately after being machined.

Inspection and Testing: All pipe and fittings shall be inspected and tested at the foundry as required by the standard specifications to which the material is manufactured. The Contractor shall furnish, in duplicate to the Engineer, sworn certificates of such tests.

In addition, the Town reserves the right to have any or all pipe, fittings and special castings inspected and/or tested by an independent service at either the manufacturer's plant or elsewhere. Such inspection and/or tests shall be at the Town's expense.

Pipes and fittings shall be subjected to a careful inspection and a hammer test just before being laid or installed.

Crushed stone for bedding shall be ¾" conforming to Article M.01.01, No. 6 of Form 816.

Construction Methods:

Shop and Working Drawings: As required by the General Specifications, the Contractor shall submit completely detailed shop and working drawings of the piping. Such drawings shall show the piping layouts in full detail, the location of pipe hangers and supports, large-scale details of all special castings, and location and type of back-up block or device to prevent joints from pulling apart. The drawings shall be fully dimensioned and contain schedules of all pipe, fittings, special castings and other appurtenances.

Handling and Cutting Pipe: The Contractor's attention is directed to the fact that cast iron used for pipe and fittings is comparatively brittle. Every care shall be taken in handling and laying pipe and fittings to avoid damaging the pipe, scratching or marring machined surfaces, and abrasion of the pipe coating.

Any fitting showing a crack and any fitting or pipe that has received a severe blow that may have caused an incipient fracture, even though no such fracture can be seen, shall be marked as rejected and removed at once from the work.

In any pipe showing a distinct crack and in which it is believed there is no incipient fracture beyond the limits of the visible crack, the cracked portions, if so approved, may be cut off by and at the

expense of the Contractor before the pipe is laid so that the pipe used is perfectly sound. The cut shall be made in the sound barrel at a point at least 12 inches from the visible limits of the crack.

Except as otherwise approved, all cutting shall be done with a machine having rolling wheel cutters, knives, or saws adapted to the purpose. Hammer and chisel or so-called wheel snap cutters shall not be used to cut pipe. All cut ends shall be examined for possible cracks caused by cutting.

Cut ends to be used with push-on joints shall be carefully chamfered to prevent cutting the gasket when the pipe is laid or installed.

Installing Pipe and Fittings: No defective pipe or fittings shall be laid or placed in the piping, and any piece discovered to be defective after having been laid or placed shall be removed and replaced by a sound and satisfactory piece. Each pipe and fitting shall be cleared of all debris, dirt, etc. before being laid and shall be kept clean until accepted in the complete work.

Pipe and fittings shall be laid accurately to the lines and grades indicated on the drawings or as required. Care shall be taken to ensure a good alignment both horizontally and vertically. In buried pipelines, each pipe shall have a firm bearing along its entire length.

When mechanical joint, push-on joint, or similar pipe is laid, the bell of the pipe shall be cleaned of excess tar or other obstruction and wiped out before the cleaned and prepared spigot of the next pipe is inserted into it. The new pipe shall be shoved firmly into place until properly seated and held securely until the joint has been completed.

Casting to be encased in masonry shall be accurately set with the bolt holes, if any, carefully aligned. Immediately prior to being set, castings shall be thoroughly cleaned of all rust, scale, and other foreign material.

Excavation and backfilling for ductile iron pipe shall meet the requirements of Section 2.05.03 of Form 816.

Crushed Stone Bedding: Except as otherwise indicated on the drawings, the pipe shall be supported by compacted crushed stone. No pipe or fitting shall be permanently supported on saddles, blocking, or stones. The pipe shall be laid on a foundation of six inches of ¾ inch crushed stone.

Crushed stone shall be placed in the trench to a sufficient height so that upon completion of compaction, as required in the specifications, the entire upper surface of the crushed stone shall be no lower than the bottom of the barrel of the pipe to be laid thereon. The upper surface of the crushed stone shall be shaped as necessary to provide proper grade for the pipe to be laid thereon, bell holes shall be made in the crushed stone so that the pipe shall be supported on its barrel portion only, and the pipe laid thereon to line and grade in the manner described in the specifications.

When the pipe is properly positioned, crushed stone, unless otherwise required by the Engineer, shall be pulled or scraped up against the pipe suitably rammed into place along the barrel of the pipe only to firmly hold the pipe in position. Care shall be taken during these operations to assure that the pipe shall not be disturbed.

Crushed Stone Haunching: The pipe shall be haunched with ¾" crushed stone from the crushed stone foundation to a point at least half-way up the side of the pipe and to this same elevation out to the trench wall. Care shall be taken when placing this crushed stone haunching to assure that the pipe shall not be disturbed. The Contractor shall use any means necessary to assure firm compaction of this crushed stone haunching and adequate side support for the pipe.

Pipe Laid in Rock Trench: In trenches excavated through rock, the rock shall be removed so that on projecting points or spurs of rock project within the limits described elsewhere herein as minimum clearances for rock excavation. The average clearances on sides of pipe shall be not less than six inches for pipe 18 inches or less in size, eight inches for larger pipe. The bottom of the trench will then be filled with crushed stone, as required or ordered. In the area of concrete encasement, if rock is encountered, concrete encasement below pipe may be eliminated by the Engineer.

In filling under, around, and directly over pipe laid in rock cuts, no fragments of broken rock more than three inches in longest dimension will be allowed to be placed within four inches of any part of the pipe. No fill of larger rock fragments will be allowed on sides of pipe or until pipe has been covered to a depth of at least one foot with fine, compacted material.

Crushed Stone Bedding on a Synthetic Drainage Fabric: At locations indicated on the plans and as directed by the Engineer, the Contractor shall furnish and place crushed stone bedding on a synthetic drainage fabric. The synthetic drainage fabric shall be Mirafi 140 Fabric as manufactured by Fiber Industries, Inc., subsidiary of Celanese Corporation, or it shall be an approved equal product.

Mirafi 140 or any material proposed as an equal shall conform to the following requirements: (1) The fabric shall be constructed from two types of continuous filament fibers, one being a polypropylene fiber and the other being a fiber with polypropylene core and nylon sheath. Further, the fabric shall be a random mixture of these fibers formed into a sheet by heating bonding. (2) The fabric shall be rot-proof. (3) The fabric shall not be significantly affected by alkalies and weak acids with PH equal to or greater than 3.0 store fabric prior to use where it will not be exposed to sunlight.

The Contractor shall furnish specifications for, and a sample of, any material proposed as an alternate to Mirafi 140. The Engineer will make comparisons to the specifications for the sample of Mirafi 140 fabric and will make the final decision on the equality.

The Contractor shall provide notarized certification that any alternative material does meet the requirements of these specifications.

The synthetic drainage fabric shall be installed in a trench with a smooth surface bottom, and any sharp object shall be removed to avoid fabric punctures. The fabric shall not be placed until the Engineer has approved the surface upon which it will be placed.

The laying of fabric shall be scheduled such that the lengthy exposure of the fabric to sunlight will be avoided. The fabric shall be placed in double layers on the bottom of trench and turned up at trench sides to the height shown on the plans, or as directed by the Engineer. Fabric shall be laid smoothly. At joints, fabric shall be overlapped at least three feet. Inadvertent tears or punctures in the fabric

may be repaired by placing an additional layer of fabric over tear or puncture with an overlap of three feet from the damaged area.

After the fabric has been placed and approved by the Engineer, crushed stone bedding shall be placed and compacted to dimensions as shown on the plans or as directed by the Engineer. If the fabric is punctured during placing of the stone, fabric shall be repaired to the satisfaction of the Engineer at the expense of the Contractor.

Temporary Plugs: At all times when pipe laying is not actually in progress, the open ends of pipe shall be closed by temporary watertight plugs or by other approved means. If water is in the trench when work is resumed, the plug shall not be removed until all danger of water entering the pipe has passed.

Assembling Push-On Joints: Push-on joints shall be made up by first inserting the gasket into the groove of the bell and applying a thin film of special non-toxic gasket lubricant uniformly over the inner surface of the gasket that will be in contact with the spigot end of the pipe. The chamfered end of the plain pipe shall be inserted into the gasket and then forced past it until it seats against the bottom of the socket.

Assembling Sleeve-Type Couplings: Prior to the installation of sleeve-type couplings, the pipe ends shall be cleaned thoroughly for a distance of eight inches (8”). Soapy water may be used as a gasket lubricant. A follower and gasket, in that order, shall be slipped over each pipe to a distance of about six inches (6”) from the end, and the middle ring shall be placed on the already laid pipe end until it is properly centered over the joint. The other pipe end shall be inserted into the middle ring and brought to proper position in relation to the pipe already laid. The gaskets and followers shall then be pressed evenly and firmly into the middle ring flares. After the bolts have been inserted and all nuts have been made up finger-tight, diametrically opposite nuts shall be progressively and uniformly tightened all around the joint, preferably by use of a torque wrench of the appropriate size and torque for the bolts.

TORQUE

Nominal Pipe Size, in.	Bolt Diameter, in.	Maximum Torque Ft. – Lb.
3-24	5/8	75
30-36 (1/2 in. mid. ring)	5/8	65
30-36 (3/8 in. mid. ring)	5/8	70
30-48	3/4	80
48-72	3/4	70

After assembly and inspection and before being backfilled, all exterior surfaces of buried sleeve-type couplings, including the middle and follower rings, bolts and nuts, shall be thoroughly coated with an

approved heavy-bodied bituminous mastic. Care shall be taken and appropriate devices used to ensure that the undersides, as well as the more readily accessible parts, are well coated.

Setting Appurtenances: All valves, fittings and appurtenances shall be set and jointed as indicated on the drawings.

Socket Pipe Clamps, Tierods and Bridles: Where indicated or necessary to prevent joints or sleeve couplings from pulling apart under pressure, suitable socket pipe clamps, tierods and bridles shall be provided. Bridles and tierods shall be at least 3/4-inch in diameter except where they replace flange bolts of smaller size, in which case they shall be fitted with a nut on each side of the pair of flanges. The socket clamps and tierods or bridles shall be coated with an approved bituminous paint after assembly or, if necessary, prior to assembly.

Piping Support: The Contractor shall furnish and install all supports necessary to hold the piping and appurtenances in a firm, substantial manner at the lines and grades indicated on the drawings or as specified.

All pipe and appurtenances connected to equipment shall be supported in such a manner as to prevent any strain being imposed on the equipment. When manufacturers have indicated requirements that piping loads shall not be transmitted to their equipment, the Contractor shall submit a certification from the manufacturer stating that such requirements have been complied with.

Where necessary, bends, tees and other fittings in pipelines buried in the ground shall be backed up with Class B concrete placed against undisturbed earth where firm support can be obtained. If the soil does not provide firm support, then suitable bridle rods, clamps and accessories to brace the fitting properly shall be provided. Such bridle rods, etc. shall be coated thoroughly and heavily with an approved bituminous paint after assembly or, if necessary, prior to assembly.

Cleaning: Prior to the pressure and leakage tests, the piping shall be thoroughly cleaned of all dirt, dust, oil, grease and other foreign material. This work shall be done with care to avoid damage to linings and coatings.

Pipe testing shall be as required by the Engineer in accordance with Special Provision Item #1401260A – Pipe Tests, for the low pressure air test.

Painting: The shop coats to be given pipe and fittings are herein before specified under “Coating”.

Method of Measurement:

This item will be measured by the actual number of linear feet of pipe completed and accepted through all connections and fittings.

Payment:

This item will be paid by the actual number of linear feet of pipe complete and accepted in place including labor, materials, equipment and tools incidental thereto. The measurement shall be along

the horizontal projection of the centerline of the completed sewer, the length of manhole inverts (as measured between the inside walls of the manholes) being deducted. The unit price shall include: trench excavation, crushed stone bedding, tees and wyes, laying and jointing of all pipes and fittings, concrete encasement, leakage tests, sand backfilling, synthetic drainage fabric, backfilling with suitable excavation material, disposal of surplus excavated material, cleaning pipelines and appurtenances, and all other work associated with the furnishing and laying of the sewer pipe, which work is not measured and paid for elsewhere.

The following related items will be measured for payment under separate items: cofferdam and dewatering, rock-in-trench excavation, manholes.

ITEM #1401260A – PIPE TESTS

Description:

The pipeline shall be made as nearly watertight as practicable, and pipe tests and measurements shall be made after the pipeline has been backfilled.

Where the groundwater level is more than one foot above the top of the pipe at its upper end, the Contractor shall conduct an infiltration test. However, if the groundwater level is four feet or less at this point, a low pressure air test may be performed instead. Where the groundwater is less than one foot above the top of the pipe at its upper end, the contractor shall conduct either exfiltration or low pressure air tests as determined by the Engineer.

Tests will be made after the pipe installation is complete including all laterals as indicated on the plan, manholes are installed, and backfill in the trench has been placed and compacted or consolidated as required by the Engineer.

Construction Methods:

Visual Alignment Test: Upon completion of a section of pipe, a visual inspection will be made by the Engineer. All associated appurtenances installed in conjunction with the installation of the pipeline will also be examined for compliance with these specifications.

Prior to the visual inspection, the contractor shall ensure that the line has been properly cleaned of all foreign materials that might have entered the pipeline.

The visual alignment test will include the mirroring of all pipelines, and if, in the opinion of the Engineer, the installed pipe does not conform to the alignment indicated on the drawings, or does not satisfy the requirements outlined under "Allowable Pipe Deflection", the Contractor shall take accurate measurements as outlined elsewhere within these specifications. All pipeline determined to be outside the noted tolerances shall be corrected to the satisfaction of the Engineer at no cost to the Town.

