

TOWN OF GLASTONBURY

INVITATION TO BID

<u>BID #</u>	<u>ITEM</u>	<u>DATE & TIME REQUIRED</u>
GL-2019-14	Historic Terminal Piping Removal Project 300 Welles Street, Glastonbury, CT	February 5, 2019 at 11:00 A.M.

The Town of Glastonbury will receive Sealed Bids, in duplicate, for the Historic Terminal Piping Removal Project which will consist of the abatement, removal, demolition, and disposal of an existing metal/wood fuel service terminal dock and associated piping located at 300 Welles Street, Glastonbury, CT. Bids will be received only at the Office of the Purchasing Agent, Town Hall (second level), 2155 Main Street, Glastonbury, CT 06033, Attention: Mary F. Visone, Purchasing Agent, until January 30, 2019 at 11:00 A.M. (local time), at which time they will be publicly opened and read aloud. No late bids will be accepted.

Bidders are hereby notified that a non-mandatory Pre-Bid Conference and Tour of the Work site located at 300 Welles Street, Glastonbury has been scheduled for January 24, 2019 at 10:00 A.M. Perspective bidders are strongly encouraged to attend and familiarize themselves with site conditions. The site may be accessed for observation during daylight hours, seven (7) days per week.

Bid Forms, Plans, and Specifications may be obtained at no cost from the Town's website at www.glastonbury-ct.gov.

The Town reserves the right to waive informalities or reject any or all bids when said action is deemed to be in the best interests of the Town.

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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**HISTORIC TERMINAL PIPING REMOVAL PROJECT
300 WELLES STREET
INFORMATION FOR BIDDERS**

BID #GL-2019-14

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 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 of the lowest qualified, responsible and responsive bidder. 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 and title, due date and time of opening, Bidder's company name and address.
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

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300 WELLES STREET
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- 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 United 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 and revised October 29, 2013 and effective November 8, 2013. 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 scroll down to click on **Bids & Proposals Icon** which will bring you to the links for the **Code of Ethics** and the **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:** (if applicable)
Upon award the Town is required to report names of nonresident (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. **A single surety bond for 5% of the entire contract price is required to be filed with DRS by any unverified nonresident prime or general contractor (if awarded) where the contract price for the project is \$250,000 or more.** The contractor will be required to promptly furnish to the Town a copy of the **Form AU-968 - Certificate of Compliance** issued by the State of Connecticut, DRS. See State of Connecticut **Notice SN 2012 (2)**.
 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.

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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. **State Prevailing Wage Rates: (Not applicable)**
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. 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 two (2) projects completed by the bidder with references to demonstrate successful experience with similar projects.
22. Any technical questions regarding this bid shall be made in writing (email acceptable) and directed to Daniel A. Pennington, P.E., Town Engineer/Manager of Physical Services, 2155 Main Street, PO Box 6523, Glastonbury, CT 06033; daniel.pennington@glastonbury-ct.gov . Telephone (860) 652-7736 between the hours of 8:00 a.m. – 4:30 p.m. For administrative questions concerning this bid, please contact Mary F. Visone, Purchasing Agent, at purchasing@glastonbury-ct.gov. All questions, answers, and/or addenda, as applicable, will be posted on the Town's website at

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INFORMATION FOR BIDDERS**

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www.glastonbury-ct.gov (Upon entering the website scroll down to click on Bids & Proposals Icon, then scroll down page to see the active bid table. You must click the Bid Title to view all bid details and document links). The request must be received at least three (3) 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.**

23. Compliance with Town Ordinance Prohibiting Natural Gas Waste & Oil Waste From Natural Gas Extraction Activities or Oil Extraction Activities: If this bid is for the construction, repair or maintenance of Town owned and/or maintained roads or real property within the Town related to either (a) the purchase or acquisition of materials by the Town to be used to construct, repair or maintain any Town owned and/or maintained road or real property within the Town or (b) the performance of services for the Town to construct, repair or maintain any Town owned and/or maintained road or real property within the Town, the Bidder shall provide the following signed statement to the Town in its bid response, which shall be a certification under penalty of perjury by the Bidder:

“The undersigned Bidder, _____, hereby submits a bid for materials, equipment and/or services for the Town of Glastonbury. The bid is for bid documents titled **Historic Terminal Piping Removal 300 Welles Street**.

The undersigned Bidder hereby certifies under penalty of perjury that in connection with the bid and, if it is awarded the purchase order or contract by the Town, in connection with any purchase order or contract: (1) no materials containing natural gas waste or oil waste from natural gas extraction activities or oil extraction activities shall be provided to the Town or shall be used in providing any services to the Town by the undersigned Bidder or any contractor, sub-contractor or agent of the undersigned Bidder; (b) nor will the undersigned Bidder or any contractor, subcontractor or agent of the undersigned Bidder apply any natural gas waste or oil waste from natural gas extraction activities or oil extraction activities to any publicly owned and/or maintained road or real property within the Town of Glastonbury in performing its obligations under the purchase order or contract. The undersigned Bidder hereby agrees and acknowledges that this requirement shall be a term of the purchase order or contract, if it awarded the purchase order or contract by the Town, and any breach of this provision shall be a breach of the purchase order or contract.”

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

**HISTORIC TERMINAL PIPING REMOVAL PROJECT
300 WELLES STREET
GENERAL CONSTRUCTION SPECIFICATIONS**

BID #GL-2019-14

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 acting 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.

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GENERAL CONSTRUCTION SPECIFICATIONS**

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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. 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.

09.02 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. Re-inspection 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 re-inspection 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.

01.00 COMMUNICATIONS

- 01.01 All notices, demands, requests, instructions, approvals, proposals, and claims must be in writing.
- 01.02 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.
- 01.03 All papers required to be delivered to the Town shall, unless otherwise specified in writing to the Contractor, be delivered to Daniel A. Pennington, P.E., 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.
- 01.04 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.

02.00 INSURANCE

- 02.01 The Bidder 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 Bidder and all of its agents, employees and sub-contractors and other providers of services and shall name the **Town of Glastonbury and 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 Excess Liability will follow form. **These requirements shall be clearly stated in the remarks section on the Bidders 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-VIII. 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
- \$1,000,000 each accident/\$1,000,000 disease-policy limit/\$1,000,000 disease each employee
- A Waiver of Subrogation shall be provided in favor of the Town of Glastonbury and its employees and agents.

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 in favor of the Town of Glastonbury and its employees and agents.

c. Automobile Insurance:

- Including all owned, hired, borrowed, and non-owned vehicle
- Limit of Liability for Bodily Injury and Property Damage
Combined Single Limit: \$1,000,000
- A Waiver of Subrogation shall be provided in favor of the Town of Glastonbury and its employees and agents.
- Form MCS-90 shall be included
- Pollution Liability Broadened Coverage shall be included (Form CA9948)

d. Umbrella of Excess Liability:

- State in the Remarks Section that coverage is follow form.
- Limit of Liability Each Occurrence \$2,000,000
Aggregate \$2,000,000

e. Owner's and Contractor's Protective Liability Insurance:

With respect to the Contractor's Project operations and also those of its subcontractors, the Contractor shall carry, for and on behalf of the Town of Glastonbury, insurance which shall provide coverage of at least \$1,000,000 for each accident or occurrence resulting in damages from (1) bodily injury to or death of persons and/or (2) injury to or destruction of property. Subject to that limit per accident or occurrence, the policy shall provide an aggregate coverage of at least \$2,000,000 for all pertinent damages arising during the policy period.

f. Pollution Liability:

- \$2,000,000 Each Occurrence

g. Professional Liability:

- \$2,000,000 Each Claim

02.02

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 **60 days** in advance with written notice of cancellation or non-renewal. The Certificate shall evidence all required coverage. The Bidder shall provide the Town copies of any such insurance policies upon request.

02.03 INDEMNIFICATION: To the fullest extent permitted by law, the Contractor shall indemnify and hold harmless the Town and the State of Connecticut 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.

03.00 CONTRACTOR'S WORK AND STORAGE AREA

03.01 The Contractor shall contact the Town to determine if any specific locations will be designated, or gain its approval prior to using any area 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 no cost to the Town.

04.00 MAINTENANCE / GUARANTEE PERIOD

04.01 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., unless specified otherwise in the Technical Specifications.

05.00 PROTECTION OF EXISTING UTILITIES

05.01 Prior to opening an excavation, effort shall be made to determine whether underground installations, (i.e., sewer, water, fuel, electric lines, etc.) will be encountered and, if so, where such underground installations are located. 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.

05.02 When the excavation approaches the estimated location of such an installation, the exact location shall be determined by careful probing or hand digging, and when it is uncovered, proper supports shall be provided for the existing installation. Utility companies shall be contacted and advised of proposed work prior to the start of actual excavation.

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

06.00 SCHEDULE OF DRAWINGS

06.01 The Contractor is hereby alerted that the plan set entitled "Town of Glastonbury- Historic Terminal Piping Removal" located at 300 Welles Street, Glastonbury, Connecticut, including 3 sheets prepared by TRC Environmental Corporation (TRC) is to be considered part of these specifications.

07.00 CHANGES IN THE WORK

07.01 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.

**HISTORIC TERMINAL PIPING REMOVAL PROJECT
300 WELLES STREET
BID PROPOSAL**

BID #GL-2019-14



TOWN OF GLASTONBURY * 2155 MAIN STREET * GLASTONURY * CT

BID / PROPOSAL NO: GL-2019-14 **DATE DUE:** 02-05-19

DATE ADVERTISED: 01-14-19 **TIME DUE:** 11:00 AM

NAME OF PROJECT: Historic Terminal Piping Removal Project, 300 Welles Street

In compliance with this Invitation to Bid, the Bidder hereby proposes to provide goods and/or services as per this solicitation in strict accordance with the Bid Documents, within the time set forth therein, and at the prices submitted with their bid response.

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 ADDENDA POSTED PRIOR TO BID OPENING.**

THE BIDDER ACKNOWLEDGES RECEIPT OF THE FOLLOWING ADDENDA AS REQUIRED:

Addendum #1 _____(Initial/Date) Addendum #2 _____ (Initial/Date) Addendum #3 _____(Initial/Date)

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 (IB).
- _____ 2. Included Disclosure of Past and Pending Mediation, Arbitration, and Litigation cases against the Bidder or its Principals as per Section 17 of the IB.
- _____ 3. Included Qualifications Statement as per Section 21 of the IB.
- _____ 4. Checked Town web site for Addenda and acknowledged Addenda on page BP-1.
- _____ 5. Acknowledged Non-Collusion Affidavit on page BP-3.
- _____ 6. Acknowledged Code of Ethics on page BP-3.
- _____ 7. Clearly marked envelope with Bid Number, Date, Time of opening, Bidder's Company Name and address.
- _____ 8. Included Affidavit in compliance with Town ordinance prohibiting natural gas waste & oil waste from natural gas extraction activities or oil extraction activities as per Section 23 of the IB.

BIDDER NAME: _____

**HISTORIC TERMINAL PIPING REMOVAL PROJECT
300 WELLES STREET
BID PROPOSAL**

BID #GL-2019-14

The work for this project shall be performed on a lump sum and unit price basis as indicated on the Bid Schedule. The bidder is required to fill in the lump sum or unit price for each bid item.

All lump sum bid prices shall include the necessary labor, materials, equipment, tools, appurtenances, subcontractors and all work incidental thereto to complete the Work described in the Contract Documents. The Contractor shall include the cost for all incidental work for each bid item with the appropriate lump sum and unit cost and total cost so as to provide a total project bid price that completely covers the cost for the work contained in the Contract Documents. Any limitations on the work covered under a Contractor's bid should be provided along with the completed Bid Form.

ITEM NO.	ITEM DESCRIPTION	ESTIMATED QUANTITY	UNIT PRICE	ESTIMATED TOTAL COST
1	MOBILIZATION/DEMOBILIZATION (Per Section 01010)	LS	NA	\$ _____
Written Amount				
2	DEMOLITION/REMOVAL/RESTORATIONS ACTIVITIES (Per Section 01010)	LS	NA	\$ _____
Written Amount				
3	NON-HAZARDOUS STEEL PIPING TRANSPORTATION AND DISPOSAL (Per Section 01010)	15 Ton	\$ _____ Per Ton	\$ _____
Written Amount				
4	NON-HAZARDOUS WOODEN WASTE MATERIAL TRANSPORTATION AND DISPOSAL (Per Section 01010)	15 Ton	\$ _____ Per Ton	\$ _____
Written Amount				
5	LIQUID WASTE - STEEL PIPING CLEANING (INTERIOR) (Per Section 01010)	55 Gallons	\$ _____ Per Gallon	\$ _____
Written Amount				
6	LEAD PAINT - WASTE MATERIAL (Per Section 01010)	1 Drum	\$ _____ Per Drum	\$ _____
Written Amount				

TOTAL BID AMOUNT: \$ _____
Total Numeric Amount

Total Written Amount

BIDDER NAME: _____

NON-COLLUSION AFFIDAVIT:

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.

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

TECHNICAL SPECIFICATIONS

01000 – Work Covered by Contract Documents

01001 – Owner and Regulatory Authority

01002 – Engineer

01010 – Summary of Work

01019 – Contract Considerations

01027 – Applications for Payment

01035 – Modification Procedures

01040 – Coordination

01090 – References

01200 – Project Meetings

01205 – Payment Items

01300 – Submittals

01310 – Construction Schedule

01500 – Construction Facilities

01520 – Health, Safety, and Emergency Response

01525 – Temporary Sanitary Facilities

01530 – Fire Protections

01535 – Construction Equipment

01540 – Barriers and Closures

01545 – Protection

01550 – Security

01560 – Temporary Controls

01565 – Stormwater Controls

01570 – Cleaning

TECHNICAL SPECIFICATIONS (continued)

02050 – Demolition

02110 – Clearing, Grubbing, Stripping, and Chipping

02112 – Erosion and Sediment Control

028213 – Asbestos Abatement

028313 – Lead Based Paint Activity

Type II DOT Silt and Turbidity Barrier – Typical Spec

SECTION 01000

WORK COVERED BY CONTRACT DOCUMENTS

PART 1 - GENERAL

1.1 PROJECT TITLE

- A. The project is entitled “Historic Terminal Piping Removal.” The project site is located in Glastonbury, Connecticut. It is to be completed and ready for use by the OWNER within the Contract Time specified in Exhibit D of the Contract Documents.

1.2 THE PROJECT DESCRIPTION

- A. Removal of Derelict Historic Petroleum Terminal Product Transfer Piping and Piping Support Structure:
1. Mobilization / Demobilization
 2. Site Work Area Preparation and Limited Clearing and Grubbing
 3. Demolition Material Temporary Storage Area Construction
 4. Steel Piping, Steel Walkway and Wooden Support Structure Demolition/Removal
 5. Steel Piping and Demolition Material Transportation and Disposal
 6. Site Work Area and Riverbank Restoration

PART 2 – PRODUCTS

Not used.

PART 3 – EXECUTION

Not used.

END OF SECTION 01000

SECTION 01001

OWNER AND REGULATORY AUTHORITY

PART 1 - GENERAL

1.1 OWNER

The OWNER is the Town of Glastonbury (Glastonbury), Connecticut.

- A. Glastonbury has the administrative authority for the facility and site where the work is being performed. The authorized representative for Glastonbury acts in matters involving revoking, altering, enlarging or relaxing any requirement of the Contract Documents.
- B. The Owner's Representative is Mr. Daniel Pennington, Town Engineer/Manager of Physical Services, Town of Glastonbury, 2155 Main Street, Glastonbury, CT 06033. Phone (860) 652-7736; email daniel.pennington@glastonbury-ct.gov.

1.2 PROPERTY OWNER

The current property owner is the Town of Glastonbury.

1.3 REGULATORY AUTHORITY

The Regulatory Authority is the Connecticut Department of Energy and Environmental Protection (CTDEEP) and the Town of Glastonbury.

PART 2 – PRODUCTS

Not used.

PART 3 – EXECUTION

Not used.

END OF SECTION 01001

SECTION 01002

ENGINEER / CONSTRUCTION QUALITY CONTROL

PART 1 - GENERAL

1.1 THE ENGINEER

- A. The Engineer or their accredited representative is referred to in the Contract Documents as “ENGINEER” or “ENGINEERS” or by pronouns which imply them.
1. The Engineer will not make interpretations or decisions directly to the CONTRACTOR. All interpretations or decisions will be conveyed through the Construction Administrator.
 2. As the authorized agent of Glastonbury, the ENGINEER is responsible for review of shop drawings, materials, and equipment intended for the work, in accordance with the “General Conditions”, and the “Supplementary Conditions”.
- B. Wherever the ENGINEER is mentioned in the documents in connection with an administrative function, it shall include the Construction Administrator in that function except for shop drawings.

PART 2 – PRODUCTS

Not used.

PART 3 – EXECUTION

Not used.

END OF SECTION 01002

SECTION 01010

SUMMARY OF WORK

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

- A. Contract Documents and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 WORK COVERED BY CONTRACT DOCUMENTS

- A. The Project is entitled, “Historic Terminal Piping Removal, 300 Welles Street, Glastonbury, Connecticut”. The purpose of the planned removal activities is the removal of a derelict structure. The former petroleum terminal piping and piping support structures on the bank of the Connecticut River exhibit safety and environmental concerns. It is the intent of the contract to have all work necessary to achieve the project purpose be included within Bid Proposal items 1-6 and as described in section 01010. Costs for any work item not specifically described but necessary to achieve the project purpose shall be included within the lump sum items of the bid proposal. No separate payment shall be made for such work not specifically described.
- B. The general items associated with the proposed piping and piping support structure removal activities include: mobilization/demobilization, installation of erosion control measures, construction/preparation of structure removal area and temporary storage/stockpile area, removal of all piping and piping support structures, staging of historic terminal piping and all piping support structures for disposal, and loading, transportation and disposal of all piping and support structures. Following the completion of all removal and demolition activities, any existing erosion control materials will be removed by the Contractor and the site restored (graded and seeded as necessary) to its original condition.

The Contractor shall be responsible for protecting all utility lines encountered within the area (if any).

- C. A description of the bid tasks has been provided below:
1. **Bid Proposal Item 1 – Mobilization/Demobilization:** The lump sum price for Bid Proposal Item 1 shall include, but not be limited to, the following:
 - a. The Contractor shall provide all labor, materials, equipment, subcontractors, and tools necessary to mobilize equipment and materials to the site, submit a site specific health and safety plan, submit a project work plan outlining steps and

procedures for completing the work, provide temporary sanitary facilities per section 01500, install and maintain erosion protection materials, maintain silt and turbidity barriers within the river, prepare demolition area and temporary material storage/stockpile area to be protective of human health, and attend one project preconstruction meeting.

- b. Bid Proposal Item 1 shall also include all labor, materials, and equipment necessary to prepare the entire work area and complete limited clearing and grubbing. Site Work Area: Limited clearing and grubbing will be required adjacent to the historic terminal piping support structure to allow access for the demolition and removal activities. In addition, measures will need to be installed in both the river bank area and the upland laydown area to protect humans and the environment from any debris or chipping paint that may result from the planned demolition activities.
- c. The Contractor shall install and maintain all erosion protection necessary to protect adjacent properties and waterways (Connecticut River). Any damage to existing roadway, sidewalks, waterway, or other features resulting from the Contractor's operations shall be repaired by, and at the full expense of, the Contractor.
- d. A demolition material stockpile area on the site will be constructed and approved by the Engineer. The Contractor shall install and maintain all measures necessary to protect human health and the environment from any residual petroleum products that may currently exist in the pipes and all lead containing paint currently existing on the steel pipes/steel walkway. All demolition material stockpiles shall be covered with a minimum of two layers of 10-mil polyethylene. All covers shall be secured with sandbags or hay bales in such a manner to prevent stormwater and/or runoff from affecting adjacent areas of the site.
- e. Provide for the decontamination of all personnel and equipment.
- f. Provide protection for the public in the area of the work during all phases of the project. The Contractor shall erect temporary fencing or barricades and restrict access to the work areas (as needed) by all unauthorized personnel.
- g. Provide all labor, material, equipment, and tools necessary to manage and load demolition waste materials.
- h. Provide all labor, material, equipment, and tools necessary to protect and support all utilities encountered (if any) during the course of work, both above ground and below ground.
- i. Provide project-specific Health and Safety Plan as detailed in the Contract Documents and comply with all OSHA safety requirements.

- j. Provide protection of the demolition area through the use of 4-foot high orange safety fencing. The fencing shall be inspected and maintained until work is complete.
2. **Bid Proposal Item 2 - Demolition/Removal/ Restoration Activities:** The lump sum price for Bid Proposal Item 2 shall include, but not be limited to, the following:
 - a. The historic terminal steel piping, steel walkway, and wooden waste material (support piles) will be disassembled and removed from the project area. The Contractor will be required to remove the steel piping and wooden waste material, stockpile demolition material, load demolition material for disposal/recycle, and cut existing wooden support piles to grade. The historic steel piping may contain residual petroleum sludge and/or liquid that will require proper handling, containment, and proper disposal by the Contractor. In addition, laboratory analytical testing of the painted surfaces of the piping and steel walkway structure reported elevated concentrations of lead paint that will require specific health and safety measures and environmentally protective measures as part of steel piping and steel walkway removal and cutting. The existing gaskets/flanges on the pipes may contain asbestos and will require proper handling and disposal. The Engineer will provide sampling and analysis of any potential asbestos-containing material once the pipe sections are relocated (with gaskets or flanges intact) to the demolition material storage area and provide the analytical information to the Contractor prior to removal, handling transport and disposal. The Contractor will also be required to do any necessary clearing and grubbing needed to complete the project and restore the site to its original condition, including restoration of vegetation and removal of sediment and erosion controls.
 - b. Demolition Material Stockpile Area: Piping, steel walkway, and wooden support materials removed from the project area will require temporary stockpiling. Waste material stockpile maintenance shall be the responsibility of the Contractor. Waste material stockpile areas will be dismantled by the Contractor following the conclusion of material transportation and disposal activities and the area will be restored to its original condition, including grading and seeding as necessary.
 - c. Demolition Material Transportation and Disposal: All demolition generated materials removed from the project area will require loading, transport, and disposal at an approved disposal facility. Laboratory analytical testing of the painted surfaces of the piping and steel walkway structure reported detectable concentrations of lead that will require specific health and safety measures as part of steel piping and steel walkway removal and cutting.
 - d. Site Restoration: All work areas will be restored to original condition. Upland laydown area will include grading and seeding any areas disturbed as part of the piping removal/demolition activities.

3. **Bid Proposal Item 3 – Non-Hazardous Steel Piping Transportation and Disposal:** The contract unit price for Bid Proposal Item 3 shall include, but not be limited to, the following:
 - a. Provide all labor, materials, equipment, and tools necessary to transport and dispose of steel piping generated during demolition activities.
 4. **Bid Proposal Item 4 – Non-Hazardous Wooden Waste Material Transportation and Disposal:** The contract unit price for Bid Proposal Item 4 shall include, but not be limited to, the following:
 - a. Provide all labor, materials, equipment, and tools necessary to transport and dispose of demolition-generated bulky wooden material from the site.
 5. **Bid Proposal Item 5 – Liquid Waste-Steel Piping Cleaning (Interior):** The contract unit price for Bid Proposal Item 5 shall include, but not be limited to, the following:
 - a. Provide all labor, materials, equipment, and tools necessary to remove the interior liquid contents of the steel piping (as required) and contain the residual fuel inside the steel piping or proper transport and disposal.
 6. **Bid Proposal Item 6 – Lead Paint-Waste Material:** The contract unit price for Bid Proposal Item 5 shall include, but not be limited to, the following:
 - a. Provide all labor, materials, equipment, and tools necessary to contain, transport, and dispose of all paint chips/paint debris generated as part of demolition activities.
- D. Facilities Owner and Facilities Representatives:
1. Property Owner: Town of Glastonbury.
- E. Contract Administrator:
1. The Contract Administrator will be Daniel A. Pennington, Town Engineer/Manager of Physical Services, Town of Glastonbury, 2155 Main Street, Glastonbury, CT 06033. Email: daniel.pennington@glastonbury-ct.gov. Telephone: (860) 652-7736.
- F. Regulatory agencies that may be involved in various stages of the remediation process include the CTDEEP. The Town of Glastonbury will serve as the necessary contact with the CTDEEP. The Contractor will serve as the primary contact with all local agencies (if required), such as the Glastonbury Health Department, Glastonbury Building Department, and Glastonbury Fire Department, and will be responsible for obtaining all

required permits (if any).

- G. The Contractor will include in his bid all items required in order to carry out the intent of the Work as described, shown, and implied in the Contract Documents.
- H. It shall be the Contractor's responsibility, upon discovery, to immediately notify the Town of Glastonbury, in writing, of errors, omissions, discrepancies, and instances of non-compliance with applicable codes and regulations within the Contract Documents. Any additional costs arising from the Contractor's failure to provide such notification shall be borne by the Contractor.

1.3 WORK SEQUENCE

- A. Work shall include all labor and material shown on the drawings and as specified hereinafter. All work shall be performed in compliance with local, State, and Federal regulations. The Contractor is to perform all tasks listed below not specifically stated to be performed by the Town of Glastonbury. The Contractor shall notify Call Before You Dig (CBYD) a minimum of 72 hours prior to commencing excavation activities. The Town of Glastonbury and the Contractor will determine the locations of all material stockpiles, staging areas, and decontamination operations. The Contractor is required to provide on-site portable sanitary facilities for workers per OSHA regulations.
- B. Prior to Mobilization, the Contractor shall submit the following:
 - 1. Submit the Contractor's Health and Safety Plan, proof of employee training, and Safety Program Certification for review and approval by the Town of Glastonbury as required in Section 01520.
 - 2. Provide waste disposal facility information, including facility name, facility location, and facility contact information, for approval by the Town of Glastonbury.
- C. The project will be performed as follows:
 - 1. The Contractor shall use the information provided in the Bid Documents (and associated bidder questions), Contact Drawings, and information provided by the Engineer during the Bid Walk as a basis for the work to be performed.
 - 2. The Contractor shall place necessary sediment control measures and environmental containment measures as required by the project. Silt fences and/or sediment barriers will be installed at the site as needed to prevent silt and sediment transport into the Connecticut River from the project area.
 - 3. The Contractor shall contact CBYD prior to the commencement of removal activities. If needed, the Contractor is responsible for renewing/maintaining

notifications as required by CBYD. The Contractor will be responsible for all costs associated with the repair of utilities damaged during work. No specific utility maps are available for the site.

4. The Contractor shall secure the demolition area by completely encircling with 4-foot high orange safety fencing to mitigate the potential of trespassers from entering the work area. The Contractor will be responsible for securing the site and limiting public access.
5. The Contractor shall prepare the material stockpile area prior to work commencing. The Contractor shall install two layers of 10-mil poly sheeting at each demolition material stockpile and staging area. No demolition material shall be placed on any unlined area. The Contractor shall have a sufficient amount of 10-mil poly sheeting on site to cover all waste piles during each rain event and at the end of each day. All poly covers shall be sufficiently secured with sand bags, hay bales, or another method.
6. The Contractor shall have a competent and qualified person on site during all activities to ensure work is being performed according to all OSHA guidelines.
7. At the end of each workday, the project area will be secured with orange safety fencing installed that is at least 4-feet high. A sufficient amount of fencing (as determined by the project Engineer) will be kept on site during the project to perform this task.
8. All minimally disturbed wetland areas (river bank) will be restored to pre-demolition conditions as directed by the project Engineer.
9. Complete surface restoration activities. All disturbed areas shall be restored to original condition or graded and seeded to restore to original condition.

1.4 CONTRACTOR USE OF PREMISES

- A. General: The Contractor shall have full access to the site.
- B. Use of the Site: Limit use of the premises to work in areas indicated. Confine operations to areas within contract limits indicated. Do not disturb portions of the site beyond the areas in which the Work is indicated.
 1. The Contractor shall confine his operations, including storage of waste, materials, supplies, equipment, and apparatus, to the areas agreed upon by the Town of Glastonbury during demolition activities.
 2. Existing roads, driveways, walks, and parking areas are to be kept free and clear at all times. Contractors are to check all roadways for accessibility and clearances

for deliveries of all large material and equipment. The Site is the only designated area that will be used for parking or storage of materials. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on site.

3. The Contractor shall be responsible for keeping the work area clean and shall pick up rubbish and debris and promptly remove them from the Site at the Contractor's cost. The Contractor is also responsible for keeping all roadway surfaces clean (Welles Street entrance) on a continuous basis (sweeping) throughout the duration of work activities.
4. Contractor's daily access to the Site shall be as indicated on the Contract Documents.
5. Special precautions shall be taken to protect all wetlands and waterways associated with the project area. Prevent any and all sediment, debris, or other materials from getting into these systems. Should any sediment, debris, or other materials get into these systems, or if any damage occurs to them, the Contractor shall immediately contact the Town of Glastonbury. The Contractor shall be fully responsible for all costs associated with additional cleaning and repairs caused by neglecting to protect these environmentally protective systems.
6. The Contractor shall comply with local working hour restrictions unless specifically approved otherwise, in writing, by the Town of Glastonbury.
7. No signs, other than those approved by the Town of Glastonbury, will be visible on the premises.