Low Pressure Air Test:

a. General:

When the Engineer specifies or directs that pipe tests shall be made using the low pressure air test method, the Contractor will be required to provide all equipment, test plugs in the required sizes, appurtenances, connecting hose or pipe, labor, and materials necessary to conduct and control the test as herein specified.

The tests may be conducted by the Contractor using the contractor's equipment, or a subcontractor approved by the Engineer. All equipment proposed for use in conducting the low pressure air test shall be subject to the approval of the Engineer. The Contractor shall submit shop drawings on the proposed equipment for review by the Engineer. These shop drawings must be in sufficient detail to

show the details, set-up, and proposed operation of the low pressure air test equipment, and no testing will be permitted without prior approval of the proposed equipment by the Engineer.

b. Procedure:

The Contractor shall determine the elevation of the groundwater table in the area of the pipeline being subjected to the low pressure air test in a manner approved by the Engineer.

After cleaning and flushing the line, test plugs will be installed in the pipeline being subjected to the low pressure air test, and braced as necessary to secure the plugs in place.

Utilizing the approved equipment, air at low pressure will be slowly introduced into the pipeline until the pressure within the pipeline being tested increases to 4 PSIG greater than the back pressure exerted by the groundwater table over the pipe being tested (back pressure = 1 PSIG per 2.31 feet of water), as determined above. If the water table is not a level above the pipe, the test pressure should be brought up to 4 PSIG. Allow at least two minutes to elapse prior to starting the test. If necessary, allow a small amount of air to slowly enter into the pipeline in order to maintain a pressure of 4 PSIG above the back pressure due to the water table, or 4 PSIG if there is no back pressure to compensate for.

At this point, start measuring the time for the pressure in the pipeline to drop 1 PSIG.

The time necessary to drop 1 PSIG shall not be less than that indicated in Table 507-1 for the size and length of pipeline being tested. If the time is less than that indicated in Table 507-1, the line will be considered as having failed the test.

Any section of pipeline which fails to meet this test will be repaired or replaced as necessary by the Contractor, and retested at no additional expense to the Town.

No pipeline will be considered acceptable until it successfully passes the requirements of this test.

All testing will be conducted by the Contractor or his approved subcontractor in the presence of the Town's inspector. The contractor or subcontractor shall keep a written record which will show the results of the tests conducted. The records should include sufficient data on length of line, pressure levels, time for pressure drop, and related features noted during the testing of each segment of the line. A copy of this record shall be given to the Town.

Infiltration Test:

a. Reinforced Concrete Pipe:

For making the infiltration tests, the Contractor shall furnish suitable test plugs, water pumps, and appurtenances, and all labor required to properly conduct the test.

The infiltration tests shall be made at a time when the groundwater is at least one foot above the top of the pipe of the highest section of work being tested.

Leakage into the reinforced concrete pipeline shall not exceed 500 gallons per inch diameter in 24 hours per mile of pipeline.

b. Other Sewer Pipe:

The Contractor shall furnish suitable test plugs, water pumps, and appurtenances, and all labor required to properly conduct the pipe tests on the pipeline.

For making the infiltration tests, underdrains, if used, shall be plugged and other groundwater drainage shall be stopped to permit the groundwater to return to its normal level insofar as practicable.

Exfiltration Tests: For making the exfiltration tests, the pipe shall be subjected to an internal pressure by plugging the pipe at the lower end and then filling the pipelines and manholes with clean water to a height of two feet above the top of the pipe at its upper end. Where conditions between manholes may result in test pressures which would cause leakage at the stoppers in branches, provisions shall be made by suitable ties, braces, and wedges to secure the stoppers against leakage resulting from the test pressure.

The rate of leakage from the pipe shall be determined by measuring the amount of water required to maintain the level two feet above the top of the pipe.

Leakage from the pipes under test shall not exceed the requirements for leakage into pipes as hereinbefore specified.

The equipment used to introduce the low pressure air into the pipeline shall include a safety valve or release device located in the equipment at a point which will ensure that during the build-up of test pressure, the pipeline being tested will not be subjected to an internal pressure that could damage a properly installed pipe.

All tests shall be conducted on the completed pipeline between manholes. Testing of shorter sections of pipeline will only be permitted with the approval of the Engineer.

Immediately prior to testing, all lines will be cleaned and flushed with water. Pipe manufactured in accordance with ASTM Specifications C-76, C-428, C-644 and/or C-700 shall be soaked for a period of 12 hours to saturate the pipe wall prior to testing with low pressure air.

All gages, controls, and appurtenances for equipment used to conduct the test will be located out of manholes. Connections to the line under test, test plugs, and other equipment will be made with hose or pipe extensions which will safely contain the pressures necessary to conduct and control the test.

The gage used to measure the drop in pressure shall have a four-inch diameter face with a scale of 0 to 15 PSI in 0.1 PSI increments, or as approved by the Engineer.

The Contractor is cautioned of the importance of properly installing the end caps used to plug hubs, wyes, bends, ends of laterals, and other inlets, and securing them against movement during the

installation of pipe. Failure to take this precaution can cause a properly installed pipeline to fail the low pressure air test.
The Contractor is cautioned further regarding the safety of personnel during the test. Low pressure air can exert a substantial force on a test plug, even on small diameter pipe plugs. The Contractor will be responsible to ensure that all test plugs utilized are in good condition and that they will not be pressurized beyond the limits recommended by their manufacturer.

No one will be permitted in a manhole containing a test plug while air is under pressure in the pipeline being subjected to the test.

The pipes shall be tested before any connections are made to buildings.

The Contractor shall construct weirs or other means of measurements as may be required.

Suitable bulkheads shall be installed, as required, to permit the test of the pipe.

Should the sections under test fail to meet the requirements, the Contractor shall do all work of locating and repairing the leaks and retesting as the Engineer may require without additional compensation.

The water used to conduct an exfiltration test shall not be allowed to enter any active sewer.

If, in the judgment of the Engineer, it is impracticable to follow the foregoing procedures for any reason, acceptable modifications in the procedures shall be made as required, but in any event, the Contractor shall be responsible for the ultimate tightness of the line within the above test requirements.

Where water for the test is to be obtained from the Metropolitan District's water system, proper notification must be given them prior to any drawing of water from a hydrant.

High Pressure Water Test: Except as otherwise directed, all pipelines shall be given combined pressure and leakage tests in sections of approved length. The Contractor shall furnish and install suitable temporary testing plugs or caps, all necessary pressure pumps, pipe connections, meters, gages, and other necessary equipment, and all labor required.

Subject to approval, and provided that the tests are made within a reasonable time considering the progress of the project as a whole, and the need to put the section into service, the Contractor may make the tests when the Contractor desires.

However, pipelines in excavation or embedded in concrete shall be tested prior to the backfilling of the excavation or placing of the concrete, and exposed piping shall be tested prior to field painting.

Unless it has already been done, the section of the pipe to be tested shall be filled with water of approved quality, and all air shall be expelled from the pipe. If blow-offs are not available at high points for releasing air, the Contractor shall make the necessary excavations and do the necessary

backfilling and make the necessary taps at such points and shall plug said holes after completion of the test.

The section under test shall be maintained full of water for a period of 24 hours prior to the combined pressure and leakage test being applied.
The pressure and leakage test shall consist of first raising the water pressure (based on the elevation of the lowest point of the section under test and corrected to the gage location) to a pressure in pounds per square inch numerically equal to the pressure rating of the pipe, but not to exceed 150 PSI.

While maintaining this pressure, the Contractor shall make a leakage test by metering the flow of water into the pipe. If the average leakage during a two hour period exceeds a rate of ten gallons per inch of diameter per 24 hours per mile of pipeline, the section shall be considered as having failed the test. All joints within chambers and all flanged joints shall have no visible leakage.

TABLE 507-1

LOW PRESSURE AIR TEST SPECIFICATIONS

MINIMUM TIME REQUIRED (MINUTES:SECONDS)
FOR A PRESSURE DROP OF 1 PSIG
(BASED ON 0.003 CFM/SQ.FT. AND 2.0 CFM)

PIPE DIAMETER D IN INCHES

LENGTH OF SECTION BEING TESTED IN FEET	6"	8"	10"	12"	15"	18"
25	0:10	0:18	0:28	0:40	1:02	1:29
50	0:20	0:35	0:55	1:19	2:04	2:58
75	0:30	0:53	1:23	1:59	3:06	4:27
100	0:40	1:11	1:50	2:38	4:08	5:56
125	0:50	1:28	2:18	3:18	5:09	7:26
150	0:59	1:46	2:45	3:58	6:11	8:30
175	1:09	2:03	3:13	4:37	7:05	↓
200	1:19	2:21	3:40	5:17	↓	↓
225	1:29	2:38	4:08	5:40	↓	↓
250	1:39	2:56	4:35	↓	↓	↓
275	1:49	3:14	4:43	↓	↓	↓
300	1:59	3:31	↓	↓	↓	↓
350	2:19	3:47	↓	↓	↓	↓
400	2:38	↓	↓	↓	↓	↓
450	2:50	↓	↓	↓	↓	↓
500	2:50	3:47	4:43	5:40	7:05	8:30

Note: if the section of pipe to be tested is composed of both main line and more than a total of 100 feet of laterals, 1 minute 30 seconds must be added to the length of time indicated above for the test required for the main pipe.

Basis of Payment: No separate payment shall be made for this item, rather, payment shall be included under the related bid item. The Contractor will be responsible for all costs and delays incurred due to efforts to locate and repair leaks in any pipeline which fails the low pressure air test, regardless of whether the failure is due to workmanship, material failure, the result of an improperly installed or braced end cap, or any pipeline damaged due to improper testing procedure. Payment made under the appropriate item shall be considered full compensation for conducting the specified test.

ITEM #1401996A – MANHOLE DROP INLET
ITEM #1403002A – MANHOLE OVER 10' DEEP (SANITARY SEWER)
ITEM #1403535A – ALTERATION OF EXISTING MANHOLE

Description:

The Contractor shall furnish all materials and shall construct all the sanitary manholes required as part of this Contract, including the frames, covers, steps, inverts, and materials necessary for fastening the frame to the concrete manhole structure.

Manholes shall conform in shape, size, dimensions, materials, and other respects to the details indicated on the drawings, or as ordered by the Engineer.

Materials:

All manholes shall have concrete bases. Invert channels will be formed of brick and mortar at the base unless otherwise specified by the Engineer.

Manhole walls (barrels) shall be either of Class A concrete or pre-cast concrete sections. The top three feet of manholes (the dome) shall be built of either Class A concrete or a precast concrete section. Should the Contractor elect to build the domes of manholes in streets with Class A concrete or a precast concrete section, the top six inches of the dome shall be built of brick to permit adjustment of the frame to meet the street surface.

Class A concrete shall conform to the requirements of Article M.03.01 of Form 816..

Manhole Frames and Covers: The cast-iron manhole frames and covers shall conform to the details shown on the drawings, or as herein specified. The castings shall be of good quality, strong, tough, even-grained cast iron, smooth, free from scale, lumps, blisters, sandholes, and defects of every nature which would render them unfit for the service for which they are intended. Castings shall be at least Class 25 Conforming to the ASTM Specification for gray Iron Castings, Designation A48 as amended to date.

Contact surfaces of covers and frames seats shall be machined to prevent rocking of covers.

All castings shall be thoroughly cleaned and subject to a careful hammer inspection.

Sanitary sewer manhole covers shall have the word "SEWER" embossed in three-inch letters as shown on the standard details.

Precast Concrete Sections and Bases:

Precast concrete sections, if used, shall conform to the ASTM Tentative Specifications for Reinforced Concrete Culvert, Storm Drain, and Sewer Pipe Designation C76-63T, Class III, with the following exceptions and additional requirements:

a. There shall be one line of circular reinforcement having an area of at least 0.25 square inches per linear foot of barrel.

b. The barrel shall be not less than five inches thick.

c. Type II cement shall be used except as otherwise approved.

d. Manhole steps shall be copolymer polypropylene plastic coated ½" grade 60 steel reinforced steps in accordance with ASTM C478 paragraph 11 as revised. Steps shall be cast into the section as it is made.

e. Sections shall be steam cured and shall not be shipped until at least seven days after having been cast.

f. Precast manhole bases will have precast rubber boots designed to conform to the changes in the line as specified by the plans.

g. No more than two lift holes may be cast or drilled in each section.

h. The date of manufacture and the name or trademark of the manufacturer shall be clearly marked on the inside of the barrel.

i. Acceptance of the sections will be on the basis of material tests and inspection of the completed product.

j. All precast units shall have O-ring rubber of mastic gasket joints.

k. Domes may be precast eccentric sections of similar construction. If precast concrete sections are used, the tops of the bases shall be suitable shaped by means of accurate bell-ring forms to receive the barrel sections.

Brick: The brick shall be sound, hard, and uniformly burned brick, regular and uniform in shape and size of compact texture and satisfactory to the Engineer. Brick intended for use below ground level shall conform to ASTM Specifications for sewer brick, Serial Number C-32.

Rejected brick shall be immediately removed from the work and brick satisfactory to the Engineer substituted.

Mortar for Brickwork: The mortar shall be composed of Portland cement, hydrated lime, non-shrink agent, and sand in which the volume of sand shall not exceed three times the sum of the volumes of cement and lime. The proportions of cement and lime shall be as directed and may vary from 1:1/4 for dense, hard-burned brick to 1:3/4 for softer brick. In general, mortar for Grade SA Brick shall be mixed in the proportions of 1:1/2:4-1/2.

Cement shall be Type II Portland cement as specified for concrete masonry.