1.5 MISCELLANEOUS PROVISIONS

A. Examination of Site:

1. It is not the intent of the Contract Documents to show all existing conditions. All contractors are encouraged to attend the Pre-Bid Conference prior to submitting their Bid Proposals. This is the only official opportunity to visit and examine the Site with the Town of Glastonbury.
2. Contractors should investigate and satisfy themselves as to the conditions affecting the Work, including, but not restricted to, those bearing upon transportation, disposal, handling and storage of materials, availability of labor, water, electric power, uncertainties of weather, roads, or similar physical conditions of the ground, the character of equipment, and facilities needed preliminary to and during the prosecution of the Work. The Contractor should further satisfy himself as to the character, quality, and quantity of surface and subsurface materials or obstacles to be encountered insofar as this information is

**HISTORIC TERMINAL PIPING REMOVAL PROJECT
300 WELLES STREET
TECHNICAL SPECIFICATIONS**

BID #GL-2019-14

reasonably ascertainable from an inspection of the Site, as well as from information presented by the Contract Documents. Any failure by the Contractor to acquaint himself with the available information shall not relieve him from the responsibility for estimating properly the difficulty and cost of successfully performing the Work.

B. Pre-Bid Conference:

1. A Pre-Bid Conference and tour of the Site will be conducted as scheduled in the Notice to Bidders. This scheduled conference is the only official opportunity for the bidders to tour the site with the Town of Glastonbury.

C. Project Documents:

1. The Specifications and Drawings are intended to describe and illustrate the materials and labor necessary for the work of this project.

D. Drawings, and Specifications Furnished:

1. The General Contractor will be given three (3) sets of the Contract Documents on or about the time of execution of the Contract, free of charge. If additional copies are wanted, they will be available to the Contractor at the direct additional cost of their reproduction.

E. Construction Responsibility:

1. The Contractor shall be responsible for complying with the construction means, methods, techniques, sequences, and procedures detailed on the project plans or as directed by the Town of Glastonbury's site representatives.

F. Overtime:

1. The Contractor shall request approval from the Town of Glastonbury to work overtime. Said request shall be made 48 hours in advance. All costs for overtime are included in the Contract Sum as stated in the Bid Proposal Form. Normal work hours shall be Monday through Friday from 7:00 AM to 5:00 PM exclusive of Town observed Holidays.

G. Disclosure of Information:

1. These Contract Documents include reports and referenced construction drawings. The information was obtained for the Town of Glastonbury's use and is offered in good faith for information only, solely for the purpose of placing the Contractor in receipt of all information available to the Town of Glastonbury at this time, unless otherwise provided. This data is not to be considered a part of the Contract Documents. The Owner does not warrant or represent that the information in

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these reports is complete or accurate, but only that it constitutes a disclosure of the information known to the Owner at this time regarding these conditions.

PART 2 – PRODUCTS (Not Applicable)

PART 3 – EXECUTION (Not Applicable)

END OF SECTION 01010

SECTION 01019

CONTRACT CONSIDERATIONS

PART 1 - GENERAL

1.1 ALLOWANCES

A. None.

1.2 MEASUREMENT AND PAYMENT – GENERAL

- A. Lump Sum Price and Unit Price Schedules, refer to and are the same pay items listed in the Bid Form. They constitute all of the pay items for the completion of the Work. No direct or separate payment will be made for providing miscellaneous temporary or accessory works, plant, services, CONTRACTOR'S or CONTRACTOR'S field offices, layout surveys, job signs, sanitary requirements, testing, safety devices, approval and record drawings, water supplies, power, maintaining traffic, removal of waste, watchmen, bonds, insurance, and all other requirements of the General Conditions and Supplementary Conditions. Compensation for all such services, things and materials shall be included in the prices stipulated for the lump sum and unit price pay items listed on the bid form.
- B. Each lump sum and unit bid price will be deemed to include an amount considered by CONTRACTOR to be adequate to cover CONTRACTOR'S overhead and profit for each separately identified item.

PART 2 – PRODUCTS

Not used.

PART 3 – EXECUTION

Not used.

END OF SECTION 01019

SECTION 01027

APPLICATION FOR PAYMENT

PART 1 - GENERAL

1.1 SCHEDULE OF VALUES

Submit the "Schedule of Values" to the Construction Administrator at the earliest possible date but no later than (20) twenty Calendar Days after the Contract Start Date.

- A. Format and Content: Use the Bid Form as a guide to establish the format for the "Schedule of Values". Provide at least one line item for each of line item on the Bid Form on electronic media printout.
- B. Identification: Project identification on the Schedule of Values shall include, but not be limited to, the following:
1. OWNER
 2. Project Number
 3. Project Name
 4. Project Location
 5. CONTRACTOR'S name and address.
- C. Arrange the "Schedule of Values" in tabular format as required by the OWNER, containing separate columns including, but not limited to, the following Items:
1. Item Number.
 2. Description of Work with Related Specification Section or Division Number.
 3. Scheduled Values broken down by description number, type material, units of each material.
 4. Name of subcontractor.
 5. Name of manufacturer or fabricator.
 6. Name of supplier.
 7. Retainage.
 8. Contract sum in sufficient detail.
- D. Percentage of Contract Sum to nearest one-hundredth percent, adjusted to total 100 percent.
- E. Provide a breakdown of the Contract Sum in sufficient detail to facilitate continued evaluation of Applications for Payment and progress reports. Coordinate with the Project Manual table of contents. Break principal subcontract amounts down into several line items.
- F. Round amounts to nearest whole dollar; the total shall equal the Contract Sum.
- G. Unit-Cost Allowances: Show the line-item value of unit-cost allowances, as a product of the unit cost, multiplied by the measured quantity. Estimate quantities from the best

indication in the Contract Documents.

- H. .General Conditions: Show line items for indirect costs and margins on actual costs only when such items are listed individually in Applications for Payment. Each item in the Schedule of Values and Applications for Payment shall be complete. Include the total cost and proportionate share of general overhead and profit margin for each item.
1. Temporary facilities and other major cost items that are not direct cost of actual work-in-place may be shown either as separate line items in the Schedule of Values or distributed as general overhead expense, at the CONTRACTOR'S option.

1.2 APPLICATIONS FOR PAYMENT – GENERAL

Each Application for Payment shall be consistent with previous applications and payments as certified by the ENGINEER and Construction Administrator and paid for by the OWNER. The initial "Application for Payment", the "Application for Payment", at time of "Substantial Completion", and the final "Application for Payment", involve additional requirements.

- A. Payment-Application Terms: The OWNER will process monthly progress payments. The CONTRACTOR may submit applications for payment on a monthly basis.
- B. Payment-Application Forms: Use the "Application for Payment" form as required by the OWNER. Present the required information on electronic media printout or approved OWNER Form, multiple pages should be used if required.
- C. For each item, provide a column including but not limited to the following items:
1. Item Number.
 2. Description of Work and Related Specification Section or Division.
 3. Scheduled Value, break down by units of material and units of labor.
 4. Work completed from previous application.
 5. Work completed this period.
 6. Materials presently stored.
 7. Total completed and stored to date of application,
 8. Percentage of Completion.
 9. Balance to Finish.
 10. Retainage.
- D. Application Preparation: Complete every entry on the form. Include execution by a person authorized to sign legal documents on behalf of the CONTRACTOR. The Construction Administrator will return incomplete applications without action.
1. Entries shall match data on the "Schedule of Values".
 2. Include amounts of Change Orders issued prior to the last day of the construction period covered by the application.
- E. Transmittal: Submit 4 signed and notarized original copies of each Application for Payment to the Construction Administrator by a method ensuring receipt. One copy shall

be complete, including waivers of lien and similar attachments, when required.

1. Transmit each copy with a transmittal form listing attachments and recording appropriate information related to the application, in a manner acceptable to the ENGINEER.
- F. Applications for Payment: Administrative actions and submittals, that must precede or coincide with submittal of the first Application for Payment and all subsequent Application for Payments including, but not limited to, the following items:
1. List of subcontractors and suppliers' name, FEIN/Social Security numbers, and Connecticut Tax Registration Numbers.
 2. List of principal suppliers and fabricators.
 3. Schedule of Values.
 4. CONTRACTOR'S Construction Schedule (preliminary if not final).
 5. Schedule of principal products.
 6. Submittal Schedule (preliminary if not final).
 7. List of CONTRACTOR'S staff assignments.
 8. List of CONTRACTOR'S principal consultants.
 9. Copies of all applicable permits.
 10. Copies of authorizations and licenses from governing authorities for performance of the Work.
 11. Initial as-built survey and damage report, if required.

1.3 APPLICATION FOR PAYMENT AT SUBSTANTIAL COMPLETION

Following issuance of the Certificate of Substantial Completion, submit an Application for Payment form Use the form as required by the OWNER. Present the required information on electronic media printout.

- A. This application shall reflect Certificates of Partial Substantial Completion issued previously for OWNER occupancy of designated portions of the Work.
- B. Administrative actions and submittals that shall precede or coincide with this application include, but are not limited to, the following:
1. Occupancy permits and similar approvals.
 2. Warranties (guarantees) and maintenance agreements.
 3. Test/adjust/balance records.
 4. Maintenance instructions.
 5. Meter readings.
 6. Startup performance reports.
 7. Changeover information related to OWNER'S occupancy, use, operation, and maintenance.
 8. Final cleaning.
 9. Application for reduction of retainage and consent of surety.
 10. Advice on shifting insurance coverage.
 11. Final progress photographs.
 12. List of incomplete Work, recognized as exceptions to Engineer's Certificate of

Substantial Completion.

1.4 FINAL PAYMENT APPLICATION

A. Administrative actions and submittals that must precede or coincide with submittal of the final Application for Payment include, but are not limited, to the following:

1. Completion of Project Closeout requirements.
2. Completion of list of items remaining to be completed as indicated on the attachment to the Certificate of Substantial Completion.
3. Ensure that unsettled claims will be settled.
4. Ensure that incomplete Work is not accepted and will be completed without undue delay.
5. Transmittal of required Project construction records to the OWNER.
6. Certified final as-built and topographic survey.
7. Proof that taxes, fees, and similar obligations were paid.
8. Removal of temporary facilities and services.
9. Removal of surplus materials, rubbish, and similar elements.
10. Change of locks to OWNER'S access.
11. The requirements of the General Conditions and Supplementary Conditions for Final Acceptance, Final Completion, Final Inspection, and Final Payment.
12. Completion of "Building CONTRACTOR Reporting Form" as supplied by the OWNER, for all CONTRACTORS, Subcontractors, Vendors, Suppliers, etc. who work on the Contract. The form includes the following information:
13. CONTRACTOR/Subcontractor name.
14. FEIN/Social Security Numbers.
15. Connecticut Tax Registration Numbers.
16. Type of work.
17. Name of business and address.
18. Remittance address.

PART 2 – PRODUCTS

Not used.

PART 3 – EXECUTION

Not used.

END OF SECTION 01027

SECTION 01035

MODIFICATION PROCEDURES

PART 1 - GENERAL

1.1 **SUMMARY**

- A. This Section specifies administrative and procedural requirements for handling and processing contract modifications.

1.2 **MINOR CHANGES IN THE WORK**

- A. The ENGINEER, through the Construction Administrator, will issue supplemental instructions authorizing Minor Changes in the Work, not involving adjustment to the Contract Sum or Contract Time, on the "Supplemental Instructions" form as required by the OWNER.

1.3 **PROPOSAL REQUEST**

- A. ENGINEER/OWNER-Initiated Requests For Proposals: The ENGINEER or OWNER will issue a detailed description of proposed changes in the Work via the Construction Administrator that will require adjustment to the Contract Sum or Contract Time. If necessary, the description will include supplemental or revised Drawings and Specifications. Such requests shall be on a "Proposal Request" form as required by the OWNER.
- B. "Proposal Request" is issued for information only. Do not consider them as an instruction either to stop work in progress or to execute the proposed change.
- C. Within Fourteen (14) Calendar Days of receipt of a "Proposal Request", submit a "Change Order Proposal" with the required information necessary to execute the change to the Construction Administrator for the ENGINEER'S/OWNER'S review.
- D. Include a list of quantities of products required and unit costs, with the total amount of purchases to be made. Where requested, furnish survey data to substantiate quantities.
1. Indicate applicable delivery charges, equipment rental, and amounts of trade discounts.
 2. Include a statement indicating the effect the proposed change in the Work will have on the Contract Time.
 3. The OWNER is tax exempt. All CONTRACTOR and Subcontractor services provided under your contract may not be exempt from taxes. The Department of Revenue Services can guide you as to which services are exempt and which are not. Please contact the State of Connecticut, Department of Revenue Services at 1-800-382-9463 or 566-7033.
 4. Dollar values shown on the Schedule of Values shall not be the governing (or deciding) final amounts for change orders involving either additional charges or deletions.

1.4 REQUESTS FOR INFORMATION

- A. In the event that the CONTRACTOR or subcontractor, at any tier, determines that some portion of the drawings, specifications, or other Contract Documents requires clarification or interpretation by the ENGINEER, the CONTRACTOR shall submit a “Request for Information” in writing to the ENGINEER via Construction Administrator. “Requests for Information” may only be submitted by the CONTRACTOR and shall only be submitted on the “Request for Information” forms as required by the OWNER. In the “Request for Information”, the CONTRACTOR shall clearly and concisely set forth the issue for which clarification or interpretation is sought and why a response is needed from the ENGINEER.
1. In the “Request for Information”, the CONTRACTOR shall set forth an interpretation or understanding of the requirement along with reasons why such an understanding was reached.
 2. The OWNER acknowledges that this is a complex project. Based upon the OWNER’S past experience with projects of similar complexity, the OWNER anticipates that there will probably be some “Requests for Information” on this project.
 3. The ENGINEER will review all “Requests for Information” to determine whether they are “Requests for Information” within the meaning of this term. If it is determined that the document is not a “Request for Information”, it will be returned to the CONTRACTOR, unreviewed as to content, for resubmittal on the proper form and in the proper manner.
 4. A “Requests for Information Response” shall be issued within seven (7) Calendar Days of receipt of the request from the CONTRACTOR unless the OWNER determines that a longer time is necessary to provide an adequate response. If a longer time is determined necessary by the OWNER, the OWNER will, within seven (7) Calendar Days of receipt of the request, notify the CONTRACTOR of the anticipated response time. If the CONTRACTOR submits a “Request for Information” on an activity with seven (7) Calendar Days or less of float on the current project schedule, the CONTRACTOR shall not be entitled to any time extension due to the time it takes the ENGINEER to respond to the request provided that the ENGINEER responds within the seven (7) Calendar Days set forth above.
 5. A “Requests for Information Response” from ENGINEER will not change any requirement of the Contract Documents. In the event the CONTRACTOR believes that the “Requests for Information Response” will cause a change to the requirements of the Contract Document, the CONTRACTOR shall immediately give written notice to the Construction Administrator stating that the CONTRACTOR believes the “Requests for Information Response” will result in “Change Order” and the CONTRACTOR intends to submit a “Change Order Proposal” request. Failure to give such written notice immediately shall waive the CONTRACTOR’S right to seek additional time or cost under the requirement these Requirements.

1.5 CHANGE ORDER PROPOSAL

- A. When either a “Request for Information” from the CONTRACTOR or a “Proposal Request” from the ENGINEER or OWNER results in conditions that may require modifications to the Contract, the CONTRACTOR may propose changes by submitting a request for a “Change Order Proposal” to the ENGINEER via the Construction Administrator on forms as required by the OWNER. These forms shall also include “Change Order Proposal Worksheets” as required by the OWNER.
1. Include statements outlining the reasons for the change and the effect of the change on the Work. Provide a complete description of the proposed change. Indicate the effect of the proposed change on the Contract Sum and Contract Time.
 2. Include a list of quantities of products required and unit costs, with the total amount of purchases to be made. Where requested, furnish survey data to substantiate quantities as directed by Article 13 of the General Conditions of the Contract for Construction.
 3. Indicate applicable delivery charges, equipment rental, and amounts of trade discounts.
- B. The State of Connecticut construction contract has the following tax exemptions:
1. Purchasing of materials which will be physically incorporated and become a permanent part of the project.
 2. Tools, supplies and equipment used in fulfilling the construction contract are not exempt.
 3. Services that are resold by the CONTRACTOR are exempt, i.e. if a General CONTRACTOR hires a plumber, carpenter or electrician, a resale certificate may be issued to the subcontractor because these services are considered to be integral and inseparable component parts of the building contract.
- C. “Change Order Request” Forms: Use “Change Order Proposal” and “Change Order Proposal Worksheets” forms as required by OWNER.
- D. “Change Order Proposal” cannot be submitted without either: a prior submission of a “Request for Information” from the CONTRACTOR or as a response to a “Proposal Request” submitted by the ENGINEER or OWNER.
- E. Any “Change Order Request” submitted without a prior submittal of a “Request for Information” or as a response to a “Proposal Request” will be immediately rejected and returned to the CONTRACTOR.

1.6 CONSTRUCTION CHANGE DIRECTIVE

- A. “Construction Change Directive”: When the OWNER and the CONTRACTOR disagree on the terms of a “Change Order Proposal” resulting from either a “Request for Information” or “Proposal Request”, then the ENGINEER through the Construction Administrator may issue a “Construction Change Directive” on a “Construction Change Directive” as authorized by the OWNER on the form required by the OWNER. The “Construction Change Directive” instructs the CONTRACTOR to proceed with a change

in the Work, for subsequent inclusion in a “Change Order”.

1. The “Construction Change Directive” contains a complete description of the change in the Work. It also designates the method to be followed to determine change in the Contract Sum or Contract Time.
- B. Documentation: The CONTRACTOR shall maintain detailed records on a time and material basis of work required by the “Construction Change Directive”.
1. After completion of the change, submit an itemized account and supporting data necessary to substantiate cost and time adjustments to the Contract.
 2. The final value shall be negotiated based on the supporting data to determine the value of the work.

1.7 CHANGE ORDER PROCEDURES

- A. Upon the OWNER’S approval of a CONTRACTOR’S “Change Order Proposal”, the Construction Administrator will issue a “Change Order” for signatures of the ENGINEER, OWNER and the CONTRACTOR on “Change Order” form as required by the OWNER.

PART 2 – PRODUCTS

Not used.

PART 3 – EXECUTION

Not used.

END OF SECTION 01035

SECTION 01040

COORDINATION

PART 1 - GENERAL

1.1 CONSTRUCTION ADMINISTRATOR

- A. The Construction Administrator is identified in Section 01003 Construction Administrator.
- B. Construction Mobilization:
 - 1. Cooperate with the Construction Administrator in the allocation of mobilization areas of the site, for field offices and sheds, for OWNER facility access, traffic, and parking facilities.
 - 2. During Construction, coordinate use of site and facilities through the Construction Administrator.
 - 3. Comply with Construction Administrators procedures for intra-project communications; submittals, reports and records, schedules, coordination drawings, and recommendations; and resolution of ambiguities and conflicts.
 - 4. Comply with instructions of the Construction Administrator for use of temporary utilities and construction facilities.

1.2 CONSTRUCTION OPERATIONS

- A. Coordinate construction operations included in various Sections of these Specifications to assure efficient and orderly installation of each part of the Work. Coordinate construction operations included under different Sections that depend on each other for proper installation, connection, and operation.
 - 1. Schedule construction operations in the sequence required to obtain the best results where installation of one part of the Work depends on installation of other components, before or after its own installation.
 - 2. Coordinate installation of different components to assure maximum accessibility for required maintenance, service, and repair.
 - 3. Make provisions to accommodate items scheduled for later installation.

1.3 SPECIAL PROCEDURES

- A. Where necessary, prepare memoranda for distribution to each party involved, outlining special procedures required for coordination. Include such items as required notices, reports, and attendance at meetings.
 - 1. Prepare similar memoranda for the Construction Administrator, OWNER and separate CONTRACTORS where coordination of their work is required.

1.4 ADMINISTRATIVE PROCEDURES

- A. Coordinate scheduling and timing of required administrative procedures with other construction activities to avoid conflicts and assure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:
1. Preparation of schedules.
 2. Installation and removal of temporary facilities.
 3. Delivery and processing of submittals.
 4. Progress meetings.
 5. Project closeout activities.

1.5 GENERAL COORDINATION PROVISIONS

- A. Inspection of Conditions: Require the Installer of each major component to inspect both the substrate and conditions under which Work is to be performed and coordinate such inspections with the Construction Administrator and authorities having jurisdictions. If unsatisfactory conditions exist notify the Construction Administrator immediately. Do not proceed until unsatisfactory conditions have been corrected in an acceptable manner.
- B. The CONTRACTOR shall coordinate temporary enclosures with required inspections and tests to minimize the necessity of uncovering completed construction for that purpose.

PART 2 – PRODUCTS

Not used.

PART 3 – EXECUTION

Not used.

END OF SECTION 01040

SECTION 01090

REFERENCES

PART 1 – GENERAL

1.1 REFERENCES

Reference publications are cited in other sections of the specifications along with identification of their sponsoring organizations. The addresses of the sponsoring organizations are listed below, and if the source of the publications is different from the address of the sponsoring organization, that information is also provided.

American Conference of Governmental Industrial Hygienists (ACGIH)
1330 Kemper Meadow Drive, Suite 600
Cincinnati, OH 45240
Phone: (513) 742-2020
Fax: (513) 742-3355
e-mail: pubs@acgih.org
Internet: www.acgih.org

American National Standards Institute (ANSI)
11 West 42nd Street
New York, NY 10036
Phone: (212) 642-4900
Fax: (212) 398-0023
Internet: www.ansi.org

American Society for Testing and Materials (ASTM)
100 Barr Harbor Drive
West Conshohocken, PA 19428-2959
Phone: (610) 832-9585
Fax: (610) 832-9555
Internet: www.astm.org
Email: cservice@astm.org

American Society of Civil Engineers (ASCE)
1801 Alexander Bell Drive
Reston, VA 20191-4400
Phone: (703) 295-6300 or (800) 548-2723
Fax: (703) 295-6222
Internet: www.asce.org
Email: marketing@asce.org

Code of Federal Regulations (CFR)
Government Printing Office
Washington, D.C. 20402
Phone: (202) 512-1800
Fax: (202) 275-7703
Internet: www.gpo.gov

Corps of Engineers (COE)
U.S. Army Engineer Waterways Experiment Station
Attn: Technical Report Distribution Section, Services Branch, TIC
3909 Halls Ferry Road
Vicksburg, MS 39180-6199
Phone: (601) 634-2664
Fax: (601) 634-2388

Environmental Protection Agency (EPA)
Ariel Rios Building
1200 Pennsylvania Avenue, N.W.
Washington, DC 20460
Phone: 202-260-2090
Fax: 202-260-6257
Internet: <http://www.epa.gov>

National Institute for Occupational Safety and Health (NIOSH)
Publications, Mail Stop C13
4676 Columbia Parkway
Cincinnati, OH 45226-1998
Phone: (800) 356-4674
Internet: www.cdc.gov/niosh/homepage.html

Connecticut Department of Energy and Environmental Protection
79 Elm Street
Hartford, CT 06106-5127
Phone: (860) 424-3000
Internet: <http://dep.state.ct.us>

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

END OF SECTION 01090

SECTION 01200

PROJECT MEETINGS

PART 1 - GENERAL

1.1 **PRE-CONSTRUCTION CONFERENCE**

- A. The CONTRACTOR shall attend a Pre-construction Conference before starting construction, as scheduled by the Construction Administrator convenient to the OWNER, the Construction Administrator, Engineer, and CONTRACTOR. This meeting shall take place within fourteen (14) Calendar Days after the written Notice to Proceed and before the Contract Start Date. Hold the conference at the Project Site or another convenient location as directed by the Construction Administrator. The Construction Administrator shall conduct the Pre-construction Conference to review the CONTRACTOR and Subcontractor responsibilities and personnel assignments.
- B. Attendees: Authorized representatives of the Construction Administrator, OWNER, Engineer, and their consultants; the CONTRACTOR and its superintendent; major subcontractors; and other concerned parties shall attend the conference. All participants at the conference shall be familiar with the Project and authorized to conclude matters relating to the Work.
- C. Agenda: Discuss items of significance that could affect progress, including the following:
1. Tentative construction schedule.
 2. Critical work sequencing.
 3. Progress meeting schedule.
 4. Designation of responsible personnel.
 5. Subcontractors.
 6. Procedures for processing field decisions and Change Orders.
 7. Procedures for processing Applications for Payment.
 8. Distribution of Contract Documents.
 9. Insurance in force.
 10. Schedule of values.
 11. Submittal of Shop Drawings, Product Data, and Samples.
 12. Preparation of Record Documents.
 13. Use of the premises.
 14. Parking availability.
 15. Office, work, and storage areas.
 16. Equipment deliveries and priorities.
 17. Safety procedures.
 18. First aid.
 19. Security.
 20. Housekeeping.
 21. Working hours.

1.2 **PROGRESS MEETINGS**

- A. The Construction Administrator will conduct Progress Meetings, bi-weekly, at the Project Site or at regular intervals as agreed upon at the Pre-construction Conference. The Construction Administrator will notify the OWNER, the ENGINEER, the Regulatory Authority, and the CONTRACTOR of the scheduled Progress Meeting dates. Coordinate dates of Progress Meetings with preparation of Application for Payment requests.

- B. Attendees: In addition to representatives of the CONTRACTOR, Construction Administrator, OWNER and the ENGINEER, subcontractor, supplier, or other entity concerned with current progress or involved in planning, coordination, or performance of future activities may be requested to attend these meetings on an as needed basis. All participants at the meeting shall be familiar with the Project and authorized to conclude matters relating to the Work. The CONTRACTOR shall include the site superintendent as a minimum.

- C. Agenda: Progress Meetings shall review and correct or approve minutes of the previous Progress Meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to the status of the Project.
 - 1. Construction Schedule: Review progress since the last Progress Meeting. Determine where each activity is in relation to the required CONTRACTOR'S "Construction Schedule" and whether each activity is on time or ahead or behind Schedule. Determine how Work that is behind Schedule will be expedited; secure commitments from parties involved to do so. Discuss whether Schedule revisions are required to insure that current and subsequent activities will be completed within the Contract Time. Determine if any Change Orders are needed, the status of existing Change Orders, and alterations to the project schedule due to Change Orders.
 - 2. Review the present and future needs of each entity present.

- D. Reporting: The Construction Administrator will distribute minutes of the meeting to each party present, promptly and before the next scheduled meeting, and to parties who should have been present.

- E. A schedule of regular Project Meetings will be established at the Pre-construction Conference.

PART 2 – PRODUCTS

Not used.

PART 3 – EXECUTION

Not used.

END OF SECTION 01200

SECTION 01205

PAYMENT ITEMS

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specifications Sections apply to this Section.

1.2 SUMMARY

- A. This section includes measurement and payment paragraphs for the following:
1. Payment items (lump sum and unit price) for the final closure construction.
 2. Bidders must submit a complete bid.
 - a. Bidders may be disqualified for submitting more than one proposal in accordance with Instructions to Bidders.
 3. Successful Bids will include the lowest responsible, responsive bidder.
 4. The Owner also reserves the right to reject all Bids.
- B. Related Sections include the following:
1. Division 1 through 16 Sections for detailed procedural, material, and installation requirements associated with the Work of each payment item.

1.3 DEFINITIONS

- A. Approximate Quantities: Quantities for Contract Unit Price payment items provided for Contractor's information only. No guarantees are made as to the quantities of the listed elements.
- B. Bid: The offer or proposal of a Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.
- C. Payment Items: The Owner's distribution of the Contract Sum for each Bid through listed work items.
1. Each payment item description includes an anticipated scope of services. However, not all materials, labor, equipment, or services required to complete the Work are guaranteed to be listed or specified.
 2. Include costs associated with items of work required to complete the defined scope of services within the appropriately specified payment item.
 3. Payment items in the Contractor's bid shall include all necessary labor, equipment, tools, material, plus cost for delivery, installation, applicable taxes, overhead, and profit.

PART 2 – PRODUCTS

Not used.

PART 3 - EXECUTION

3.1 BASED BID PAYMENT ITEMS

A. Payment Item No. 1 – Mobilization/Demobilization and Incidental Construction

1. Work associated with this item will be paid for at the Contract Lump Sum price for site mobilization and demobilization; submit a site-specific health and safety plan; provide temporary sanitary facilities per Specification Section 01500; install and maintain erosion protection materials; prepare construction laydown area and temporary storage/stockpiling area; clearing and grubbing; insurance and bonds; administrative and general conditions and general requirements; temporary security fencing; field surveys including progress surveys, as-built survey, and other survey services as required during the course of the project; erosion and sediment control and stormwater management not covered in other bid items; and incidental materials, equipment, tools and labor not covered by other bid items required to complete the Work.