Hydrated lime shall be type S conforming to the ASTM Standard Specification for Hydrated Lime for Masonry Purposes, Designation C207-49. 4X Hydrate made by the New England Lime Co. will meet this specification.

The sand shall comply with the specifications for "Fine Aggregate" for concrete masonry except that all of the sand shall pass a No. 8 sieve.

Coating: The bituminous waterproofing material shall be Minwax Fibrous Brush Coat made by the Minwax Co., Inc., New York, NY: Tremco 121 Foundation Coating made by the Tremco Manufacturing Co., Cleveland, OH: Inertol No. 7 made by the Inertol Co., Inc., Newark 5, NJ: or approved equal products.

Crushed stone for bedding shall be ¾" conforming to Article M.01.01, No. 6 of Form 816.

Construction Methods:

Excavation and backfilling for manholes shall meet the requirements of Section 2.05.03 of Form 816. Manhole bases shall be bedded on 6" minimum compacted crushed stone on firm subgrade.

Setting Precast Manhole Sections: Precast reinforced concrete manhole sections shall be set so as to be vertical and with sections and steps in true alignment. Joint surfaces of the base or previously set section shall be covered with lubricant and an O-ring installed before the new section is placed or an equivalent.

All holes in sections used for their handling shall be thoroughly plugged with non-shrink mortar. The non-shrink mortar shall be one part cement to one and one-half parts sand/mixed slightly damp to the touch (just short of "balling"); hammered into the holes until it is dense and an excess of paste appears on the surface; and then finished smooth and flush with the adjoining surfaces.

The non-shrink mortar for the above-noted use and for use in sealing of sewer pipe at manholes can be Embeco Mortar (premixed) as manufactured by Master Builders or an approved equal product.

Laying Brickwork: Only clean bricks shall be used in brickwork for manholes. The brick shall be moistened by suitable means as directed until they are neither so dry as to absorb water from the mortar nor so wet as to be slippery when laid.

Each brick shall be laid in a full bed and joint of mortar without requiring subsequent grouting, flushing, or filling and shall be thoroughly bonded as directed. All exposed interior brickwork shall be wiped clean once installed.

Manhole water tables are to be slightly sloped toward the invert (3/4-inch per foot).

The inverts shall conform accurately to the size of the adjoining pipes. Side inverts shall be curved and main inverts (where direction changes) shall be laid out in smooth curves of the longest possible radius which is tangent to the centerlines of adjoining sewers.

Plastering and Curing Brick Masonry: Outside faces of brick masonry shall be plastered with mortar from ¼-inch to 3/8-inch thick. If required, the masonry shall be properly moistened prior to application of the mortar. The plaster shall be carefully spread and troweled so that all cracks are thoroughly worked out. After hardening, the plaster shall be carefully checked by being tapped for bond and soundness. Unbonded or unsound plaster shall be removed and replaced.
Brick masonry and plaster shall be protected from too rapid drying by the use of burlaps kept moist, or by other approved methods, and shall be protected from the weather and frost, all as required.

Coating: The exterior surfaces of all manholes shall be given two coats of bituminous waterproofing material. The waterproofing material shall be applied by brush or spray and in accordance with the instruction of the manufacturer. Time shall be allowed between coats to permit sufficient drying so that the application of the second coat has no effect on the first coat.

Alterations of Existing Manholes or Pipe: Where called for on the plans, directed by the Engineer, or necessary for the new construction, existing manholes and pipes shall be altered as required. Alterations shall include, but not be limited to, cutting new entrances into manhole for pipe, cutting or plugging existing pipe, making of connection to existing pipes, making necessary changes in invert or steps, adjusting frames by raising or lowering, and proper control of waste material in active lines.

Setting Manhole Frames and Covers: Manhole frames shall be set with the tops conforming accurately to the grade of the pavement or finished ground surface or as indicated on the drawings as directed. Frames shall be set concentric with the top of the masonry and in a full bed of mortar so that the space between the top of the manhole masonry and the bottom flange of the frame shall be completely filled and made watertight. A thick ring of mortar extending to the outer edge of the masonry shall be placed all around the bottom and over the top of the flange. The mortar shall be smoothly finished and have a slight slope to shed water away from the frame.

Manhole covers shall be left in place in the frames on completion of other work at the manholes. Manholes located off of the traveled roadway shall have their frames lagged to the manhole wall.

Stubs in Manholes: Stubs placed as specified and indicated on the drawings shall be either short pieces cut from the bell ends or shall be four feet, zero inch-length of reinforced concrete pipe with bulkheads. Stubs shall be set accurately to the required line and elevation and encased in the manhole masonry as shown on the drawings. Where booted-type manholes are used, no stub will be necessary. The boot shall be properly plugged. Any uncalled for boot shall be removed and the hole properly sealed with brick or a boot may be plugged if the Engineer so directs.

Drop Inlet to Manhole: Drops for sanitary sewer manholes shall be accomplished in conformity with the details on the plans and in accordance with the provisions of these specifications for the various materials and work which constitute the complete structure.

Manhole Steps: Unless otherwise indicated, manhole steps shall be installed as shown in the details for plastic manhole steps or an approved equal product. The steps shall be thoroughly clean and dry before being built into the masonry.

The frames and covers shall be set by the Contractor to conform accurately to the grade of the finished pavement, existing ground surface, or as shown on the drawings.

Method of Measurement: Manholes will be measured for payment as a unit, complete in place and accepted.

When drop inlets are included in the Contract, they shall be measured for payment by height. The height measured will be the elevation difference between the invert of the upper inlet pipe and the invert of the lower pipe bend, measured at the inside face of the manhole wall.

Alterations of Existing Manholes will be measured for payment as a unit.

No measurement for payment will be made for excavation, backfilling, crushed stone base, sheeting, shoring and bracing ordered left in place, concrete, damp-proofing, manhole steps, manhole frames and covers, items incidental to the construction, but costs associated with these items shall be included in the contract unit price bid for each item.

Basis of Payment:

Payment for this item will be at the contract unit price bid for each item, complete and in place, which price will include excavation, crushed stone base, backfilling, sheeting, shoring and bracing ordered left in place, concrete, disposal of surplus excavated material, damp-proofing, manhole steps, manhole frames and covers, inverts and watertables, connections to and rubber boots in addition to all labor, equipment, tools and materials necessary to complete each item. Payment for alterations of existing manholes shall include all costs and labor incidental to altering the structure to the required end result.

Pay Item	Pay Unit
Manhole Drop Inlet	L.F.
Manhole Over 10’ Deep (Sanitary Sewer)	Each
Alteration of Existing Manhole	Each

ITEM #1403608A – REMOVAL OF EXISTING SANITARY SEWER

Description:

Where it is indicated on the Contract Drawings or directed by the Engineer that a pipe, manhole, sewer or portions thereof are to be abandoned (discontinued) and removed, the Contractor shall excavate for, cut into, remove said pipe, manhole, sewer, sewers, laterals or portions thereof, including all associated or tributary piping and appurtenances (manholes, chimneys, etc.) within the limits of which said removal of sewer, sewers or portions thereof is to occur.

The Contractor is hereby notified that no abandonment of existing sewers or portions thereof will occur until all houses or buildings are connected to the new sewer and that relocated sewerage facilities are in place, completed and accepted by the engineer, for the proper conveyance of sewage.

The Contractor shall obtain all the necessary permits required to perform such work from the Town of Glastonbury Water Pollution Control Authority prior to the commencement of any work under these items, copies to the Engineer.

The Contractor shall furnish all the necessary labor, equipment, tools and material required to complete the work contemplated under these items and as specified herein, including but not limited to, excavation, sewer removal and disposal, sheeting shoring, dewatering, backfill, backfilling trench compaction, temporary pavement restoration, and grading.

Materials:

Backfill material shall be existing material, or suitable fill as approved by the Engineer.

Construction Methods:

REMOVE EXISTING SEWERS
The Contractor will be required to excavate down to, remove and dispose of, in manner satisfactory to the Engineer, said sewer and appurtenances and shall backfill, compact and resurface said excavation.

Method of Measurement:

This work will be measured for payment by the actual number of linear feet of sanitary sewer removed and disposed of, measured through all manholes. Manholes and house laterals removed will not be measured for payment.

Payment for this work will be made at the contract unit price per linear feet for "Removal of Existing Sanitary Sewer", which prices shall include all the necessary labor, equipment, tools and materials, and all excavation, sheeting, shoring, dewatering, backfill, backfilling, trench compaction, temporary pavement restoration, grading and disposal of unsuitables.

There will be no direct payment for the removal of manholes and house laterals but the cost of this work shall be considered as included in the general cost of the work.

TAB E

BID PROPOSAL

Proposal of _____

(hereinafter called "Bidder"), organized and existing under the laws of the State of _____

_____, doing business as _____

_____.

To the Town of Glastonbury (hereinafter called "Town").

In compliance with your Invitation to Bid, the Bidder hereby proposed to furnish materials and/or services as per Bid Number GL-2012-15 in strict accordance with the Bid Documents, within the time set forth therein, and at the prices stated below.

By submission of this bid, the Bidder certifies, and in the case of a joint bid each party thereto certifies as to their own organization that this bid has been arrived at independently without consultation, communication, or agreement as to any matter relating to this bid with any other Bidder or with any competitor.

The Bidder acknowledges receipt of the following:

Addendum #1_____

Addendum #2_____

Addendum #3_____

It is the responsibility of the Bidder to check the Town's website for any Addendum before submitting the bid.

NO.	ITEM NO.	DESCRIPTION	EST. QTY.	UNIT PRICE	TOTAL PRICE
1.	0201001 A	Clearing and Grubbing	1 L.S.	$_____/L.S.	$_____
2.	0201009 A	Miscellaneous Relocations	1 EST.	$ 5,000.00 EST.	$ 5,000.00
3.	0202002	Earth Excavation	1170 C.Y.	$_____/C.Y.	$_____
4.	0202101	Rock Excavation	35 C.Y.	$_____/C.Y.	$_____
5.	0202245 A	J-Hook Rock Vane	1 EA.	$_____/ EA.	$_____
6.	0202522	Removal of Bituminous Type Pavement	100 S.Y.	$_____/S.Y.	$_____
7.	0202529	Cut Bituminous Concrete Pavement	115 L.F.	$_____/L.F.	$_____
8.	0203202	Structure Excavation-Earth (Excluding Cofferdam & Dewatering)	740 C.Y.	$_____/C.Y.	$_____
9.	0203304	Structure Excavation - Rock (Excluding Cofferdam & Dewatering)	50 C.Y.	$_____/C.Y.	$_____
10.	0204081 A	Cofferdam and Dewatering - Sanitary Sewer	170 LF	$_____/LF	$_____
11.	0204082 A	Cofferdam and Dewatering - Bridge	160 LF	$_____/LF	$_____
12.	0204083 A	Cofferdam and Dewatering - Bridge Foundation	240 LF	$_____/LF	$_____
13.	0204110	Cofferdam Material Left In Place	720 SF	$_____/ SF	$_____
14.	0205003	Trench Excavation 0'-10' Deep	25 C.Y.	$_____/C.Y.	$_____

15.	0205004	Rock in Trench Excavation 0'-10' Deep	12 C.Y.	$_____/C.Y.	$_____
16.	0209001	Formation of Subgrade	1790 SY	$_____/SY	$_____
17.	0210820 A	Water Pollution Control (Estimated Cost Plus)	1 EST.	$ 3,000.00 EST.	$ 3,000.00
18.	0212002 A	Subbase	500 C.Y.	$_____/C.Y.	$_____
19.	0214020	Compacted Granular Fill	20 C.Y.	$_____/C.Y.	$_____
20.	0216003 A	Pervious Structure Backfill	460 C.Y.	$_____/C.Y.	$_____
21.	0219001	Sedimentation Control System	540 LF	$_____/LF	$_____
22.	0219011 A	Sedimentation Control System At Catch Basin	5 EA.	$_____/EA.	$_____
23.	0406011	Bituminous Concrete Class 1	285 TON	$_____/TON	$_____
24.	0406029	Bituminous Concrete Class 4	620 TON	$_____/TON	$_____
25.	0406236	Material for Tack Coat	180 GAL	$_____/GAL	$_____
26.	0503001 A	Removal of Superstructure	1 L.S.	$_____/L.S.	$_____
27.	0507120 A	Type "C" Catch Basin With 3' Sump	2 EA.	$_____/EA.	$_____
28.	0507121 A	Type "C" Catch Basin With 3' Sump Over 10' Deep	1 EA.	$_____/EA.	$_____
29.	0507123 A	Type "C" Catch Basin Double Grate-Type II With 3' Sump	1 EA.	$_____/EA.	$_____
30.	0507439 A	Type "C-M" Catch Basin Double Grate Type II with 3' Sump	1 EA.	$_____/EA.	$_____

31.	0507601 A	Manhole	2 EA.	$_____/EA.	$_____
32.	0507842 A	Sedimentation Structure	1 EA.	$_____/EA.	$_____
33.	0601001	Class “A” Concrete	170 C.Y.	$_____/C.Y.	$_____
34.	0601088 A	Concrete Form Liners	1050 SF	$_____/SF	$_____
35.	0601201	Class “F” Concrete	20 C.Y.	$_____/C.Y.	$_____
36.	0601301	Underwater Concrete	140 C.Y.	$_____/C.Y.	$_____
37.	0601536 A	Precast Concrete Arch (32’x9’)	1 L.S.	$_____/L.S.	$_____
38.	0602001	Deformed Steel Bars	8130 LB	$_____/LB	$_____
39.	0602006	Deformed Steel Bars (Epoxy Coated)	4740 LB	$_____/LB	$_____
40.	0651001	Bedding Material	12 C.Y.	$_____/C.Y.	$_____
41.	0651012 A	15” R.C. Pipe	229 LF	$_____/LF	$_____
42.	0652010 A	15” R.C. Culvert End	1 EA.	$_____/EA.	$_____
43.	0703011 A	Intermediate Riprap	40 C.Y.	$_____/C.Y.	$_____
44.	0703012 A	Modified Riprap	3 C.Y.	$_____/C.Y.	$_____
45.	0707001	Membrane Waterproofing (Woven Glass Fabric)	200 SY	$_____/SY	$_____
46.	0708001	Dampproofing	110 SY	$_____/SY	$_____
47.	0714020 A	Temporary Sheet Piling	1020 SF	$_____/SF	$_____
48.	0815001	Bituminous Concrete Lip Curbing	690 LF	$_____/LF	$_____

49.	0822001 A	Temporary Precast Concrete Barrier Curb	40 LF	$_____/LF	$_____
50.	0904304 A	Metal Bridge Rail-Three Rail (Combination)	34 LF	$_____/LF	$_____
51.	0904306 A	Metal Bridge Rail-Four Rail (Combination)	34 LF	$_____/LF	$_____
52.	0904487 A	Metal Bridge Rail-(Handrail)	17 LF	$_____/LF	$_____
53.	0910170	Metal Beam Rail (Type R-B 350)	13 LF	$_____/LF	$_____
54.	0910173	R-B 350 Bridge Attachment-Vertical Shape Parapet	1 EA.	$_____/EA.	$_____
55.	0911924	R-B End Anchorage Type II	1 EA.	$_____/EA.	$_____
56.	0912503	Remove Metal Beam Rail	30 LF	$_____/LF	$_____
57.	0914022 A	Remove & Store Metal Fence	30 LF	$_____/LF	$_____
58.	0914024 A	Install Salvaged Metal Fence	22 LF	$_____/LF	$_____
59.	0921001 A	Concrete Sidewalk	1260 SF	$_____/SF	$_____
60.	0922501	Bituminous Concrete Driveway	257 SY	$_____/SY	$_____
61.	0930001	Object Marker	1 EA.	$_____/EA.	$_____
62.	0939001	Sweeping for Dust Control	200 HOUR	$_____/HOUR	$_____
63.	0939002	Furnishing Sweeper	1 L.S.	$_____/L.S.	$_____
64.	0944002	Furnishing & Placing Topsoil	510 SY	$_____/SY	$_____
65.	0949062 A	Pennisetum Alopecuroides, Fountain Grass 2 Gal.	19 EA.	$_____/EA.	$_____

66.	0949097	Amelanchier Canadensis, Shadblow Serviceberry	2 EA.	$_____/EA.	$_____
67.	0949430 A	Coreopsis Verticillata 'Crème Brulee', Crème Brulee Corepsis	150 EA. 2 Gal.	$_____/EA.	$_____
68.	0949431 A	Malus 'Sugartyme', Sugartyme Crab 2 ½"-3" CAL. B&B	1 EA.	$_____/EA.	$_____
69.	0949769	Acer Rubrum, Red Maple	1 EA.	$_____/EA.	$_____
70.	0950005 A	Turf Establishment	510 SY	$_____/SY	$_____
71.	0970006 A	Trafficperson (Municipal Police Officer)	1 EST.	$ 5,000.00/EST.	$ 5,000.00
72.	0970007 A	Trafficperson (Uniformed Flagger)	100 HOUR	$_____/HOUR	$_____
73.	0971001 A	Maintenance and Protection of Traffic	1 L.S.	$_____/L.S.	$_____
74.	0974001 A	Removal of Existing Masonry	280 C.Y.	$_____/C.Y.	$_____
75.	0975002	Mobilization	1 L.S.	$_____/L.S.	$_____
76.	0976002	Barricade Warning Lights High Intensity	10500 DAY	$_____/DAY	$_____
77.	0978002	Traffic Drum	15 EA.	$_____/EA.	$_____
78.	0979003 A	Construction Barricade Type III	4 EA.	$_____/EA.	$_____
79.	0980001	Construction Staking	1 L.S.	$_____/L.S.	$_____
80.	1206023 A	Removal & Relocation of Existing Signs	1 L.S.	$_____/L.S.	$_____
81.	1208902	Sign Face Sheet Aluminum	1.5 SF	$_____/SF	$_____

		(Enclosed Lens)			
82.	1210102	4" Yellow Epoxy Resin Pavement Markings	854 LF	$_____/LF	$_____
83.	1210106	12" White Epoxy Resin Pavement Markings	80 LF	$_____/LF	$_____
84.	1220011 A	Construction Signs-Type III Reflective Sheeting	220 SF	$_____/SF	$_____
85.	1300005 A	Relocation of Water Main	1 L.S.	$_____/L.S.	$_____
86.	1401054 A	Handling Sanitary Sewage (Sanitary Sewer)	1 L.S.	$_____/L.S.	$_____
87.	1401242 A	8" Ductile Iron Pipe (Sanitary Sewer)	80 LF	$_____/LF	$_____
88.	1401996 A	Manhole Drop Inlet	6.5 LF	$_____/LF	$_____
89.	1403002 A	Manhole Over 10' Deep (Sanitary Sewer)	2 EA.	$_____/EA.	$_____
90.	1403535 A	Alteration of Existing Manhole	1 EA.	$_____/EA.	$_____
91.	1403608 A	Removal of Existing Sanitary Sewer	25 LF	$_____/LF	$_____

TOTAL BID AMOUNT: **$**_____

WRITTEN BID AMOUNT: _____

_____

OTHER ITEMS REQUIRED WITH SUBMISSION OF BID PROPOSAL:

The following bid checklist describes items required for inclusion with the above-referenced bid proposal package. It is provided for the convenience of the bidders and, therefore, should not be assumed to be a complete list.

_____**1. Included Bid Bond as per Section 10 of the Information for Bidders.**

_____**2. Included Disclosure of Past and Pending Mediation, Arbitration, and Litigation cases against the Bidder or its Principals as per Section 17 of the Information for Bidders.**

_____**3. Included Qualifications Statement as per Section 21 of the Information for Bidders.**

_____**4. Checked Town web site for Addendums and acknowledged Addendums on page BP-1.**

_____**5. Acknowledged Code of Ethics on page BP-9.**

_____**6. Clearly marked envelope with Bid Number, Date, and Time of opening.**

TOWN OF GLASTONBURY

BID / PROPOSAL		**GL # or RPGL #**	**BID #GL-2012-15**
DATE ADVERTISED	**2/24/2012**	**DATE / TIME DUE**	**3/20/2012 11:00 a.m.**

NAME OF PROJECT **Replacement of Addison Road Bridge over Salmon Brook**

It is the responsibility of the Bidder to clearly mark the outside of the bid envelope with the Bid Number, Date and Time of Bid Opening, and it also THE RESPONSIBILITY OF THE BIDDER TO CHECK THE TOWN'S WEBSITE BEFORE SUBMITTING BID FOR ADDENDUMS POSTED PRIOR TO BID OPENING.

CODE OF ETHICS:
I/We have reviewed a copy of the Town of Glastonbury's Code of Ethics and agree to submit a Consultant Acknowledgement Form if I/We are selected. Yes_____ No_____ *

***Bidder is advised that effective August 1, 2003, the Town of Glastonbury cannot consider any bid or proposal where the Bidder has not agreed to the above statement.**

Respectfully submitted:

Type or Print Name of Individual	**Doing Business as (Trade Name)**
Signature of Individual	**Street Address**
Title	**City, State, Zip Code**
Date	**Telephone Number/Fax Number**
E-Mail Address	**SS# or TIN#**

(Seal – If bid is by a Corporation)

Attest

TAB F

PERMITS

Town of Glastonbury

2155 MAIN STREET • P.O. BOX 6523 • GLASTONBURY, CONNECTICUT 06033-6523

November 18, 2009

CONSERVATION COMMISSION AND INLAND WETLANDS & WATERCOURSES AGENCY

RECEIVED NOV 20 2009

Daniel A. Pennington, Town Engineer/Manager of Physical Services
Town of Glastonbury
2155 Main Street
Post Office Box 6523
Glastonbury, Connecticut 06033-6523

Re: Application of the **Town of Glastonbury** (Engineering Division) for an**: inland wetlands and watercourses permit** to replace the **Addison Road Bridge over Salmon Brook** – Daniel A. Pennington, Town Engineer – Anchor Engineering, C.E.

Dear Dan:

At its Regular Meeting of November 12, 2009, the Conservation Commission/Inland Wetlands & Watercourses Agency approved an Inland Wetlands and Watercourses Permit, in accordance with the plans and conditions cited in the **attached** motion.

Please read the conditions of approval carefully and comply with them. Some of the conditions may require interacting with the Environmental Planner (e.g. inspection of soil erosion and sediment control); it will be your responsibility to schedule such interactions. Any questions you may have about the stated conditions can be directed to the Office of Community Development at 652-7511.

This Permit:

- requires that the approved regulated activities be completed within one (1) year from commencement of said activities;
- is valid for five (5) years and thus expires on November 12, 2014; and
- may not be transferred unless authorized by the Inland Wetlands & Watercourses Agency

This Permit may be revoked if you exceed the conditions or limitations of this Permit or have secured this Permit through inaccurate information.

Once again should you have any questions, please do not hesitate to contact me.

Sincerely,

Tom Mocko
Environmental Planner

TM:gfm
Attachment

cc: Anchor Engineering

APPROVED WETLANDS PERMIT MOTION

MOVED, that the Inland Wetlands and Watercourses Agency grants an inland wetlands and watercourses permit to the Town of Glastonbury for the replacement of the Addison Road bridge over Salmon Brook, in accordance with application material on file in the Office of Community Development and in compliance with the following conditions:

1. A preconstruction meeting shall be held with the Permittee, the selected site contractor, all selected inspectors and the Environmental Planner to discuss the project, the detailed sequencing and staging provisions, and the detailed mitigation measures that are all required to be implemented during and after construction.

2. Installation of soil erosion and sedimentation control and stabilization measures shall be the Permittee's responsibility. Once installed these measures shall then be inspected by the Environmental Planner prior to land disturbance activities. Afterwards it then shall be the Permittee's responsibility to inspect these control measures during, and immediately following, substantial storm events and maintain and/or replace the control measures, when needed, on a regular basis until the site is vegetatively stabilized. Hay bales shall be replaced every 60 days. The Environmental Planner is hereby authorized to require additional soil erosion and sediment controls and stabilization measures to address situations that arise on the site.

3. Healthy mature trees shall be preserved and saved when possible. Said trees shall be protected with the use of high visibility construction fence during construction or otherwise protected as required by staff.

4. Material shall not be stockpiled within fifty feet of a wetlands or watercourse unless approved by the Town's Environmental Planner.

5. Metal waste containers shall be provided at the site to facilitate the collection of refuse material generated from construction activities. Such material shall not be buried or burned at the site.

6. Any temporary storage of fuels on the site shall only be allowed as approved by the Town's Fire Marshal, with its location approved by the Environmental Planner.

7. As-built information relative to the wetlands restoration plan, grading to demonstrate no net loss of flood storage capacity, and final stabilization measures shall be provided as required by the Environmental Planner.

8. The Permittee shall be fully responsible for damages caused by all activities undertaken pursuant to this permit that may have a detrimental effect on wetlands and/or watercourses, and all such activities that cause erosion and sedimentation problems.

9. It shall be the responsibility of the Town Engineer to interact with selected contractor(s) for the project to insure that the environmental protection measures, goals and objectives, as exhibited in the submitted application materials and the site plans and details, established for this project are implemented and met. The Town's Environmental Planner is hereby authorized to direct the Town Engineer to fulfill such obligations at any time during the construction period.

****

Town of Glastonbury

2155 MAIN STREET • P.O. BOX 6523 • GLASTONBURY, CONNECTICUT 06033-6523

TOWN PLAN AND
ZONING COMMISSION

SECTION 4.11 (FLOOD ZONE) SPECIAL PERMIT

APPLICANT: TOWN OF GLASTONBURY
PHYSICAL SERVICES DEPARTMENT
P.O. BOX 6523
GLASTONBURY, CT 06033-6523

OWNER: TOWN OF GLASTONBURY
P.O. BOX 6523
GLASTONBURY, CT 06033-6523

FOR: ADDISON ROAD BRIDGE
OVER THE SALMON BROOK

MOVED, that the Town Plan and Zoning Commission approve the application of the Town of Glastonbury, Physical Services Department, for a Section 4.11 (Flood Zone) Special Permit – replacement of the Addison Road Bridge over the Salmon Brook, in accordance with the following plan:

"TOWN OF GLASTONBURY REPLACEMENT OF ADDISON ROAD BRIDGE OVER SALMON BROOK ROADWAY PLAN GLASTONBURY CONNECTICUT ANCHOR ENGINEERING SERVICES, INC. 41 SEQUIN DRIVE GLASTONBURY, CT 06033 PHONE: (860) 633-8770 FAX: (860) 633-5971 WWW.ANCHORENGR.COM PROJECT 075-22 DATE SEP 2009 SCALE: AS NOTED PROJ. ENGINEER DPL/PL PROJ. MANAGER TJY OFFICE REVIEW JCO SHEET NO. 11 OF 26"

"TOWN OF GLASTONBURY REPLACEMENT OF ADDISON ROAD BRIDGE OVER SALMON BROOK GENERAL BRIDGE PLAN GLASTONBURY CONNECTICUT ANCHOR ENGINEERING SERVICES, INC. 41 SEQUIN DRIVE GLASTONBURY, CT 06033 PHONE: (860) 633-8770 FAX: (860) 633-5971 WWW.ANCHORENGR.COM PROJECT 075-22 DATE JUL 2009 SCALE: AS NOTED PROJ. ENGINEER TJY PROJ. MANAGER TJY OFFICE REVIEW JCO SHEET NO. 13 OF 26"

and in compliance with the following condition:

1. Certification from a Professional Engineer shall be required confirming no loss of flood storage capacity.

APPROVED: TOWN PLAN AND ZONING COMMISSION
MAY 4, 2010

Patricia V. Low

PATRICIA V. LOW, ACTING CHAIRMAN

US Army Corps of Engineers®
New England District

Appendix 1A: Category 1 Certification Form
(Required for all Inland Projects in Connecticut)

Submit this form **before** work commences to the following addresses:

U.S. Army Corps of Engineers, Permits & Enforcement Branch B (CT),
696 Virginia Road, Concord, MA 01742-2751

Connecticut Department of Energy & Environmental Protection, CT DEEP,
Inland Water Resources Division, 79 Elm Street, Hartford, CT 06106-5127
(not required if work is done within exterior boundaries of Mashantucket)

Permittee Name & Address: Town of Glastonbury, 2155 Main Street, Glastonbury, CT 06033

Phone number & Email address: 860-652-7500, richard.johnson@glastonbury-ct.gov

Work Location/Address: Addison Rd Bridge No. 04121, approx. 1000 feet north of Hebron Ave.