B. Payment Item No. 2 – Demolition/Removal/Restoration Activities

1. Work associated with this item will be paid for at the Contract Lump Sum price for demolition and removal of the derelict structure and restoration activities as described in the Contract Documents. Incidental materials, equipment, tools, and labor not covered by other bid items but required to complete the Work are included in this Item.

C. Payment Item No. 3 – Non-Hazardous Steel Piping Transportation and Disposal

1. Work associated with this item will be paid for at the Contract unit price to transport and dispose of contaminated steel piping generated during removal activities as described in the Specification Section 01010. Incidental materials, equipment, tools, and labor not covered by other bid items but required to complete the Work are included in this Item.

D. Payment Item No. 4 – Non-Hazardous Wooden Waste Material

1. Work associated with this item will be paid for at the Contract unit price transport and dispose of contaminated wooden material from the site as described in the Specification Section 01010 and any other applicable portions of the Contract Documents. Incidental materials, equipment, tools, and labor not covered by other bid items but required to complete the Work are included in this Item.

3.2 ALTERNATIVE BID PAYMENT ITEMS

- A1. Payment Item No. A1 – Reserved
- A2. Payment Item No. A2 – Reserved
- A3. Payment Item No. A3 – Reserved
- A4. Payment Item No. A4 – Reserved
- A5. Payment Item No. A5 – Reserved
- A6. Payment Item No. A6 – Reserved
- A7. Payment Item No. A7 – Reserved
- A8. Payment Item No. A8 – Reserved
- A9. Payment Item No. A9 – Reserved

END OF SECTION 01205

SECTION 01300

SUBMITTALS

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes administrative and procedural requirements for submittals required for performance of the Work, including but not limited to the following:
1. Submittal schedule.
 2. Shop Drawings.
 3. Product Data.
 4. Samples.
 5. Quality assurance submittals.
 6. Proposed "Substitutions Request" form.
 7. Warrantee samples.
 8. Coordination Drawings.
 9. O & M Manuals.
 10. Health and Safety Plan. CONTRACTOR shall prepare a Health and Safety Plan to address potential hazards to the on-site personnel and the surrounding community.

1.2 ADMINISTRATIVE SUBMITTALS

- A. Refer to other Division 1 Sections and other Contract Documents for requirements for administrative submittals. Such submittals include, but are not limited to, the following:
1. Permits.
 2. Applications for Payment.
 3. Performance and payment bonds.
 4. CONTRACTOR'S construction schedule.
 5. Daily construction reports.
 6. Construction Photographs.
 7. Insurance certificates.
 8. List of subcontractors.
 9. Subcontractors/Suppliers FEIN #'s and Connecticut tax registration #.

1.3 DEFINITIONS

- A. Coordination Drawings show the relationship and integration of different construction elements that require careful coordination during fabrication or installation to fit in the space provided or to function as intended and as identified in the Specification Division 2 through 16.
1. Preparation of Coordination Drawings is specified in Division 1 Section "Coordination" and may include components previously shown in detail on Shop Drawings or Product Data.

- B. Field samples are full-size physical examples erected on-site to illustrate finishes, coatings, or finish materials. Field samples are used to establish the standard by which the Work will be judged.
- C. Mockups are full-size assemblies for review of construction, coordination, testing, or operation; they are not Samples.

1.4 SUBMITTAL PROCEDURES

- A. Coordination: Coordinate preparation and processing of submittals with performance of construction activities. Transmit each submittal sufficiently in advance of performance of related construction activities to avoid delay.
- B. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that requires sequential activity.
- C. Coordinate transmittal of different types of submittals for related elements of the Work so processing will not be delayed by the need to review submittals concurrently for coordination.
- D. The ENGINEER reserves the right to withhold action on a submittal requiring coordination with other submittals until all related submittals are received.
- E. The ENGINEER reserves the right to reject incomplete submitted packages.
- F. Processing: To avoid the need to delay installation as a result of the time required to process submittals, allow sufficient time for submittal review, including time for resubmittals.
 - 1. Allow (2) two weeks for initial review. Allow additional time if the ENGINEER must delay processing to permit coordination with subsequent submittals.
 - 2. If an intermediate submittal is necessary, process the same as the initial submittal.
 - 3. Allow (2) two weeks for reprocessing each submittal.
 - 4. No extension of Contract Time will be authorized because of failure to transmit submittals to the ENGINEER sufficiently in advance of the Work to permit processing.

1.5 SUBMITTAL PREPARATION

- A. Place a permanent label, title block or 8-1/2 inches x 11 inches cover page approved by the ENGINEER, on each submittal for identification. Indicate the name of the entity that prepared each submittal on the label or title block.
 - 1. The minimum number of copies required for each submittal shall be at a minimum 4 copies or as determined otherwise at the pre-construction conference or by the Construction Administrator.
 - 2. Provide a space approximately 4 inches by 5 inches on the label, beside the title block or on the cover page on Shop Drawings to record the CONTRACTOR'S review and approval markings and the action taken.

3. Include the following information on the label for processing and recording action taken.
 - a. Project Name and State of Connecticut Project Number.
 - b. Date.
 - c. Name and address of the ENGINEER, Construction Administrator, and Owner Representative.
 - d. Name and address of the CONTRACTOR.
 - e. Name and address of the subcontractor.
 - f. Name and address of the supplier.
 - g. Name of the manufacturer.
 - h. Number and title of appropriate Specification Section.
 - i. Drawing number and detail references, as appropriate.
 - j. Indicate either initial or resubmittal.
 - k. Indicate deviations from Contract Documents.
 - l. Indicate if “equal” or “substitution”.

1.6 SUBMITTAL TRANSMITTAL

- A. Package each submittal appropriately for transmittal and handling. Transmit each submittal from the CONTRACTOR to the ENGINEER using a transmittal form. Copy the Construction Administrator on the transmittal. The ENGINEER will return all submittals to the CONTRACTOR after action is taken with a complete copy of the submittal package and one complete copy of the submittal package. The ENGINEER will not accept submittals received from sources other than the CONTRACTOR.
 1. On the transmittal, record relevant information and requests for data. On the form, or separate sheet, record deviations from Contract Document requirements, including variations and limitations. Include CONTRACTOR’S certification that information complies with Contract Document requirements.

1.7 SUBMITTAL SCHEDULE

- A. After development and review by the Owner and ENGINEER acceptance of the CONTRACTOR’S Construction Schedule prepare a complete schedule of submittals. Submit the schedule to the Construction Administrator within 30 days of Contract Award.
- B. Coordinate Submittal Schedule with the list of subcontracts, Schedule of Values, and the list of products as well as the CONTRACTOR’S Construction Schedule.
- C. Prepare the schedule in chronological order. Provide the following information:
 1. Schedule date for the initial submittal.
 2. Related section number.
 3. Submittal category (Shop Drawings, Product Data, or Samples).
 4. Name of Subcontractor.
 5. Description of the part of Work covered.
 6. Scheduled date for resubmittal.
 7. Scheduled date for the ENGINEER’S final release of approval.

1.8 DISTRIBUTION

- A. Following response to the initial submittal, print and distribute copies to the Construction Administrator, ENGINEER, OWNER, subcontractors, and other parties required to comply with submittal dates indicated. Post copies in the Project meeting room and field office.
 - 1. When revisions are made, distribute to the same parties and post in the same locations. Delete parties from distribution when they have completed their assigned portion of the Work and are no longer involved in construction activities.

1.9 SCHEDULE UPDATING

- A. Revise the schedule after each meeting or activity where revisions have been recognized or made. Issue the updated schedule concurrently with the report of each meeting.

1.10 DAILY CONSTRUCTION REPORTS

- A. Prepare a daily construction report recording the following information concerning events at the site, and submit duplicate copies to the Construction Administrator at weekly intervals:
 - 1. List of subcontractors at the site.
 - 2. Approximate count of personnel at the site.
 - 3. Breakdown of employees by trade.
 - 4. High and low temperatures, general weather conditions.
 - 5. Accidents and unusual events or safety violations.
 - 6. Meetings and significant decisions.
 - 7. Stoppages, delays, shortages, and losses.
 - 8. Meter readings and similar recordings.
 - 9. List of equipment on site and identify if idle or in use.
 - 10. Location of all areas in which construction was done,
 - 11. Materials and equipment received,
 - 12. Work, inspections and tests performed,
 - 13. Orders and requests of governing authorities.
 - 14. Change Orders received, start and end dates,
 - 15. Services connected, disconnected.
 - 16. Equipment or system tests and startups,
 - 17. Partial Completion's, occupancies,
 - 18. Substantial Completion's authorized,
 - 19. Equals or Substitutions approved or rejected.

1.11 SHOP DRAWINGS

- A. Submit newly prepared information drawn accurately to scale. Highlight, encircle, or otherwise indicate deviations from the Contract Documents. Do not reproduce Contract Documents or copy standard information as the basis of Shop Drawings. Standard information prepared without specific reference to the Project is not a Shop Drawing.
- B. Shop Drawings include fabrication and installation Drawings, setting diagrams, schedules,

patterns, templates and similar Drawings. Include the following information:

1. Dimensions.
 2. Identification of products and materials included by sheet and detail number.
 3. Compliance with specified standards.
 4. Notation of coordination requirements.
 5. Notation of dimensions established by field measurement.
 6. Sheet Size: Except for templates, patterns and similar full-size Drawings, submit Shop Drawings on sheets at least 8-1/2 by 11 inches but no larger than 36 by 48 inches.
 7. Submit one (1) reproducible media and seven (7) prints as directed by the Construction Administrator. The CONTRACTOR'S submittal shall identify the specification section and/or drawing number applicable to the submittal.
 8. Details shall be large scale and/or full size.
- C. The CONTRACTOR shall review the Shop Drawings, stamp with this approval, and submit them with reasonable promptness and in orderly sequence so as to cause no delay in his Work or in the Work of any subcontractor. Shop Drawings shall be properly identified as specified for item, material, workmanship, and project number. At the submission, the CONTRACTOR shall inform the ENGINEER, in writing of any deviation in the shop drawings from the requirements of the Contract Documents.
- D. The ENGINEER will review and comment on shop drawings with reasonable promptness so as to cause no delay, but only for conformance with the design concept of the project and with the information given in the Contract Documents. Refer to Article 5 of General Conditions. Shop Drawings received by the ENGINEER that indicate insufficient study of drawings and specifications, illegible portions or gross errors, will be rejected outright. Such rejections shall not constitute an acceptable reason for granting the CONTRACTOR additional time to perform the work.
- E. The CONTRACTOR shall make any corrections required by the ENGINEER and shall resubmit the required number of corrected copies of shop drawings until fully reviewed.
- F. Upon final review submit four (4) additional prints, same as submitted, to the Construction Administrator for his use.
- G. The ENGINEER'S review and comments on shop drawings shall not relieve the CONTRACTOR of responsibility for any deviation from the requirements of the Contract Documents.
- H. Only final reviewed shop drawings are to be used on the project site.
- I. The Work installed shall be reviewed in accordance with the shop drawings and the drawings and specifications. Final Review of the shop drawings by the ENGINEER shall constitute acceptance by the City and the ENGINEER of a variation or departure that is clearly identified. Final reviewed shop drawings shall not replace or be used as a vehicle to issue or incorporate change orders.

1.12 PRODUCT DATA

- A. Collect Product Data into a single submittal for each element of construction or system. Product Data includes printed information, schedules, such as manufacturer's installation instructions, catalog cuts, standard color charts, roughing-in diagrams and templates, standard wiring diagrams, and performance curves.
- B. Mark each copy to show applicable choices and options. Where printed Product Data includes information on several products that are not required, mark copies to indicate the applicable information. Include the following information:
 - 1. Manufacturer's printed recommendations.
 - 2. Compliance with trade association standards.
 - 3. Compliance with recognized testing agency standards.
 - 4. Application of testing agency labels and seals.
 - 5. Notation of dimensions verified by field measurement.
 - 6. Notation of coordination requirements.
- C. Do not submit Product Data until compliance with requirements of the Contract Documents has been confirmed.
- D. Preliminary Submittal: Submit a preliminary single copy of Product Data where selection of options is required.
- E. Submittals: Submit 4 copies of each required submittal; submit 5 copies where required for maintenance manuals. The ENGINEER will retain one and will return the other marked with action taken and corrections or modifications required.
 - 1. Unless noncompliance with Contract Document provisions is observed, the submittal may serve as the final submittal.
- F. Distribution: Furnish copies of final submittal to installers, subcontractors, suppliers, manufacturers, fabricators, and others required for performance of construction activities. Show distribution on transmittal forms.
 - 1. Do not proceed with installation until a copy of Product Data is in the Installer's possession.
 - 2. Do not permit use of unmarked copies of Product Data in connection with construction.

1.13 SAMPLES

- A. Submit full-size, fully fabricated Samples cured and finished as specified and physically identical with the material or product proposed. Samples include partial sections of manufactured or fabricated components, cuts or containers of materials, color range sets, and swatches showing color, texture, and pattern.
- B. Store, mount or display Samples on site in the manner to facilitate review of qualities indicated. Prepare Samples to match the ENGINEER'S sample. Include the following:

1. Specification Section number and reference.
 2. Generic description of the Sample.
 3. Sample source.
 4. Product name or name of the manufacturer.
 5. Compliance with recognized standards.
 6. Availability and delivery time.
- C. Submit Samples for review of size, kind, color, pattern, and texture. Submit Samples for a final check of these characteristics with other elements and a comparison of these characteristics between the final submittal and the actual component as delivered and installed.
1. Where variation in color, pattern, texture, or other characteristic is inherent in the material or product represented, submit at least three (3) multiple units that show approximate limits of the variations.
 2. Refer to other Specification Sections for requirements for Samples that illustrate workmanship, fabrication techniques, details of assembly, connections, operation, and similar construction characteristics.
 3. Refer to other Sections for Samples to be returned to the CONTRACTOR for incorporation in the Work. Such Samples must be undamaged at time of use. On the transmittal, indicate special requests regarding disposition of Sample submittals.
 4. Samples not incorporated into the Work, or otherwise designated as the OWNER'S property, are the property of the CONTRACTOR and shall be removed from the site prior to substantial completion.
- D. Preliminary Submittals: Submit a full set of choices where Samples are submitted for selection of color, pattern, texture, or similar characteristics from a range of standard choices, unless otherwise noted in specification section.
1. The ENGINEER will review and return preliminary submittals with the Engineer's notation, indicating selection and other action.
- E. Submittals: Except for Samples illustrating assembly details, workmanship, fabrication techniques, connections, operation, and similar characteristics, submit three (3) sets. The ENGINEER will return one set marked with the action taken.
- F. Maintain sets of Samples, as returned, at the Project Site, for quality comparisons throughout the course of construction.
1. Unless noncompliance with Contract Document provisions is observed, the submittal may serve as the final submittal.
 2. Sample sets may be used to obtain final acceptance of the construction associated with each set.
- G. Distribution of Samples: Prepare and distribute additional sets to subcontractors, manufacturers, fabricators, suppliers, installers, and others as required for performance of the Work. Show distribution on transmittal forms.
1. Field samples are full-size examples erected on-site to illustrate finishes, coatings, or finish materials and to establish the Project standard.