Latitude/Longitude coordinates: Latitude 41.71874 / Longitude -72.57686

Waterway name: Salmon Brook

Contractor Name & Address: To be determined - the project has not been advertised for construction yet.

Phone number & Email address: _____

Proposed Work Dates: Start: _____ Finish: _____

Work will be done within Inland Waters & Wetlands under the following categories – refer to Appendix 1 (check all that apply):

_____ 1.A. New Fill and/or Fill Associated with Excavation

_____ 1.B. Stream Bank Stabilization

__X__ 1.C. Repair & Maintenance of Existing Authorized or Grandfathered Fill.

Wetland impact: 1285 square feet (sf) Waterway impact: _____ sf and/or 70 linear feet

Brief Project Description: Replacement of the existing superstructure and abutments of the Addison Rd bridge over Salmon Brook. The project also includes reconstruction of 500+/- linear feet of roadway and drainage improvements.

Project purpose: To provide a hydraulically adequate bridge with improved safety, drainage and roadway geometry.

Secondary Impacts include but are not limited to impacts to inland waters or wetlands drained, dredged, flooded, cleared or degraded resulting from a single and complete project. See General Condition 3.

Does your project include any of these secondary impacts? Y/N – If yes, please describe them:
Yes - Dewatering activities will be used to construct new abutments and replace a sanitary sewer crossing in a dry condition. This temporary impact area is included in the wetland impact square footage shown above.

Your signature below, as permittee, indicates that you accept and agree to comply with the terms, eligibility criteria, and general conditions of Category 1 of this Connecticut General Permit.

Permittee Signature: _____ **Date:** _____

TAB G

WAGE RATES

- Special Notice -

To All State and Political Subdivisions,Their Agents, and Contractors

Connecticut General Statute 31-55a - Annual adjustments to wage rates by contractors doing state work.

Each contractor that is awarded a contract on or after October 1, 2002, for (1) the construction of a state highway or bridge that falls under the provisions of section 31-54 of the general statutes, or (2) the construction, remodeling, refinishing, refurbishing, rehabilitation, alteration or repair of any public works project that falls under the provisions of section 31-53 of the general statutes shall contact the Labor Commissioner on or before July first of each year, for the duration of such contract, to ascertain the prevailing rate of wages on an hourly basis and the amount of payment or contributions paid or payable on behalf of each mechanic, laborer or worker employed upon the work contracted to be done, and shall make any necessary adjustments to such prevailing rate of wages and such payment or contributions paid or payable on behalf of each such employee, effective each July first.

- The prevailing wage rates applicable to any contract or subcontract awarded on or after October 1, 2002 are subject to annual adjustments each July 1st for the duration of any project which was originally advertised for bids on or after October 1, 2002.
- Each contractor affected by the above requirement 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 Web Site. The annual adjustments will be posted on the Department of Labor Web page: www.ctdol.state.ct.us. For those without internet access, please contact the division listed below.
- 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.

Any questions should be directed to the Contract Compliance Unit, Wage and Workplace Standards Division, Connecticut Department of Labor, 200 Folly Brook Blvd., Wethersfield, CT 06109 at (860)263-6790.

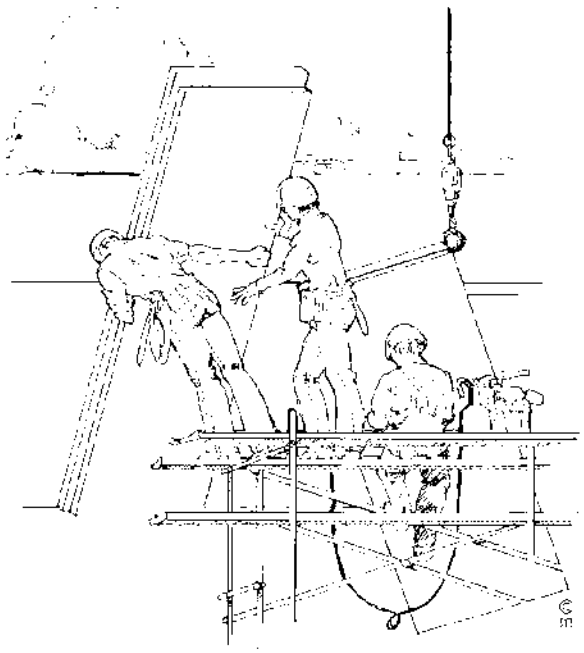
~NOTICE~

TO ALL CONTRACTING AGENCIES

Please be advised that Connecticut General Statutes Section 31-53, requires the contracting agency to certify to the Department of Labor, the total dollar amount of work to be done in connection with such public works project, regardless of whether such project consists of one or more contracts.

Please find the attached "Contracting Agency Certification Form" to be completed and returned to the Department of Labor, Wage and Workplace Standards Division, Public Contract Compliance Unit.

✎ Inquiries can be directed to (860)263-6543.



CONNECTICUT DEPARTMENT OF LABOR
WAGE AND WORKPLACE STANDARDS DIVISION
CONTRACT COMPLIANCE UNIT

CONTRACTING AGENCY CERTIFICATION FORM

I, _____, acting in my official capacity as _____,
authorized representative title

for _____, located at _____,
contracting agency address

do hereby certify that the total dollar amount of work to be done in connection with

_____, located at _____,
project name and number address

shall be $_____, which includes all work, regardless of whether such project

consists of one or more contracts.

CONTRACTOR INFORMATION

Name:_____

Address:_____
Authorized Representative:_____
Approximate Starting Date: _____

Approximate Completion Date:_____

_____ _____
Signature Date

Return To: Connecticut Department of Labor
Wage & Workplace Standards Division
Contract Compliance Unit
200 Folly Brook Blvd.
Wethersfield, CT 06109

Date Issued: _____

CONNECTICUT DEPARTMENT OF LABOR
WAGE AND WORKPLACE STANDARDS DIVISION

CONTRACTORS WAGE CERTIFICATION FORM

I,_____ of _____
Officer, Owner, Authorized Rep. Company Name

do hereby certify that the _____
Company Name

_____
Street

_____
City

and all of its subcontractors will pay all workers on the

_____
Project Name and Number

_____
Street and City

the wages as listed in the schedule of prevailing rates required for such project (a copy of which is attached hereto).

_____
Signed

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

_____
Notary Public

Return to:

Connecticut Department of Labor
Wage & Workplace Standards Division
200 Folly Brook Blvd.
Wethersfield, CT 06109

Information needs to be provided below:

Date of schedule issued:

ID # on the top left of rate schedule:

Connecticut Department of Labor
Wage and Workplace Standards Division
FOOTNOTES

Please Note: If the "Benefits" listed on the schedule for the following occupations includes a letter(s) (+ a or + a+b for instance), refer to the information below.

Benefits to be paid at the appropriate prevailing wage rate for the listed occupation.

If the "Benefits" section for the occupation lists only a dollar amount, disregard the information below.

Bricklayers, Cement Masons, Cement Finishers, Concrete Finishers, Stone Masons
(Building Construction) and
(Residential- Hartford, Middlesex, New Haven, New London and Tolland Counties)

a. Paid Holiday: Employees shall receive 4 hours for Christmas Eve holiday provided the employee works the regularly scheduled day before and after the holiday. Employers may schedule work on Christmas Eve and employees shall receive pay for actual hours worked in addition to holiday pay.

Elevator Constructors: Mechanics

a. Paid Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Veterans' Day, Thanksgiving Day, Christmas Day, plus the Friday after Thanksgiving.

b. Vacation: Employer contributes 8% of basic hourly rate for 5 years or more of service or 6% of basic hourly rate for 6 months to 5 years of service as vacation pay credit.

Glaziers

a. Paid Holidays: Labor Day and Christmas Day.

Power Equipment Operators
(Heavy and Highway Construction & Building Construction)

a. Paid Holidays: New Year's Day, Good Friday, Memorial day, Independence Day, Labor Day, Thanksgiving Day and Christmas Day, provided the employee works 3 days during the week in which the holiday falls, if scheduled, and if scheduled, the working day before and the working day after the holiday. Holidays falling on Saturday may be observed on Saturday, or if the employer so elects, on the preceding Friday.

Connecticut Department of Labor
Wage and Workplace Standards Division
FOOTNOTES

Ironworkers

a. Paid Holiday: Labor Day provided employee has been on the payroll for the 5 consecutive work days prior to Labor Day.

Laborers (Tunnel Construction)

a. Paid Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day and Christmas Day. No employee shall be eligible for holiday pay when he fails, without cause, to work the regular work day preceding the holiday or the regular work day following the holiday.

Roofers

a. Paid Holidays: July 4th, Labor Day, and Christmas Day provided the employee is employed 15 days prior to the holiday.

Sprinkler Fitters

a. Paid Holidays: Memorial Day, July 4th, Labor Day, Thanksgiving Day and Christmas Day, provided the employee has been in the employment of a contractor 20 working days prior to any such paid holiday.

Truck Drivers
(Heavy and Highway Construction & Building Construction)

a. Paid Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Christmas day, and Good Friday, provided the employee has at least 31 calendar days of service and works the last scheduled day before and the first scheduled day after the holiday, unless excused.

Information Bulletin
Occupational Classifications

The Connecticut Department of Labor has the responsibility to properly determine "job classification" on prevailing wage projects covered under C.G.S. Section 31-53.

Note: This information is intended to provide a sample of some occupational classifications for guidance purposes only. It is not an all-inclusive list of each occupation's duties. This list is being provided only to highlight some areas where a contractor may be unclear regarding the proper classification.

Below are additional clarifications of specific job duties performed for certain classifications:

- **ASBESTOS WORKERS**

  Applies all insulating materials, protective coverings, coatings and finishes to all types of mechanical systems.

- **ASBESTOS INSULATOR**

  Handle, install apply, fabricate, distribute, prepare, alter, repair, dismantle, heat and frost insulation, including penetration and fire stopping work on all penetration fire stop systems.

- **BOILERMAKERS**

  Erects hydro plants, incomplete vessels, steel stacks, storage tanks for water, fuel, etc. Builds incomplete boilers, repairs heat exchanges and steam generators.

- **BRICKLAYERS, CEMENT MASONS, CEMENT FINISHERS, MARBLE MASONS, PLASTERERS, STONE MASONS, PLASTERERS. STONE MASONS, TERRAZZO WORKERS, TILE SETTERS**

  Lays building materials such as brick, structural tile and concrete cinder, glass, gypsum, terra cotta block. Cuts, tools and sets marble, sets stone, finishes concrete, applies decorative steel, aluminum and plastic tile, applies cements, sand, pigment and marble chips to floors, stairways, etc.

- **CARPENTERS, MILLWRIGHTS. PILEDRIVERMEN. LATHERS. RESILEINT FLOOR LAYERS, DOCK BUILDERS, DIKERS, DIVER TENDERS**

  Constructs, erects, installs and repairs structures and fixtures of wood, plywood and wallboard. Installs, assembles, dismantles, moves industrial machinery. Drives piling into ground to provide foundations for structures such as buildings and bridges, retaining walls for earth embankments, such as cofferdams. Fastens wooden, metal or rockboard lath to walls, ceilings and partitions of buildings, acoustical tile layer, concrete form builder. Applies firestopping materials on fire resistive joint systems only. Installation of curtain/window walls only where attached to wood or metal studs. Installation of insulated material of all types whether blown, nailed or attached in other ways to walls, ceilings and floors of buildings. Assembly and installation of modular furniture/furniture systems. Free-standing furniture is not covered. This includes free standing: student chairs, study top desks, book box desks, computer furniture, dictionary stand, atlas stand, wood shelving, two-position information access station, file cabinets, storage cabinets, tables, etc.

- **CLEANING LABORER**

  The clean up of any construction debris and the general cleaning, including sweeping, wash down, mopping, wiping of the construction facility, washing, polishing, dusting, etc., prior to the issuance of a certificate of occupancy falls under the *Labor classification.*

- **DELIVERY PERSONNEL**

  If delivery of supplies/building materials is to one common point and stockpiled there, prevailing wages are not required. If the delivery personnel are involved in the distribution of the material to multiple locations within the construction site then they would have to be paid prevailing wages for the type of work performed: laborer, equipment operator, electrician, ironworker, plumber, etc.

  An example of this would be where delivery of drywall is made to a building and the delivery personnel distribute the drywall from one "stockpile" location to further sub-locations on each floor. Distribution of material around a construction site is the job of a laborer/tradesman and not a delivery personnel.

- **ELECTRICIANS**

  Install, erect, maintenance, alteration or repair of any wire, cable, conduit, etc., which generates, transforms, transmits or uses electrical energy for light, heat, power or other purposes, including the Installation or maintenance of telecommunication, LAN wiring or computer equipment, and low voltage wiring. ***License required per Connecticut General Statutes: E-1,2 L-5,6 C-5,6 T-1,2 L-1,2 V-1,2,7,8,9.**

- **ELEVATOR CONSTRUCTORS**

  Install, erect, maintenance and repair of all types of elevators, escalators, dumb waiters and moving walks. ***License required by Connecticut General Statutes: R-1,2,5,6.**

- **FORK LIFT OPERATOR**

  Laborers Group 4) Mason Tenders - operates forklift solely to assist a mason to a maximum height of nine (9) feet only.

  Power Equipment Operator Group 9 - operates forklift to assist any trade, and to assist a mason to a height over nine (9) feet.

- **GLAZIERS**

  Glazing wood and metal sash, doors, partitions, and 2 story aluminum storefronts. Installs glass windows, skylights, store fronts and display cases or surfaces such as building fronts, interior walls, ceilings and table tops and metal store fronts. Installation of aluminum window walls and curtain walls is the "joint" work of glaziers and ironworkers which requires either a blended rate or equal composite workforce.

- **IRONWORKERS**

  Erection, installation and placement of structural steel, precast concrete, miscellaneous iron, ornamental iron, metal curtain wall, rigging and reinforcing steel. Handling, sorting, and installation of reinforcing steel (rebar). Metal bridge rail (traffic), metal bridge handrail, and decorative security fence installation. Installation of aluminum window walls and curtain walls is the "joint" work of glaziers and ironworkers which requires either a blended rate or equal composite workforce. Insulated metal and insulated composite panels are still installed by the Ironworker.

- **INSULATOR**

  Installing fire stopping systems/materials for "Penetration Firestop Systems": transit to cables, electrical conduits, insulated pipes, sprinkler pipe penetrations, ductwork behind radiation, electrical cable trays, fire rated pipe penetrations, natural polypropylene, HVAC ducts, plumbing bare metal, telephone and communication wires, and boiler room ceilings. Past practice using the applicable licensed trades, Plumber, Sheet Metal, Sprinkler Fitter, and Electrician, is not inconsistent with the Insulator classification and would be permitted.

- **LABORERS**

  Acetylene burners, asphalt rakers, chain saw operators, concrete and power buggy operator, concrete saw operator, fence and guard rail erector (except metal bridge rail (traffic), metal bridge handrail, and decorative security fence installation.), hand operated concrete vibrator operator, mason tenders, pipelayers (installation of storm drainage or sewage lines on the street only), pneumatic drill operator, pneumatic gas and electric drill operator, powermen and wagon drill operator, air track operator, block paver, curb setters, blasters, concrete spreaders.

- **PAINTERS**

  Maintenance, preparation, cleaning, blasting (water and sand, etc.), painting or application of any protective coatings of every description on all bridges and appurtenances of highways, roadways, and railroads. Painting, decorating, hardwood finishing, paper hanging, sign writing, scenic art work and drywall hhg for any and all types of building and residential work.

- **LEAD PAINT REMOVAL**

  Painter's Rate
  1. Removal of lead paint from bridges.
  2. Removal of lead paint as preparation of any surface to be repainted.
  3. Where removal is on a Demolition project prior to reconstruction.

  Laborer's Rate
  1. Removal of lead paint from any surface NOT to be repainted.
  2. Where removal is on a *TOTAL* Demolition project only.

- **PLUMBERS AND PIPEFITTERS**

  Installation, repair, replacement, alteration or maintenance of all plumbing, heating, cooling and piping. ****License required per Connecticut General Statutes: P-1,2,6,7,8,9 J-1,2,3,4 SP-1,2 S-1,2,3,4,5,6,7,8 B-1,2,3,4 D-1,2,3,4.***

- **POWER EQUIPMENT OPERATORS**

  Operates several types of power construction equipment such as compressors, pumps, hoists, derricks, cranes, shovels, tractors, scrapers or motor graders, etc. Repairs and maintains equipment. ***License required, crane operators only, per Connecticut General Statutes.**

- **ROOFERS**

  Covers roofs with composition shingles or sheets, wood shingles, slate or asphalt and gravel to waterproof roofs, including preparation of surface. (tear-off and/or removal of any type of roofing and/or clean-up of any and all areas where a roof is to be relaid)

- **SHEETMETAL WORKERS**

  Fabricate, assembles, installs and repairs sheetmetal products and equipment in such areas as ventilation, air-conditioning, warm air heating, restaurant equipment, architectural sheet metal work, sheetmetal roofing, and aluminum gutters. Fabrication, handling, assembling, erecting, altering, repairing, etc. of coated metal material panels and composite metal material panels when used on building exteriors and interiors as soffits, facia, louvers, partitions, wall panel siding, canopies, cornice, column covers, awnings, beam covers, cladding, sun shades, lighting troughs, spires, ornamental roofing, metal ceilings, mansards, copings, ornamental and ventilation hoods, vertical and horizontal siding panels, trim, etc. The sheet metal classification also applies to the vast variety of coated metal material panels and composite metal material panels that have evolved over the years as an alternative to conventional ferrous and non-ferrous metals like steel, iron, tin, copper, brass, bronze, aluminum, etc. Insulated metal and insulated composite panels are still installed by the Iron Worker. Fabrication, handling, assembling, erecting, altering, repairing, etc. of architectural metal roof, standing seam roof, composite metal roof, metal and composite bathroom/toilet partitions, aluminum gutters, metal and composite lockers and shelving, kitchen equipment, and walk-in coolers.

- **SPRINKLER FITTERS**

  Installation, alteration, maintenance and repair of fire protection sprinkler systems. ***License required per Connecticut General Statutes: F-1,2,3,4.**

- **TILE MARBLE AND TERRAZZO FINISHERS**

  Assists and tends the tile setter, marble mason and terrazzo worker in the performance of their duties.

- **TRUCK DRIVERS**

Definitions:

1) "Site of the work" (29 Code of Federal Regulations (CFR) 5.2(l)(b) is the physical place or places where the building or work called for in the contract will remain and any other site where a significant portion of the building or work is constructed, provided that such site is established specifically for the performance of the contact or project;

(a) Except as provided in paragraph (l) (3) of this section, job headquarters, tool yards, batch plants, borrow pits, etc. are part of the "site of the work"; provided they are dedicated exclusively, or nearly so, to the performance of the contract or project, and provided they are adjacent to "the site of work" as defined in paragraph (e)(1) of this section;

(b) Not included in the "site of the work" are permanent home offices, branch plant establishments, fabrication plants, tool yards etc, of a contractor or subcontractor whose location and continuance in operation are determined wholly without regard to a particular State or political subdivision contract or uncertain and indefinite periods of time involved of a few seconds or minutes duration and where the failure to count such time is due to consideration justified by industrial realities (29 CFR 785.47)

2) "Engaged to wait" is waiting time that belongs to and is controlled by the employer which is an integral part of the job and is therefore compensable as hours worked. (29 CFR 785.15)

3) "Waiting to be engaged" is waiting time that an employee can use effectively for their own purpose and is not compensable as hours worked. (29 CFR 785.16)

4) "De Minimus" is a rule that recognizes that unsubstantial or insignificant periods of time which cannot as a practical administrative matter be precisely recorded for payroll purposes, may be disregarded. This rule applies only where there are uncertain and indefinite periods of time involved of a short duration and where the failure to count such time is due to consideration justified by worksite realities. For example, with respect to truck drivers on prevailing wage sites, this is typically less than 15 minutes at a time.

Coverage of Truck Drivers on State or Political subdivision Prevailing Wage Projects

Truck drivers <u>are covered</u> for payroll purposes under the following conditions:

- Truck Drivers for time spent working on the site of the work.
- Truck Drivers for time spent loading and/or unloading materials and supplies on the site of the work, if such time is not de minimus

- Truck drivers transporting materials or supplies between a facility that is deemed part of the site of the work and the actual construction site.

- Truck drivers transporting portions of the building or work between a site established specifically for the performance of the contract or project where a significant portion of such building or work is constructed and the physical places where the building or work outlined in the contract will remain.

For example: Truck drivers delivering asphalt are covered under prevailing wage while" engaged to wait" on the site and when directly involved in the paving operation, provided the total time is not "de minimus"

Truck Drivers <u>are not</u> covered in the following instances:

- Material delivery truck drivers while off "the site of the work"

- Truck Drivers traveling between a prevailing wage job and a commercial supply facility while they are off the "site of the work"

- Truck drivers whose time spent on the "site of the work" is de minimus, such as under 15 minutes at a time, merely to drop off materials or supplies, including asphalt.

These guidelines are similar to U.S. Labor Department policies. The application of these guidelines may be subject to review based on factual considerations on a case by case basis.

For example:

- Material men and deliverymen are not covered under prevailing wage as long as they are not directly involved in the construction process. If, they unload the material, they would then be covered by prevailing wage for the classification they are performing work in: laborer, equipment operator, etc.
- Hauling material off site is not covered provided they are not dumping it at a location outlined above.
- Driving a truck on site and moving equipment or materials on site would be considered covered work, as this is part of the construction process.

Any questions regarding the proper classification should be directed to:
Public Contract Compliance Unit
Wage and Workplace Standards Division
Connecticut Department of Labor
200 Folly Brook Blvd, Wethersfield, CT 06109
(860) 263-6543

Informational Bulletin

THE 10-HOUR OSHA CONSTRUCTION SAFETY AND HEALTH COURSE

(applicable to public building contracts entered into *on or after July 1, 2007,* where the total cost of all work to be performed is at least $100,000)

(1) This requirement was created by Public Act No. 06-175, which is codified in Section 31-53b of the Connecticut General Statutes (pertaining to the prevailing wage statutes);

(2) The course is required for public building construction contracts (projects funded in whole or in part by the state or any political subdivision of the state) entered into on or after July 1, 2007;

(3) It is required of private employees (not state or municipal employees) and apprentices who perform manual labor for a general contractor or subcontractor on a public building project where the total cost of all work to be performed is at least $100,000;

(4) The ten-hour construction course pertains to the ten-hour Outreach Course conducted in accordance with federal OSHA Training Institute standards, and, for telecommunications workers, a ten-hour training course conducted in accordance with federal OSHA standard, 29 CFR 1910.268;

(5) The internet website for the federal OSHA Training Institute is http://www.osha.gov/fso/ote/training/edcenters/fact_sheet.html;

(6) The statutory language leaves it to the contractor and its employees to determine who pays for the cost of the ten-hour Outreach Course;

(7) Within 30 days of receiving a contract award, a general contractor must furnish proof to the Labor Commissioner that all employees and apprentices performing manual labor on the project will have completed such a course;

(8) Proof of completion may be demonstrated through either: (a) the presentation of a *bona fide* student course completion card issued by the federal OSHA Training Institute; *or* (2) the presentation of documentation provided to an employee by a trainer certified by the Institute pending the actual issuance of the completion card;

(9) Any card with an issuance date more than 5 years prior to the commencement date of the construction project shall not constitute proof of compliance;

(10) Each employer shall affix a copy of the construction safety course completion card to the certified payroll submitted to the contracting agency in accordance with Conn. Gen. Stat. § 31-53(f) on which such employee's name first appears;

(11) Any employee found to be in non-compliance shall be subject to removal from the worksite if such employee does not provide satisfactory proof of course completion to the Labor Commissioner by the fifteenth day after the date the employee is determined to be in noncompliance;

(12) Any such employee who is determined to be in noncompliance may continue to work on a public building construction project for a maximum of fourteen consecutive calendar days while bringing his or her status into compliance;

(13) The Labor Commissioner may make complaint to the prosecuting authorities regarding any employer or agent of the employer, or officer or agent of the corporation who files a false certified payroll with respect to the status of an employee who is performing manual labor on a public building construction project;

(14) The statute provides the minimum standards required for the completion of a safety course by manual laborers on public construction contracts; any contractor can exceed these minimum requirements; and

(15) Regulations clarifying the statute are currently in the regulatory process, and shall be posted on the CTDOL website as soon as they are adopted in final form.

(16) Any questions regarding this statute may be directed to the Wage and Workplace Standards Division of the Connecticut Labor Department via the internet website of http://www.ctdol.state.ct.us/wgwkstnd/wgemenu.htm; or by telephone at (860)263-6790.

THE ABOVE INFORMATION IS PROVIDED EXCLUSIVELY AS AN EDUCATIONAL RESOURCE, AND IS NOT INTENDED AS A SUBSTITUTE FOR LEGAL INTERPRETATIONS WHICH MAY ULTMATELY ARISE CONCERNIG THE CONSTRUCTION OF THE STATUTE OR THE REGULATIONS.

November 29, 2006

Notice

To All Mason Contractors and Interested Parties Regarding Construction Pursuant to Section 31-53 of the Connecticut General Statutes (Prevailing Wage)

The Connecticut Labor Department Wage and Workplace Standards Division is empowered to enforce the prevailing wage rates on projects covered by the above referenced statute.

Over the past few years the Division has withheld enforcement of the rate in effect for workers who operate a forklift on a prevailing wage rate project due to a potential jurisdictional dispute.