1.14 QUALITY ASSURANCE SUBMITTALS

- A. Submit quality-control submittals, including design data, certifications, manufacturer's instructions, manufacturer's field reports, and other quality-control submittals as required under other Sections of the Specifications.
- B. Certifications: Where other Sections of the Specifications require certification that a product, material, or installation complies with specified requirements, submit a notarized certification from the manufacturer certifying compliance with specified requirements.
 - 1. Signature: Certification shall be signed by an officer of the manufacturer or other individual authorized to sign documents on behalf of the company.
- C. Inspection and Test Reports: Requirements for submittal of inspection and test reports from independent testing agencies are specified in Division 1 Section "Quality Control."

1.15 ENGINEER'S ACTION

- A. Except for submittals for the record or information, where action and return is required, the ENGINEER will review each submittal, mark to indicate action taken, and return promptly.
 - 1. Compliance with specified characteristics is the CONTRACTOR'S responsibility.
- B. Action Stamp: The ENGINEER will stamp each submittal with a uniform, action stamp. The ENGINEER will mark the stamp appropriately to indicate the action taken, as follows:
 - 1. Final Unrestricted Release: When the ENGINEER marks a submittal "Approved for fabrication," the Work covered by the submittal may proceed provided it complies with requirements of the Contract Documents. Final payment depends on that compliance.
 - 2. Final-But-Restricted Release: When the ENGINEER marks a submittal "Incorporate Notations," the Work covered by the submittal may proceed provided it complies with notations or corrections on the submittal and requirements of the Contract Documents. Submit corrected copies for record. Final payment depends on that compliance.
 - 3. Returned for Resubmittal: When the ENGINEER marks a submittal "Rejected, or Revise and Resubmit," do not proceed with Work covered by the submittal, including purchasing, fabrication, delivery, or other activity. Revise or prepare a new submittal according to the notations; resubmit without delay. Repeat if necessary to obtain different action mark.
 - 4. Do not use, or allow others to use, submittals marked "Rejected, or Revise and Resubmit" at the Project Site or elsewhere where Work is in progress.
 - 5. Other Action: Where a submittal is for information or record purposes or special processing or other activity, the ENGINEER will return the submittal marked "Action Not Required."
- C. Unsolicited Submittals: The ENGINEER will discard unsolicited submittals without

action.

1.16 CUTTING AND PATCHING

- A. Submit a written request to ENGINEER well in advance of executing any cutting or alteration which affects:
1. Design function or intent of Project.
 2. Work of OWNER or any other CONTRACTOR.
 3. Structural value or integrity of any element of the Project.
 4. Integrity or effectiveness of weather-exposed or moisture-resistant elements or systems.
 5. Efficiency, operational life, maintenance or safety of operational elements.
 6. Visual qualities of sight-exposed elements.
- B. Request shall include:
1. Identification of Project.
 2. Description of affected Work of CONTRACTOR and work of others.
 3. Necessity for cutting.
 4. Effect on work of OWNER or any other CONTRACTOR, or on structural or weatherproof integrity of Project.
 5. Description of proposed Work, describing:
 - a. Scope of cutting and patching.
 - b. Trades who will be executing the work.
 - c. Products proposed to be used.
 - d. Extent of refinishing.
 - e. Schedule of operations.
 6. Alternatives to cutting and patching, if any.
 7. Designation of party responsible for cost of cutting and patching, when applicable.
 8. Written permission of any other CONTRACTOR whose work will be affected.
- C. Should conditions of Work, or schedule, indicate a change of materials or methods, submit written recommendation to ENGINEER, including:
1. Conditions indicating change.
 2. Recommendations for alternative materials or methods.
 3. Submittals as required for substitutions.

PART 2 – PRODUCTS

Not used.

PART 3 – EXECUTION

Not used.

END OF SECTION 01300

SECTION 01310

CONSTRUCTION SCHEDULES

PART 1 - GENERAL

1.1 DEFINITIONS

- A. Construction Schedule: A method of planning and scheduling a construction project utilizing a horizontal bar chart with a separate bar for each major portion of the Work or operation to make the schedule an effective tool for planning and monitoring the progress of the work.

1.2 FORMAT

- A. Format: Utilize a horizontal bar chart (ganttt) with a separate bar for each major portion of the Work or operation, identifying first work day of each week.
- B. Program: Use Microsoft Project, latest version, or approved equal.
- C. Sequence of Listings: Utilize the Table of Contents of this Project Manual and the chronological order of the start of each item of work.
- D. Scale and Spacing: Provide space for notations and revisions.
- E. Sheet Size: To be coordinated with Construction Administrator.

1.3 QUALITY ASSURANCE

The Contractor's Consultant: Retain a consultant to provide planning, evaluating, and reporting by CPM scheduling.

- A. In-House Option: The OWNER may waive the requirement to retain a consultant if the CONTRACTOR can demonstrate that:
1. The CONTRACTOR has the computer equipment required to produce construction schedules.
 2. The CONTRACTOR employs skilled personnel with experience in construction scheduling and reporting techniques.
- B. Program: Use Microsoft Project compatible, latest version, or approved equal.
- C. Standards: Comply with procedures contained in the Associated General Contractors (AGC's) "Construction Planning & Scheduling."

1.4 CONTENT

- A. Show complete sequence of construction by activity, with dates beginning and completion of each element of construction.
- B. Identify each item by specification section number.
- C. Identify work of separate phases other and other logically grouped activities.
- D. Show accumulated percentages of completion of each item, and total percentage of Work completed, as of the first day of each month.
- E. Provide separate schedule of submittal dates for shop drawings, product data, and samples, OWNER furnished products and any products identified as under Allowances, and dates reviewed submittals will be required from ENGINEER. Indicate decision dates for selection of finishes.
- F. Indicate delivery dates for OWNER furnished products and any products identified as under Allowances.
- G. Coordinate content with Schedule of Values specified in Section 01027.

1.5 SUBMITTALS AND REVISIONS TO SCHEDULES

- A. Indicate progress of each activity to date of submittal, and projected completion date of each activity.
- B. Identify activities modified since previous submittal, major changes in scope, other identifiable changes.
- C. Provide narrative report to define problem areas, anticipated delays, and impact on Schedule. Report corrective action taken, or proposed, and its effect.
- D. An initial bar graph (gant) schedule is to be prepared by the General CONTRACTOR and submitted to the Construction Administrator within seven (7) calendar days of award of contract. This schedule is to cover all items of work from the start of the project up to the completion of the project. After review, resubmit required revised data within five (5) calendar days. This schedule must be revised monthly and when the actual schedule of significant items varies more than one (1) week from the proposed schedule.
- E. Submit revised Construction Schedules each Application for Payment.
- F. Submit four (4) copies of the Construction Schedule to the Construction Administrator.

1.6 DISTRIBUTION

- A. Distribute copies of the Construction Schedules to Construction Administrator, ENGINEER, OWNER, Subcontractors, suppliers, and other concerned parties.
- B. Instruct recipients to promptly report, in writing, problem anticipated by

projections indicated in schedules.

PART 2 – PRODUCTS

Not used.

PART 3 – EXECUTION

Not used.

END OF SECTION 01310

SECTION 01500

CONSTRUCTION FACILITIES

PART 1 GENERAL

1.1 TEMPORARY UTILITIES

Water and Electricity – If the Contractor chooses, they may establish connections to existing utilities. The Contractor shall pay all costs incurred in connecting, converting, and disconnections of the utilities. The Contractor shall make all connections and providing disconnects, fuse protection, overhead and buried power feed wires, transformers, and making disconnections upon project completion. Potable water may be available at specific on-site at locations to be provided by the Engineer.

1.2 TEMPORARY SANITARY FACILITIES

Provide adequate sanitary conveniences of a type approved for the use of persons employed on the work, properly secluded from public observation, and maintained in such a manner as required or approved by the Engineer. Sanitary conveniences shall be provided at the office trailer and at the decontamination trailer. Maintain these conveniences at all times without nuisance. Upon completion of the work, remove the conveniences from the premises, leaving the premises clean and free from nuisance.

1.3 ODOR AND PEST CONTROL

Include provisions for pest control and elimination of odors.

1.4 PROJECT SIGN

No signs shall be posted without prior approval of the Town of Glastonbury.

1.5 IDENTIFICATION OF CONTRACTOR VEHICLES

Each Contractor provided vehicle and towed trailer shall show the Contractor's name so that it is clearly visible on both front doors of the vehicle and both sides of a towed trailer and shall at all times display a valid state license plate and safety inspection sticker.

PART 2 PRODUCTS

Contractor shall ensure that all equipment and materials used to provide temporary utility connections conform to the requirements of the owners of the utilities to which the temporary connection is made.

PART 3 EXECUTION

The Contractor is responsible for providing, installing, connecting to the utilities, maintaining, and removing upon completion of the project and all associated costs. The Contractor is also responsible for ensuring that the connections have been inspected and meet the requirements of the utility owner and any applicable regulations of the Town of Glastonbury.

END OF SECTION 01500

SECTION 01520

HEALTH, SAFETY AND EMERGENCY RESPONSE

PART 1 - GENERAL

1.1 SUMMARY

- A. This specification describes the minimum health, safety, emergency response requirements for the execution of the removal of the Historic Terminal Piping at the 300 Welles Street site.

1.2 REFERENCES

- A. The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by the basic designation only.

CODE OF FEDERAL REGULATIONS (CFR)

29 CFR 1910	Occupational Safety and Health Standards
29 CFR 1926	Safety and Health Regulations for Construction
29 CFR 1926-SUBPART T	Demolition
40 CFR 261	Identification and Listing of Hazardous Waste
40 CFR 262	Generators of Hazardous Waste
40 CFR 263	Transporters of Hazardous Waste
40 CFR 264	Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities.
49 CFR 171-179	General Information, Regulations, and Definitions
49 CFR 172	Hazardous Materials, Tables, and Hazardous Materials Communications Regulations
49 CFR 178	Shipping Container Specification

CONNECTICUT COUNCIL ON SOIL AND WATER CONSERVATION (CCSWC)

CCSWC GSESC	Connecticut Guidelines for Soil Erosion and Sediment Control, May 2002, latest edition
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REGULATIONS OF CONNECTICUT STATE AGENCIES (RCSA)

RCSA 22a-449(c)	Connecticut Department of Energy and Environmental Protection (CTDEEP) Hazardous Waste Management
RCSA 22a-209	Connecticut Department of Energy and Environmental Protection (CTDEEP) Solid Waste Management
RCSA 22a-430	Connecticut Department of Energy and Environmental Protection (CTDEEP) Water Pollution Control
RCSA 22a-6k	Connecticut Department of Energy and Environmental Protection (CTDEEP) Water Pollution Control

STATE OF CONNECTICUT

CTDPH 20-441	Refresher Training
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STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION (CTDOT)

CTDOT OEMCA	On-Site Environmental Mitigation for Construction Activities, CTDOT Office of Environmental Planning, January 1986, latest edition
FORM 817	State of Connecticut, Department of Transportation, Standard Specifications for Roads, Bridges and Incidental Construction, Form 817, and amendments to date.

1.3 DEFINITIONS

The following terms are defined for use under this contract. Additional definitions of terms used in conduct of hazardous waste and hazardous substances operations are as contained in 29 CFR 1910.120.

Area Monitoring

Monitoring shall be performed by TRC where there may be a question of employee exposure to hazardous concentrations of hazardous substances in order to assure proper selection of engineering controls, work practices and personal protective equipment so that employees are not exposed to levels which exceed permissible exposure limits, or published exposure levels if there are no permissible exposure limits, for hazardous substances.

Air monitoring shall be used to identify and quantify airborne levels of hazardous substances and safety and health hazards in order to determine the appropriate level of employee protection needed on site.

Contaminated Waste

A material or substance that contains chemicals or has physical properties that may result in human health effects from short-term or prolonged exposure.

Contract Administrator

TRC Environmental Corporation, 21 Griffin Road North, Windsor, CT 06095.

CTDEEP

The Connecticut Department of Energy and Environmental Protection, 79 Elm Street, Hartford, CT 06106.

CTDPH

The Connecticut Department of Public Health, 410 Capitol Avenue, Hartford, CT 06106.

Decontamination

The removal of hazardous substances from employees, their equipment, and vehicles to the extent necessary to preclude the spread of the contaminant(s) to undesired locations.

EPA

The U.S. Environmental Protection Agency, 401 M Street SW, Washington, DC 20460.

Hazardous Substance

Any substance that results or may result in adverse effects to the health or safety of employees.

Hazardous Waste

A waste or combination of wastes defined in 40 CFR 261.3, or (2) those substances defined in 49 CFR 171.

Health Hazard

A chemical, biological, or physical agent, or mixture of agents, which may cause acute or chronic health effects in exposed persons.

Immediately Dangerous to Life or Health (IDLH)

An atmospheric condition that would pose an immediate threat to life, would cause irreversible or delayed adverse health effects, or would interfere with an individual's ability to escape from a dangerous atmosphere.

Permissible Exposure Limits (PELs)

PEL means levels published by Occupational Safety and Health Act (OSHA) that establish limits of inhalation exposure. There are three basic PEL classifications: time-weighted average (TWA), short-term exposure limit (STEL), and ceiling limit. The TWA and STEL limits are an "averaged" concentration over two different time periods. The TWA is generally calculated by averaging measured concentrations of a contaminant over an 8-hour time period; whereas, the STEL is calculated by averaging measured concentrations of a contaminant over a 15-minute time period. The third type of PEL is a ceiling limit, which is an absolute threshold. No averaging occurs with the measured concentration. It is an "instantaneous" limit that is not to be exceeded for any period of time.