The rate listed in the schedules and in our Occupational Bulletin (see enclosed) has been as follows:

Forklift Operator:

- **Laborers (Group 4) Mason Tenders** - operates forklift solely to assist a mason to a maximum height of nine feet only.

- **Power Equipment Operator (Group 9)** - operates forklift to assist any trade and to assist a mason to a height over nine feet.

The U.S. Labor Department conducted a survey of rates in Connecticut but it has not been published and the rate in effect remains as outlined in the above Occupational Bulletin.

Since this is a classification matter and not one of jurisdiction, effective January 1, 2007 the Connecticut Labor Department will enforce the rate on each schedule in accordance with our statutory authority.

Your cooperation in filing appropriate and accurate certified payrolls is appreciated.

Certified Payroll Form WWS - CPI

In accordance with Connecticut General Statutes, 31-53 Certified Payrolls with a statement of compliance shall be submitted monthly to the contracting agency.

Note: Once you have downloaded these forms and are ready to print them out, set the print function on your PC to the horizontal print orientation.

Note2: Please download both the Payroll Certification for Public Works Projects **and** the Certified Statement of Compliance for a complete package. The Certified Statement of Compliance appears on the same page as the Fringe Benefits Explanation page.

Announcement: The Certified Payroll Form WWS-CPI can now be completed on-line!

- Certified Payroll Form WWS-CPI (PDF, 727KB)
- Sample Completed Form (PDF, 101KB)

Published by the Connecticut Department of Labor, Project Management Office
Last Updated: April 22, 2010

[New] In accordance with Section 31-53b(a) of the C.G.S. each contractor shall provide a copy of the OSHA 10 Hour Construction Safety and Health Card for each employee, to be attached to the first certified payroll on the project.

In accordance with Connecticut General Statutes, 31-53 Certified Payrolls with a statement of compliance shall be submitted monthly to the contracting agency.

PAYROLL CERTIFICATION FOR PUBLIC WORKS PROJECTS

WEEKLY PAYROLL

Connecticut Department of Labor
Wage and Workplace Standards Division
200 Folly Brook Blvd.
Wethersfield, CT 06109

CONTRACTOR NAME AND ADDRESS:	SUBCONTRACTOR NAME & ADDRESS	WORKER'S COMPENSATION INSURANCE CARRIER POLICY # EFFECTIVE DATE: EXPIRATION DATE:
PAYROLL NUMBER / Week-Ending Date / PROJECT NAME & ADDRESS		

PERSON/WORKER, ADDRESS and SECTION	APPR RATE %	MALE/ FEMALE AND RACE*	WORK CLASSIFICATION Trade License Type & Number - OSHA 10 Certification Number	DAY AND DATE S	M	T	W	TH	F	S HOURS WORKED EACH DAY	Total ST Hours Total O/T Hours	BASE HOURLY RATE TOTAL FRINGE BENEFIT PLAN CASH	TYPE OF FRINGE BENEFITS Per Hour 1 through 6 (see back)	GROSS PAY FOR ALL WORK PERFORMED THIS WEEK	TOTAL DEDUCTIONS FICA	FEDERAL WITH-HOLDING	STATE WITH-HOLDING	LIST OTHER	GROSS PAY FOR THIS PREVAILING RATE JOB	CHECK # AND NET PAY
											S-TIME	$ Base Rate	1. $ 2. $ 3. $							
											O-TIME	$ Cash Fringe	4. $ 5. $ 6. $							
											S-TIME	$ Base Rate	1. $ 2. $ 3. $							
											O-TIME	$ Cash Fringe	4. $ 5. $ 6. $							
											S-TIME	$ Base Rate	1. $ 2. $ 3. $							
											O-TIME	$ Cash Fringe	4. $ 5. $ 6. $							
											S-TIME	$ Base Rate	1. $ 2. $ 3. $							
											O-TIME	$ Cash Fringe	4. $ 5. $ 6. $							

7/13/2009 *IF REQUIRED
WWS-CP1

*SEE REVERSE SIDE

PAGE NUMBER ______OF

OSHA 10 ~ATTACH CARD TO 1ST CERTIFIED PAYROLL

***FRINGE BENEFITS EXPLANATION (P):**

Bona fide benefits paid to approved plans, funds or programs, except those required by Federal or State Law (unemployment tax, worker's compensation, income taxes, etc.).

Please specify the type of benefits provided:

1) Medical or hospital care _____ 4) Disability_____

2) Pension or retirement _____ 5) Vacation, holiday_____

3) Life Insurance _____ 6) Other (please specify) _____

CERTIFIED STATEMENT OF COMPLIANCE

For the week ending date of _____,

I, _____of _____, (hereafter known as

Employer) in my capacity as _____ (title) do hereby certify and state:

Section A:

1. All persons employed on said project have been paid the full weekly wages earned by them during the week in accordance with Connecticut General Statutes, section 31-53, as amended. Further, I hereby certify and state the following:

a) The records submitted are true and accurate;

b) The rate of wages paid to each mechanic, laborer or workman and the amount of payment or contributions paid or payable on behalf of each such employee to any employee welfare fund, as defined in Connecticut General Statutes, section 31-53 (h), are not less than the prevailing rate of wages and the amount of payment or contributions paid or payable on behalf of each such employee to any employee welfare fund, as determined by the Labor Commissioner pursuant to subsection Connecticut General Statutes, section 31-53 (d), and said wages and benefits are not less than those which may also be required by contract;

c) The Employer has complied with all of the provisions in Connecticut General Statutes, section 31-53 (and Section 31-54 if applicable for state highway construction);

d) Each such employee of the Employer is covered by a worker's compensation insurance policy for the duration of his employment which proof of coverage has been provided to the contracting agency;

e) The Employer does not receive kickbacks, which means any money, fee, commission, credit, gift, gratuity, thing of value, or compensation of any kind which is provided directly or indirectly, to any prime contractor, prime contractor employee, subcontractor, or subcontractor employee for the purpose of improperly obtaining or rewarding favorable treatment in connection with a prime contract or in connection with a prime contractor in connection with a subcontractor relating to a prime contractor; and

f) The Employer is aware that filing a certified payroll which he knows to be false is a class D felony for which the employer may be fined up to five thousand dollars, imprisoned for up to five years or both.

2. OSHA~The employer shall affix a copy of the construction safety course, program or training completion document to the certified payroll required to be submitted to the contracting agency for this project on which such employee's name first appears.

_____	_____	_____
(Signature)	(Title)	Submitted on (Date)

Section B: Applies to CONNDOT Projects ONLY

That pursuant to CONNDOT contract requirements for reporting purposes only, all employees listed under Section B who performed work on this project are not covered under the prevailing wage requirements defined in Connecticut General Statutes Section 31-53.

_____	_____	_____
(Signature)	(Title)	Submitted on (Date)

Note: CTDOL will assume all hours worked were performed under Section A unless clearly delineated as Section B WWS-CP1 as such. Should an employee perform work under both Section A and Section B, the hours worked and wages paid must be segregated for reporting purposes.

*****THIS IS A PUBLIC DOCUMENT*****

*****DO NOT INCLUDE SOCIAL SECURITY NUMBERS*****

Weekly Payroll Certification For Public Works Projects (Continued)

PAYROLL CERTIFICATION FOR PUBLIC WORKS PROJECTS

Week-Ending Date:

Contractor or Subcontractor Business Name:

WEEKLY PAYROLL

PERSON/WORKER, ADDRESS and SECTION	APPR RATE %	MALE/ FEMALE AND RACE*	WORK CLASSIFICATION Trade License Type & Number - OSHA 10 Certification Number	DAY AND DATE S	M	T	W	TH	F	S HOURS WORKED EACH DAY	Total ST Hours Total O/T Hours	BASE HOURLY RATE TOTAL FRINGE BENEFIT PLAN CASH	TYPE OF FRINGE BENEFITS Per Hour 1 through 6 (see back)	GROSS PAY FOR ALL WORK PERFORMED THIS WEEK	TOTAL DEDUCTIONS FICA	FEDERAL WITH-HOLDING	STATE WITH-HOLDING	LIST OTHER	GROSS PAY FOR THIS PREVAILING RATE JOB	CHECK # AND NET PAY
											S-TIME O-TIME	$ Base Rate $ Cash Fringe	1. $ 2. $ 3. $ 4. $ 5. $ 6. $							
											S-TIME O-TIME	$ Base Rate $ Cash Fringe	1. $ 2. $ 3. $ 4. $ 5. $ 6. $							
											S-TIME O-TIME	$ Base Rate $ Cash Fringe	1. $ 2. $ 3. $ 4. $ 5. $ 6. $							
											S-TIME S-TIME	$ Base Rate $ Cash Fringe	1. $ 2. $ 3. $ 4. $ 5. $ 6. $							
											S-TIME S-TIME	$ Base Rate $ Cash Fringe	1. $ 2. $ 3. $ 4. $ 5. $ 6. $							

*IF REQUIRED

[New] In accordance with Section 31-53b(a) of the C.G.S. each contractor shall provide a copy of the OSHA 10 Hour Construction Safety and Health Card for each employee, to be attached to the first certified payroll on the project.

In accordance with Connecticut General Statutes, 31-53
Certified Payrolls with a statement of compliance
shall be submitted monthly to the contracting agency.

PAYROLL CERTIFICATION FOR PUBLIC WORKS PROJECTS

WEEKLY PAYROLL

Connecticut Department of Labor
Wage and Workplace Standards Division
200 Folly Brook Blvd.
Wethersfield, CT 06109

CONTRACTOR NAME AND ADDRESS:
Landon Corporation, 15 Connecticut Avenue, Northford, CT 06472

SUBCONTRACTOR NAME & ADDRESS
XYZ Corporation
2 Main Street
Yantic, CT 06389

WORKER'S COMPENSATION INSURANCE CARRIER
Travelers Insurance Company
POLICY # #BAC8888928
EFFECTIVE DATE: 1/1/09
EXPIRATION DATE: 12/31/09

PAYROLL NUMBER: 1
Week-Ending Date: 9/26/09
PROJECT NAME & ADDRESS: DOT 105-296, Route 82

PERSON/WORKER, ADDRESS and SECTION	APPR RATE %	MALE/ FEMALE AND RACE*	WORK CLASSIFICATION / Trade License Type & Number - OSHA 10 Certification Number	DAY AND DATE: S 20	M 21	T 22	W 23	TH 24	F 25	S 26	Total ST Hours / Total O/T Hours	BASE HOURLY RATE / TOTAL FRINGE BENEFIT PLAN CASH	TYPE OF FRINGE BENEFITS Per Hour 1 through 6 (see back)	GROSS PAY FOR ALL WORK PERFORMED THIS WEEK	TOTAL DEDUCTIONS: FICA	FEDERAL WITH-HOLDING	STATE WITH-HOLDING	LIST OTHER	GROSS PAY FOR THIS PREVAILING RATE JOB	CHECK # AND NET PAY
				HOURS WORKED EACH DAY																
Robert Craft 81 Maple Street Willimantic, CT 06226		M/C	Electrical Lineman E-1 1234567 Owner OSHA 123456		8	8	8	8	8		S-TIME 40 O-TIME	$ 30.75 Base Rate $ 8.82 Cash Fringe	1. $ 5.80 2. $ 3. $ 2.01 4. $ 5. $ 6. $	$1,582.80				P-xxxx	$1,582.80	#123 $ xxx.xx
Ronald Jones 212 Elm Street Norwich, CT 06360	65%	M/B	Electrical Apprentice OSHA 234567		8	8	8	8	8		S-TIME 40 O-TIME	$ 19.99 Base Rate $ 16.63 Cash Fringe	1. $ 2. $ 3. $ 4. $ 5. $ 6. $	$1,464.80	xx.xx	xxx.xx	xx.xx	G-xxx	$1,464.80	#124 $xxx.xx
Franklin T. Smith 234 Washington Rd. New London, CT 06320 SECTION B		M/H	Project Manager			8					S-TIME 8 O-TIME	$ Base Rate $ Cash Fringe	1. $ 2. $ 3. $ 4. $ 5. $ 6. $	$1,500.00	xx.xx	xx.xx	xx.xx	M-xx.x		#125 xxx.xx
											S-TIME O-TIME	$ Base Rate $ Cash Fringe	1. $ 2. $ 3. $ 4. $ 5. $ 6. $							

7/13/2009
WWS-CP1

*IF REQUIRED

*SEE REVERSE SIDE

PAGE NUMBER 1 OF 2

OSHA 10 ~ATTACH CARD TO 1ST CERTIFIED PAYROLL

***FRINGE BENEFITS EXPLANATION (P):**

Bona fide benefits paid to approved plans, funds or programs, except those required by Federal or State Law (unemployment tax, worker's compensation, income taxes, etc.).