Physical Boundary

Area physically roped or partitioned off around an enclosed lead control area to limit unauthorized entry of personnel.

Project Monitor/Inspector

An employee of the Town of Glastonbury who functions as the on-site representative of the Town of Glastonbury overseeing the activities of the contractor.

Uncontrolled Waste Site

An area where an accumulation of hazardous waste or contaminated waste creates a threat to the health and safety of individuals and/or the environment.

1.4 REQUIREMENTS

A. The Contractor shall perform work in compliance with all Federal, State, and local regulations and requirements and be responsible for obtaining and payment of fees for all permits and approvals required to perform the work. Applicable regulations and requirements may include, but are not limited to:

1. Federal Regulations

Environmental Protection Agency (EPA) requirements for the management of hazardous waste including 40 CFR 261, 40 CFR 262, and 40 CFR 263, 40 CFR 268, and 40 CFR 761.

Department of Transportation (DOT) requirements for the transportation of waste including 49 CFR 171, 49 CFR 172, and 49 CFR 173.

OSHA requirements for Safety and Health Protection including 29 CFR 1910 and 29 CFR 1926.

2. State of Connecticut Regulations

Connecticut Department of Energy and Environmental Protection (CTDEEP)

- a. Waste Management Bureau - requirements for Hazardous, Connecticut-regulated and Solid Waste management, transport and disposal including RCSA 22a-449(c) and RCSA 22a-209.
- b. Water Management Bureau - requirements for control of wastewater discharges and use of Best Management Practices (BMPs) to protect surface and ground waters including RCSA 22a-430 and 22a-6k.
- c. Air Management Bureau - requirements for control of fugitive dust and visible emissions and permitting of sources exceeding state limits.

Connecticut Department of Transportation (CTDOT)

- a. Requirements for environmental mitigation for construction activities (CTDOT OEMCA).

Connecticut Council on Soil and Water Conservation (CCSWC)

- a. Requirements for soil erosion and sediment control (CCSWC GSESC).

3. Town of Glastonbury Regulations

- a. Health Department - requirements to comply with health standards prior to start of work.
- b. Fire Department - requirements for fire protection during work.

1.5 SUBMITTALS

Submit the following a minimum of fifteen (15) days prior to the start of work:

A. Statements

1. Site Safety and Health Plan (SSHP)

Submit an SSHP prepared by Certified Industrial Hygienist for review and approval. Conform to the requirements of Federal, State and local laws, rules, and regulations. Work cannot proceed until the Safety Plan has been approved. The SSHP shall include:

- a. Identification and evaluation of the hazards and risks associated with the removal activities, including demolition hazards and precautionary measures to be followed by workers for all hazards.
- b. Identification of supervisory personnel and alternates responsible for site safety/response operations. Name and title of person responsible for administering plan.

- c. Determination of levels of personal protection to be worn for various site operations.
- d. List of equipment with adequate nomenclature by item, that will be used at the job site and the date and location where this equipment can be inspected by the Town of Glastonbury.
- e. Establishment of work zones (exclusion area, contamination reduction area, and support area).
- f. Establishment of decontamination methods and procedures.
- g. Establishment of emergency procedures, such as: escape routes, fire protection, signals for withdrawing work parties from site, emergency communications, wind indicators, and procedures for evacuation of injured workers.
- h. Identification and arrangements with nearest medical facility for emergency medical care for both routine-type injuries and toxicological problems. Submit name, location, and telephone number of this medical facility.
- i. Establishment of air and personnel monitoring procedures.
- j. Establishment of procedures for obtaining and handling potentially contaminated materials.
- k. Identification of medical monitoring program, including respirator medical qualification examination for each individual at the work site.
- l. Certification for each person entering the reduction or exclusion zones that the person is fit for duty at hazardous waste sites, and adequate medical screening tests have been obtained which address the contaminants associated with the specific hazardous waste site.
- m. Identification of training plan to be instituted, including contents of 29 CFR 1910.1200 and 29 CFR 1910.134; its training contents; and instructor with appropriate training certification. Training plan shall also include counseling to each employee on exposure hazards.
- n. Establishment of a hazard communication program (29 CFR 1910.1200).
- o. 29 CFR 1910.
- p. 29 CFR 1926.
- q. 29 CFR 1926-SUBPART T, demolition measures.
- r. Hazardous Noise

Provide a written hearing protection program which will include: hazardous noise signs, as directed, wherever equipment and work procedures produce sound levels greater than 84 dBA or 140 db peak sound level.

4. Certification that all Contractor employees are trained in accordance with Paragraph 3.1, as required.
5. Provide a copy of the Contractor's Heat or Cold Stress Monitoring Program.
6. List of all Contractor and Subcontractor personnel proposed to enter the site.

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION

3.1 EMPLOYEE TRAINING

- A. The Contractor shall certify that all employees, including subcontractor employees, engaged in decontamination activities: 1) are currently monitored under a medical surveillance program for respirator use in compliance with 29 CFR 1910.134; and 2) are fit tested for respirator use as necessary.
- B. Employees that may come in contact with hazardous materials as part of this project shall receive an appropriate level of health and safety training in accordance with 29 CFR 1910.120, including classroom instruction, first aid and CPR training, and refresher training.
- C. Employees who have not received the required training prior to the start of site operations are not to engage in site operations until such training has been completed.

3.1.1 Program Certification

- A. The Contractor shall provide written certification of completed training and/or acquired experience for all employees designated to engage in on-site activities and shall be supplied prior to the start of site operations.

Such certification shall be endorsed by a member of top level management, a corporate officer, or the health and safety program manager.

3.2 PERSONNEL PROTECTION

The Contractor shall assume that initially Level D personal protective equipment (PPE) will be required.

- A. The Contractor shall apply engineering and/or work practice controls as a means of protecting personnel in performance of site-specific tasks. Engineering controls shall be implemented to reduce and maintain employee exposure at or below safe levels for those

tasks demonstrating known or suspected hazards. Work practice controls shall be applied when engineering controls are impractical.

1. Personal Protective Equipment and Levels of Protection
 - a. The Contractor shall use personal protective equipment (PPE) only when engineering and/or work practice controls have been deemed impractical or insufficient to protect employees during site operations.
 - b. The Contractor shall be directed to wear PPE based on an evaluation of performance- characteristics, site specific tasks, and known or suspected hazards. The Contractor shall assemble the PPE into levels of protection (LOP) or ensembles appropriate for the site (Level D and C).
 - c. The Contractor shall include a description of their respiratory protection program and the method of respirator fit testing employed.
 - d. The Contractor shall only make use of NIOSH/MSHA approved respiratory protective equipment.

3.3 MEDICAL SURVEILLANCE

A. Medical, Surveillance Program

1. The Contractor shall establish and implement a medical surveillance program (MSP) for employees engaged in on-site operation in accordance with 29 CFR 1910.
2. The MSP program shall include physical examinations administered by a board certified physician familiar with internal or occupational medicine.

B. Retention of Medical Records

1. The Contractor shall retain all medical records and personnel exposure monitoring data for an appropriate period as described in Subpart C of 29 CFR 1910.20 of the Occupational Safety and Health Administration.

C. Personnel Certification

1. The Contractor shall provide written certification of medical fitness for work of all employees designated to engage in on-site operations prior to the start of those operations.
2. Such certification shall be endorsed by a member of top level management, a corporate officer, or the health and safety program manager.

D. Employee Heat and Cold Stress Monitoring

1. As dictated by seasonal conditions, the Contractor shall implement an employee heat or cold stress monitoring program during site operations and shall provide TRC with a copy of the program.
2. The program shall include employee awareness of the signs and symptoms of heat or cold stress, preventive measures, and employee parameters to be monitored.

3.4 SITE SAFETY BRIEFINGS

- A. Contractor shall attend safety briefings prior to initiating any new site activity and a safety meeting held prior to each shift to ensure that employees are appraised of the requirements of the safety and health plan and that they are being followed.

3.5 INSPECTION

3.5.1 Inspection of Equipment

3.5.1.1 Respirators

Respirator users shall inspect their respirators in strict accordance with the instructions provided by the manufacturer. Respirators shall be in compliance with the Respiratory Protection Program as required by ANSI Z88.2 and 29 CFR 1910.134. Each respirator filter shall be in compliance with UL 586.

3.5.2 Personnel Inspection

3.5.2.1 Clothing

Personnel for Proper Attire Commensurate with Hazards Involved: Check for:

- a. Clean clothing in good condition (wear freshly laundered clothing at the beginning of the job and at the start of each workday thereafter).
- b. Boots and gloves of approved type and in good condition.

3.5.2.2 Gum or Tobacco Chewing

Gum or tobacco chewing is prohibited.

3.5.2.3 Physical Defects or Injuries

Ensure that people have no physical defects or injuries which may prevent their wearing respirators or which may cause rescue to be difficult. No beards, sideburns, or large mustaches shall be allowed on people who must wear respirators.

3.5.2.4 Alcoholic Beverages and Drugs

Ensure that people entering the site are not under influence of alcoholic beverages and drugs.

3.5.2.5 Counseling on Reproductive Hazards

Ensure that all employees have been counseled on and fully understand the reproductive hazards related to work in contaminated areas since chemical contaminants may seriously affect them.

3.6 SITE CONTROL

- A. The Contractor shall be responsible for conducting operations at the site in a manner as to reduce the possibility of contact with any contaminants present and to prevent the removal of contaminants by personnel or equipment leaving the site.
- B. The Contractor shall keep a daily log of site activities, including: personnel visiting site, affiliation, date, arrival time, departure time and purpose of visit.
- C. The Contractor shall provide the Town of Glastonbury with a list of all Contractor and subcontractor personnel proposed to enter the site prior to start of operations, updating the list as necessary.
- D. In no case shall visitors (i.e., personnel not regularly assigned to work on the site who have legitimate business at the site) be allowed entrance to the Demolition Area. Contractor shall fence, barricade, and/or mark to prevent unauthorized personnel into the Demolition Area.
- E. Transfer of contaminated wastes from the demolition area to the designated waste storage area shall be performed in a manner to prevent spillage, leakage, contamination to unimpacted areas and shall prevent exposure to facility and other site personnel.

3.7 SANITATION

- A. The Contractor shall provide toilet facilities, potable water, and washing facilities. These facilities shall be in near proximity to the Demolition Area.

3.8 DEFECIENCIES

- A. The Town of Glastonbury will stop any operation that the Contractor has been directed to correct and has not corrected. The Town of Glastonbury will stop any Contractor operations that pose an imminent or immediate health or safety hazard to Contractor employees, facility personnel, other on-site personnel, or the environment. If the Contractor does not comply with the stoppage and immediately correct a health or safety deficiency, then the Town of Glastonbury may, at its discretion, retain the services of another contractor to correct the deficiency. All liability and expenses resulting from such work stoppages and deficiency correction shall be the responsibility of the Contractor.

END OF SECTION 01520

SECTION 01525

TEMPORARY SANITARY FACILITIES

PART 1 - GENERAL

- A. The CONTRACTOR shall provide, where directed, chemical toilets with toilet tissue, plus wash basins with water, soap and paper towels. The CONTRACTOR shall maintain the facilities in a sanitary condition.
- B. If women are employed in the work, provide separate, designated facilities for them of the same kind. Provide an adequate number of each kind of facility for each gender.

PART 2 – PRODUCTS

Not used.

PART 3 – EXECUTION

Not used.

END OF SECTION 01525

SECTION 01530

FIRE PROTECTION

PART 1 - GENERAL

- A. The CONTRACTOR, during construction, shall be responsible for loss or damage by fire to the work of the Contract until completion. No flammable material shall be stored or placed in the vicinity in which cutting and/or demolition of the structure takes place. The CONTRACTOR shall assign a responsible employee to be in charge of fire protection measures.

PART 2 – PRODUCTS

Not used.

PART 3 – EXECUTION

Not used.

END OF SECTION 01530

SECTION 01535

CONSTRUCTION EQUIPMENT

PART 1 - GENERAL

- A. The CONTRACTOR shall furnish tools, apparatus and appliances, hoists and/or cranes and power for same, scaffolding, runways, ladders, temporary supports and bracing and similar work or material necessary to insure convenience and safety in the execution of the Contract except where this is otherwise specified in any Specification Section. All such items shall meet the approval of the OWNER but responsibility for design, strength and safety shall remain with the CONTRACTOR. All such items shall comply with Federal OSHA regulations and applicable codes, statutes, rules and regulations, including compliance with the requirements of the current edition of the "Manual of Accident Prevention in Construction" published by the AGC and the standards of the State Labor Department.

- B. Staging, exterior and interior, required for the execution of this Contract, shall be furnished, erected, relocated if necessary and removed by the General Contractor. Staging shall be maintained in a safe condition without charge to and for the use of all trades as needed.

PART 2 – PRODUCTS

Not used.

PART 3 – EXECUTION

Not used.

END OF SECTION 01535

SECTION 01540

BARRIERS AND ENCLOSURES

PART 1 - GENERAL

- A. Provide barriers to prevent public entry into construction areas and to protect existing facilities from damage by construction operations.
- B. Provide temporary security fencing in accordance with the Contract Drawings as needed for site control; equip with vehicular and pedestrian gates with locks.
- C. Provide covered walkways as required by governing authorities for public rights-of-way and for public access to existing buildings.
- D. Provide barriers around trees and plants designated to remain. Protect against vehicular traffic, materials dumping, chemically injurious materials, puddling or running water.
- E. Provide temporary, insulated, weathertight closures at openings to the exterior to provide acceptable working conditions and protection for materials, to allow for temporary heating and to prevent entry of unauthorized persons. Provide doors with self-closing hardware and locks.
- F. Barriers and enclosures shall be in conformance with code requirements. Do not block egress from occupied buildings unless necessary to further the work of the Contract. In this case, secure the Department's approval of an alternate egress plan.
- G. See also General Conditions.

PART 2 – PRODUCTS

Not used.

PART 3 – EXECUTION

Not used.

END OF SECTION 01540

SECTION 01545

PROTECTION

PART 1 - GENERAL

- A. Protect buildings, equipment, furnishings, grounds and plantings from damage. Any damage shall be repaired or otherwise made good at no expense to the Town.
- B. Provide protective coverings and barricades to prevent damage. The CONTRACTOR shall be held responsible for, and must make good at his own expense, any water or other type of damage due to improper coverings. Protect the public and building personnel from injury.
- C. Provide temporary protection for installed products. Control traffic in immediate area to minimize damage.
- D. Provide protective coverings for walls, projections, jambs, sills and soffits of openings. Prohibit traffic and storage on lawn and landscaped areas.
- E. Provide temporary partitions and ceilings to separate work areas from Owner-occupied areas to prevent penetration of dust and moisture into Owner-occupied areas and equipment. Erect framing and sheet materials with closed joints and sealed edges at intersections with existing surfaces.
- F. See also General Conditions.