Please specify the type of benefits provided:

1) Medical or hospital care Blue Cross 4) Disability _____

2) Pension or retirement _____ 5) Vacation, holiday _____

3) Life Insurance Utopia 6) Other (please specify) _____

CERTIFIED STATEMENT OF COMPLIANCE

For the week ending date of 9/26/09,

I, Robert Craft of XYZ Corporation, (hereafter known as

Employer) in my capacity as Owner (title) do hereby certify and state:

Section A:

1. All persons employed on said project have been paid the full weekly wages earned by them during the week in accordance with Connecticut General Statutes, section 31-53, as amended. Further, I hereby certify and state the following:

a) The records submitted are true and accurate;

b) The rate of wages paid to each mechanic, laborer or workman and the amount of payment or contributions paid or payable on behalf of each such employee to any employee welfare fund, as defined in Connecticut General Statutes, section 31-53 (h), are not less than the prevailing rate of wages and the amount of payment or contributions paid or payable on behalf of each such employee to any employee welfare fund, as determined by the Labor Commissioner pursuant to subsection Connecticut General Statutes, section 31-53 (d), and said wages and benefits are not less than those which may also be required by contract;

c) The Employer has complied with all of the provisions in Connecticut General Statutes, section 31-53 (and Section 31-54 if applicable for state highway construction);

d) Each such employee of the Employer is covered by a worker's compensation insurance policy for the duration of his employment which proof of coverage has been provided to the contracting agency;

e) The Employer does not receive kickbacks, which means any money, fee, commission, credit, gift, gratuity, thing of value, or compensation of any kind which is provided directly or indirectly, to any prime contractor, prime contractor employee, subcontractor, or subcontractor employee for the purpose of improperly obtaining or rewarding favorable treatment in connection with a prime contract or in connection with a prime contractor in connection with a subcontractor relating to a prime contractor; and

f) The Employer is aware that filing a certified payroll which he knows to be false is a class D felony for which the employer may be fined up to five thousand dollars, imprisoned for up to five years or both.

2. OSHA~The employer shall affix a copy of the construction safety course, program or training completion document to the certified payroll required to be submitted to the contracting agency for this project on which such employee's name first appears.

Robert Craft (Signature) owner (Title) 10/2/09 Submitted on (Date)

Section B: Applies to CONNDOT Projects ONLY
That pursuant to CONNDOT contract requirements for reporting purposes only, all employees listed under Section B who performed work on this project are not covered under the prevailing wage requirements defined in Connecticut General Statutes Section 31-53.

Robert Craft (Signature) owner (Title) 10/2/09 Submitted on (Date)

Note: CTDOL will assume all hours worked were performed under Section A unless clearly delineated as Section B WWS-CP1 as such. Should an employee perform work under both Section A and Section B, the hours worked and wages paid must be segregated for reporting purposes.

*****THIS IS A PUBLIC DOCUMENT*****
*****DO NOT INCLUDE SOCIAL SECURITY NUMBERS*****

Sec. 31-53b. Construction safety and health course. New miner training program. Proof of completion required for mechanics, laborers and workers on public works projects. Enforcement. Regulations. Exceptions. (a) Each contract for a public works project entered into on or after July 1, 2009, by the state or any of its agents, or by any political subdivision of the state or any of its agents, described in subsection (g) of section 31-53, shall contain a provision requiring that each contractor furnish proof with the weekly certified payroll form for the first week each employee begins work on such project that any person performing the work of a mechanic, laborer or worker pursuant to the classifications of labor under section 31-53 on such public works project, pursuant to such contract, has completed a course of at least ten hours in duration in construction safety and health approved by the federal Occupational Safety and Health Administration or, has completed a new miner training program approved by the Federal Mine Safety and Health Administration in accordance with 30 CFR 48 or, in the case of telecommunications employees, has completed at least ten hours of training in accordance with 29 CFR 1910.268.

(b) Any person required to complete a course or program under subsection (a) of this section who has not completed the course or program shall be subject to removal from the worksite if the person does not provide documentation of having completed such course or program by the fifteenth day after the date the person is found to be in noncompliance. The Labor Commissioner or said commissioner's designee shall enforce this section.

(c) Not later than January 1, 2009, the Labor Commissioner shall adopt regulations, in accordance with the provisions of chapter 54, to implement the provisions of subsections (a) and (b) of this section. Such regulations shall require that the ten-hour construction safety and health courses required under subsection (a) of this section be conducted in accordance with federal Occupational Safety and Health Administration Training Institute standards, or in accordance with Federal Mine Safety and Health Administration Standards or in accordance with 29 CFR 1910.268, as appropriate. The Labor Commissioner shall accept as sufficient proof of compliance with the provisions of subsection (a) or (b) of this section a student course completion card issued by the federal Occupational Safety and Health Administration Training Institute, or such other proof of compliance said commissioner deems appropriate, dated no earlier than five years before the commencement date of such public works project.

(d) This section shall not apply to employees of public service companies, as defined in section 16-1, or drivers of commercial motor vehicles driving the vehicle on the public works project and delivering or picking up cargo from public works projects provided they perform no labor relating to the project other than the loading and unloading of their cargo.

(P.A. 06-175, S. 1; P.A. 08-83, S. 1.)

History: P.A. 08-83 amended Subsec. (a) by making provisions applicable to public works project contracts entered into on or after July 1, 2009, replacing provision re total cost of work with reference to Sec. 31-53(g), requiring proof in certified payroll form that new mechanic, laborer or worker has completed a 10-hour or more construction safety course and adding provision re new miner training program, amended Subsec. (b) by substituting "person" for "employee" and adding "or program", amended Subsec. (c) by adding "or in accordance with Federal Mine
Safety and Health Administration Standards" and setting new deadline of January 1, 2009, deleted former Subsec. (d) re "public building", added new Subsec. (d) re exemptions for public service company employees and delivery drivers who perform no labor other than delivery and made conforming and technical changes, effective January 1, 2009.

Project: Replacement Of Bridge Number 04121 Addison Road Over Salmon Brook

Minimum Rates and Classifications
for Heavy/Highway Construction

Connecticut Department of Labor
Wage and Workplace Standards Division

ID#: **H** 16051

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:
FAP Number:
Project Town Glastonbury
State Number:
Project: Replacement Of Bridge Number 04121 Addison Road Over Salmon Brook

CLASSIFICATION	Hourly Rate	Benefits
01) Asbestos/Toxic Waste Removal Laborers: Asbestos removal and encapsulation (except its removal from mechanical systems which are not to be scrapped), toxic waste removers, blasters. **See Laborers Group 5 and 7**		
1) Boilermaker	33.79	34% + 8.96
1a) Bricklayer, Cement Masons, Cement Finishers, Plasterers, Stone Masons	32.50	23.55
2) Carpenters, Piledrivermen	29.11	20.29
2a) Diver Tenders	29.11	20.29

As of: Friday, February 10, 2012

Project: Replacement Of Bridge Number 04121 Addison Road Over Salmon Brook

3) Divers	37.57	20.29
4) Painters: (Bridge Construction) Brush, Roller, Blasting (Sand, Water, etc.), Spray	41.35	16.35
4a) Painters: Brush and Roller	29.17	16.35
4b) Painters: Spray Only	31.47	15.40
4c) Painters: Steel Only	30.47	15.40
4d) Painters: Blast and Spray	32.17	16.35
4e) Painters: Tanks, Tower and Swing	31.17	16.35
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)	36.40	21.31

As of: Friday, February 10, 2012

6) Ironworkers: (Ornamental, Reinforcing, Structural, and Precast Concrete Erection)	33.50	27.03 + 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)	38.67	24.46
----LABORERS---- - Last updated 4/27/11		
8) Group 1: Laborer (Unskilled), Common or General, acetylene burner, concrete specialist	25.75	15.60
9) Group 2: Chain saw operators, fence and guard rail erectors, pneumatic tool operators, powdermen, air tool operator	26.00	15.60
10) Group 3: Pipelayers (Installation of water, storm drainage or sewage lines outside of the building line with P6, P7 license)	26.25	15.60
11) Group 4: Jackhammer/Pavement breaker (handheld); mason tenders (cement/concrete), catch basin builders, asphalt rakers, air track operators, block pavers and curb setters	26.25	15.60
12) Group 5: Toxic waste removal (non-mechanical systems)	27.75	15.60

13) Group 6: Blasters	27.50	15.60
Group 7: Asbestos Removal, non-mechanical systems (does not include leaded joint pipe)	26.75	15.60
Group 8: Traffic control signalmen	16.00	15.60

----LABORERS (TUNNEL CONSTRUCTION, FREE AIR). Shield Drive and Liner Plate Tunnels in Free Air.---- Last updated 4/27/11----

13a) Miners, Motormen, Mucking Machine Operators, Nozzle Men, Grout Men, Shaft & Tunnel Steel & Rodmen, Shield & Erector, Arm Operator, Cable Tenders	30.32	15.60 + a
13b) Brakemen, Trackmen	29.44	15.60 + a

----CLEANING, CONCRETE AND CAULKING TUNNEL----Last updated 4/27/11----

14) Concrete Workers, Form Movers, and Strippers	29.44	15.60 + a

15) Form Erectors	29.74	15.60 + a

----ROCK SHAFT LINING, CONCRETE, LINING OF SAME AND TUNNEL IN FREE AIR:----Last updated 4/27/11----

16) Brakemen, Trackmen, Tunnel Laborers, Shaft Laborers	29.44	15.60 + a
17) Laborers Topside, Cage Tenders, Bellman	29.33	15.60 + a
18) Miners	30.32	15.60 + a

----TUNNELS, CAISSON AND CYLINDER WORK IN COMPRESSED AIR: ----Last updated 4/27/11----

18a) Blaster	35.213	15.60 + a
19) Brakemen, Trackmen, Groutman, Laborers, Outside Lock Tender, Gauge Tenders	35.036	15.60 + a

20) Change House Attendants, Powder Watchmen, Top on Iron Bolts	33.268	15.60 + a
21) Mucking Machine Operator	35.745	15.60 + a
----TRUCK DRIVERS----(*see note below)		
Two axle trucks	27.88	15.71 + a
Three axle trucks; two axle ready mix	27.98	15.71 + a
Three axle ready mix	28.03	15.71 + a
Four axle trucks, heavy duty trailer (up to 40 tons)	28.08	15.71 + a
Four axle ready-mix	28.13	15.71 + a

Heavy duty trailer (40 tons and over)	28.33	15.71 + a
Specialized earth moving equipment other than conventional type on-the road trucks and semi-trailer (including Euclids)	28.13	15.71 + a
----POWER EQUIPMENT OPERATORS----		
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. & Over. (Trade License Required)	35.05	19.40 + a
Group 2: Cranes (100 ton rate capacity and over); Backhoe/Excavator over 2 cubic yards; Piledriver ($3.00 premium when operator controls hammer). (Trade License Required)	34.73	19.40 + a
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)	33.99	19.40 + a
Group 4: Trenching Machines; Lighter Derrick; Concrete Finishing Machine; CMI Machine or Similar; Koehring Loader (Skooper)	33.60	19.40 + a
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; Pounder; Well Digger; Milling Machine (over 24" Mandrell)	33.01	19.40 + a

Project: Replacement Of Bridge Number 04121 Addison Road Over Salmon Brook

Group 5 continued: Side Boom; Combination Hoe and Loader; Directional Driller.	33.01	19.40 + a
Group 6: Front End Loader (3 up to 7 cubic yards); Bulldozer (rough grade dozer).	32.70	19.40 + a
Group 7: Asphalt Roller; Concrete Saws and Cutters (ride on types); Vermeer Concrete Cutter; Stump Grinder; Scraper; Snooper; Skidder; Milling Machine (24" and Under Mandrel).	32.36	19.40 + a
Group 8: Mechanic, Grease Truck Operator, Hydroblaster, Barrier Mover, Power Stone Spreader; Welder; Work Boat under 26 ft.; Transfer Machine.	31.96	19.40 + a
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 hydroseeder).	31.53	19.40 + a
Group 10: Vibratory Hammer, Ice Machine, Diesel and Air Hammer, etc.	29.49	19.40 + a
Group 11: Conveyor, Earth Roller; Power Pavement Breaker (whiphammer), Robot Demolition Equipment.	29.49	19.40 + a
Group 12: Wellpoint Operator.	29.43	19.40 + a

Project: Replacement Of Bridge Number 04121 Addison Road Over Salmon Brook

Group 13: Compressor Battery Operator.	28.85	19.40 + a
Group 14: Elevator Operator; Tow Motor Operator (Solid Tire No Rough Terrain).	27.71	19.40 + a
Group 15: Generator Operator; Compressor Operator; Pump Operator; Welding Machine Operator; Heater Operator.	27.30	19.40 + a
Group 16: Maintenance Engineer/Oiler	26.65	19.40 + a
Group 17: Portable asphalt plant operator; portable crusher plant operator; portable concrete plant operator.	30.96	19.40 + a
Group 18: Power Safety Boat; Vacuum Truck; Zim Mixer; Sweeper; (minimum for any job requiring CDL license).	28.54	19.40 + a

**NOTE: SEE BELOW

----LINE CONSTRUCTION----(Railroad Construction and Maintenance)----Last updated 9/3/2010----

As of: Friday, February 10, 2012

Project: Replacement Of Bridge Number 04121 Addison Road Over Salmon Brook

20) Lineman, Cable Splicer, Dynamite Man	44.36	3% + 13.70
21) Heavy Equipment Operator	39.92	3% + 13.70
22) Equipment Operator, Tractor Trailer Driver, Material Men	37.71	3% + 13.70
23) Driver Groundmen	33.27	3% + 13.70

----LINE CONSTRUCTION----Last updated 4/17/09----

24) Driver Groundmen	30.92	6.5% + 9.70
25) Groundmen	22.67	6.5% + 6.20
26) Heavy Equipment Operators	37.10	6.5% + 10.70

As of: Friday, February 10, 2012

27) Linemen, Cable Splicers, Dynamite Men	41.22	6.5% + 12.20
28) Material Men, Tractor Trailer Drivers, Equipment Operators	35.04	6.5% + 10.45

Project: Replacement Of Bridge Number 04121 Addison Road Over Salmon Brook

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*

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.

As of: Friday, February 10, 2012

Project: Replacement Of Bridge Number 04121 Addison Road Over Salmon Brook

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: Friday, February 10, 2012