PART 2 – PRODUCTS

Not used.

PART 3 – EXECUTION

Not used.

END OF SECTION 01545

SECTION 01550

SECURITY

PART 1 - GENERAL

- A. Provide security program and facilities to protect work, existing facilities and OWNER'S operations from unauthorized entry, vandalism and theft. Coordinate with OWNER'S security program.
- B. The CONTRACTOR shall be solely responsible for damage, loss or liability due to theft or vandalism.

PART 2 – PRODUCTS

Not used.

PART 3 – EXECUTION

Not used.

END OF SECTION 01550

SECTION 01560

TEMPORARY CONTROLS

PART 1 - GENERAL

1.1 TEMPORARY ENVIRONMENTAL CONTROLS

CONTRACTOR is to provide the following controls.

- A. Dust Control (construction and demolition): CONTRACTOR shall be responsible for controlling objectionable dust caused by his operation of vehicles and equipment, clearing or for any reason. The CONTRACTOR shall apply water and calcium chloride or use other methods subject to the ENGINEER'S approval for keeping airborne dust to a minimum.
- B. Noise Control: CONTRACTOR'S vehicles and equipment shall be such as to minimize noise to the greatest degree practicable. Noise levels shall conform to the latest OSHA standards and in no case will noise levels be permitted which interfere with the work of the OWNER or others.
- C. Erosion and Sediment Control:
 - 1. Comply with the Stormwater Pollution Control Plan in accordance with applicable sections of the Contract Documents.
 - 2. Comply with the General Permit for Coastal Maintenance.
 - 3. Plan and execute construction and earth work by methods to control surface drainage from cuts and fills, and from borrow source and waste disposal areas, to prevent erosion and sedimentation.
 - a. Hold the areas of bare soil exposed at one time to a minimum.
 - b. Provide temporary control measures such as berms, dikes, and drains.
 - c. Install turbidity curtains or other appropriate containment extending from the water surface to the substrate around the work area.
 - 4. Construct fills and waste areas by selective placement to eliminate surface silts or clays that will erode.
 - 5. Periodically inspect earthwork to detect any evidence of the start of erosion, apply corrective measures as required to control erosion.
 - 6. All CONTRACTOR'S equipment used during construction shall conform to all current federal, state, and local laws and regulations.
- D. Pollution Control:
 - 1. Provide methods, means and facilities required to prevent contamination of soil, water, or atmosphere by the discharge of noxious substances from construction operations.
 - 2. Provide equipment and personnel, perform emergency measure required to contain any spillages, and to remove contaminated soils or liquids.
 - 3. Take special measures to prevent harmful substances from entering public waters.
 - a. Prevent disposal of wastes, effluents, chemicals, or other such substances adjacent to streams, or in sanitary or storm sewers.

4. Provide systems for control of atmospheric pollutants.
 - a. Prevent toxic concentrations of chemicals.
 - b. Prevent harmful dispersal of pollutants into the atmosphere.
5. All of the CONTRACTOR'S equipment used during construction shall conform to all current federal, state and local laws and regulations.

E. Water Control:

1. Provide methods to control surface water and water from excavations and structures to prevent damage to the Work, the site, or adjoining properties.
 - a. Control fill, grading and ditching to direct water away from excavations, pits, tunnels and other construction areas; and to direct drainage to proper runoff courses so as to prevent any erosion, damage or nuisance.
2. Provide, operate, and maintain equipment and facilities of adequate size to control surface water.

PART 2 – PRODUCTS

Not used.

PART 3 – EXECUTION

Not used.

END OF SECTION 01560

SECTION 01565

STORMWATER CONTROL

PART 1 - GENERAL

- A. Assume responsibility for Stormwater pollution control by strictly complying with the “General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities” (General Permit) and the Stormwater Pollution Control Plan (SPCP) that has been prepared for the site by the ENGINEER.
- B. Sign, and cause to be signed by each appropriate subcontractor, the Certification Statement required by the General Permit and SPCP.

PART 2 – PRODUCTS

Not used.

PART 3 – EXECUTION

Not used.

END OF SECTION 01565

SECTION 01570

CLEANING

PART 1 - GENERAL

- A. Maintain areas under CONTRACTOR'S control free of waste materials, debris and rubbish. Maintain in a clean and orderly condition.
- B. Execute cleaning during progress of the Work, at completion of the Work, and as required by the General Conditions.
- C. Control cleaning operations so that dust and other particulates will not adhere to wet or newly-coated surfaces and so that dust, wash water or other contaminants generated during such operations do not damage or mar painted or finished surfaces.
- D. Remove waste materials, debris and rubbish from site daily and dispose of legally off-site. No scrap/debris shall remain inside the building or anywhere on site upon final acceptance of the project.
- E. See also General Conditions.
- F. Requirements of Regulatory Agencies:
 - 1. In addition to the requirements herein, maintain the cleanliness of the Work and surrounding premises within the Work limits so as to comply with federal, state, and local fire and safety laws, ordinances, codes and regulations.
 - 2. Comply with all federal, state and local anti-pollution laws, ordinances, codes and regulations when disposing of waste materials, debris and rubbish.
- G. Cleaning Materials:
 - 1. Use only cleaning materials recommended by manufacturer of surface to be cleaned.
 - 2. Use each type of cleaning material on only those surfaces recommended by the cleaning material manufacturer.
 - 3. Use only materials which will not create hazards to health or property.
- H. During Demolition:
 - 1. Keep the Work and surrounding premises within work limits free of accumulations of dirt, dust, waste materials, debris and rubbish.
 - 2. Keep dust generating areas wetted down.
 - 3. Provide suitable containers for storage of waste materials, debris and rubbish until time of disposal.
 - 4. Dispose of waste, debris and rubbish off site at legal disposal areas.

- I. When Project is Completed:
 1. Remove and dispose of all excess or waste materials, debris, rubbish, and temporary facilities from the site, structures and all facilities.
 2. Repair pavement, roads, sod, and all other areas affected by construction operations and restore them to original condition or to minimum condition specified.
 3. Remove spatter, grease, stains, fingerprints, dirt, dust, labels, tags, packing materials and other foreign items or substances from exterior surfaces, equipment, signs and lettering.
 4. Repair, patch and touch up chipped, scratched, dented or otherwise marred surfaces to match specified finish.
 5. Remove paint, clean and restore all equipment and material nameplates, labels and other identification markings.
 6. Maintain cleaning until acceptance and occupation by OWNER.

PART 2 – PRODUCTS

Not used.

PART 3 – EXECUTION

Not used.

END OF SECTION 01570

SECTION 02050

DEMOLITION

PART 1 – GENERAL

1.1 DESCRIPTION

- A. Demolition of structures includes, but is not limited to, the deconstruction and removal of buildings, trailers, tennis courts, concrete pads/slabs, foundations, retaining walls, storage tanks, fencing, guard rails, utilities, roads, paved areas, and other existing site infrastructure, both above and below grade, and including elements to be disposed or salvaged as shown on the Contract Drawings.
- B. Related Sections
1. The work of the following Sections is related to the work of this section. Other sections, not referenced below, may also be related to the proper performance of this work. It is the CONTRACTOR'S responsibility to perform all the work required by the Contract Documents.
 2. Section 02110, Clearing, Grubbing, Stripping and Chipping
 3. Section 02112, Erosion and Sediment Control

1.2 PROJECT CONDITIONS

- A. The CONTRACTOR shall perform all work in compliance with all Federal, State, and Local regulations and requirements, including, but not limited to, Building Code, Health, Fire Department, and Fire Marshall provisions, and EPA and Connecticut Department of Health for asbestos and lead abatement regulations and requirements. The CONTRACTOR shall be responsible for obtaining and payment of fees for all permits and approvals required to perform the work. Applicable regulations and requirements may include, but are not limited to:
1. Federal
 - a. Environmental Protection Agency (EPA) requirements for the management of hazardous waste including 40 CFR 260, 40 CFR 261, 40 CFR 262, 40 CFR 263, and 40 CFR 268. Comply with governing EPA notification regulations before beginning demolition.
 - b. Department of Transportation (DOT) requirements for the transportation of waste including 49 CFR 171, 49 CFR 172, and 49 CFR 173.
 - c. OSHA requirements for Safety and Health Protection including 29 CFR 1910 and 29 CFR 1926.
 - d. NFPA 241, Standards for Fire Protection during the work, and NFPA 30, Flammable and Combustible Liquids Code.
 - e. ANSI A10.6, Safety Requirements for Demolition Operations.
 2. State of Connecticut
 - a. Connecticut Department of Environmental and Energy Protection (CTDEEP)
 - 1) Waste Management Bureau - requirements for Hazardous, Connecticut-regulated and Solid Waste management, transport and disposal including RCSA 22a-449(c) and RCSA 22a-209. Connecticut regulatory

- standards for the management of used oil are contained in RCSA 22a-449(c)-119.
- 2) Water Management Bureau - requirements for control of wastewater discharges and use of Best Management Practices (BMPs) to protect surface and ground waters including RCSA 22a-6k and 22a-430. Connecticut construction stormwater regulations are contained in RCSA 22a-430(b). Obtain any necessary water discharge permits (if needed, supplemental to Stormwater General Permit). If a liquid dust suppression agent will be used, the Contractor shall either obtain approval of a Water Management Plan (for discharge to sanitary sewer) or obtain a Temporary/Emergency Authorization (for discharge to ground or surface water). For discharge to the sanitary sewer, obtain plan approval from both CTDEEP and the applicable sewer authority.
 - 3) Air Management Bureau - requirements for control of noise, fugitive dust and visible emissions and permitting of sources exceeding state limits.
 - 4) Water Management Bureau – requirements for soil erosion and sediment control, including C.G.S. 22a-325 through 22a-329 and summarized in Connecticut Guidelines for Soil Erosion and Sediment Control.
- b. Connecticut Department of Public Health (CTDPH)
 - 1) Requirements for abatement of asbestos, civil penalties for violation of asbestos abatement laws and licensure and training of persons engaged in asbestos consultation services.
 - c. State Fire Marshall's Office
 - 1) Requirements for licensing of Contractors and compliance with the State Demolition Code (CGS 29-401 through 29-415).
3. Town of Glastonbury
 - a. Building Department - requirements to obtain and comply with Demolition Permit process. The Town will waive the permit application fee.
 - b. Engineering Department – requirements to obtain street use/street opening and sidewalk permits. No new sidewalk posts will be allowed without permission from the Town Engineer.
 - c. Department of Health – requirements associated with cesspools, septic systems or drywells.
 - d. Fire Department – requirements associated with use of fire hydrant.
 - e. Tree Warden
 - f. Water Department and Water Pollution Control Authority – requirements for water and sewer service deactivation, disconnection and/or capping. Coordinate with the Water Department, in addition to the Fire Department, for hydrant usage requirements.
 4. Pre-Demolition Notification
 - a. Requirements that CONTRACTOR notify the ENGINEER seven (7) working days prior to proposed demolition and obtain ENGINEER’S approval for the specific phase of the demolition to take place.
 5. General
 - a. Condition of Structure: OWNER assumes no responsibility for actual condition of structures to be demolished.
 - b. Provide not less than 72 hours notice to neighbors of activities that will affect their operations.

- c. Explosives: Do not bring explosives to site or use explosives at the site.
- d. Traffic: Conduct demolition operations and removal of debris to ensure minimum interference with roads, streets, walks, and other adjacent occupied and used facilities.
 - 1) Do not close or obstruct streets, walks, or other occupied or used facilities without permission from the OWNER. Provide alternate routes around closed or obstructed traffic ways as required by governing regulations.
 - 2) Arrange demolition so as not to interfere with neighbors and Town traffic operations.
- e. Protections: Ensure safe passage of persons around area of demolition. Conduct operations to prevent damage to adjacent buildings, structures, improvements and other facilities, and injury to persons.
 - 1) Provide interior and exterior shoring, bracing, or support to prevent movement, settlement, or collapse of structures to be demolished and to protect adjacent facilities to remain.
 - 2) Erect temporary covered sidewalk shed passageways as required by authorities having jurisdiction.
 - 4) All protective barricades shall be constructed in accordance with applicable laws, including the State Demolition Code, Public Act 551 (February, 1965) and the Building Code of the Town of Glastonbury. No work shall be done on the site unless all safety precautions required by the Contract, or by good practice, have been taken by the CONTRACTOR.
 - 5) The CONTRACTOR shall maintain adequate metal fencing to secure this site along adjacent streets and exclude the public from the Contract Boundaries as shown on the Drawings.
 - 6) Maintain access to other adjacent, occupied or used facilities.
- f. Damages: Promptly repair damages caused to adjacent facilities by demolition operations.
- g. Fire Protection: The CONTRACTOR shall contact the Town's Fire Marshall concerning their requirements for providing fire protection and, if applicable, fire hydrant use.
- h. Utility Services: Confirm all utilities indicated to stay in service. Protect against damage during demolition operations. Field verify all utility locations.
- i. Do not interrupt existing utilities serving occupied or used adjacent facilities, except when authorized in writing by the ENGINEER. Provide temporary services during interruptions to existing utilities.
- j. Burning: Burning will not be permitted.
- k. Removal of items from the site is prohibited unless approved otherwise.
- l. Hazardous Materials: Hazardous materials may be present in the buildings and structures to be demolished.
 - 1) Hazardous material remediation is specified elsewhere in the Contract Documents. Applicable regulations may include, but are not limited to: 40 CFR Parts 82, 171 to 179, 260 to 270, 273, 280, and 281, Regulations of Connecticut State Agencies (RCSA) Section 22a-116 to 112, -454, and -449, NFPA 20, NFPA 31, NFPA 327, API 1604, 40 CFR Part 761, TSCA Sec. 6(e), DOT 49 CFR Parts 172 to 180, and other state and federal regulations.

- 2) Do not disturb hazardous materials or items suspected of containing hazardous materials except under procedures specified elsewhere in the Contract Documents, unless authorized by the ENGINEER.
- 3) If the CONTRACTOR encounters what is believed to be hazardous materials, not originally identified in the Contract Documents, the CONTRACTOR shall notify the ENGINEER prior to testing to verify such materials a minimum of 14 days before demolition in that area occurs.

1.3 SUBMITTALS

- A. Demolition Work Plan – The CONTRACTOR shall prepare a Work Plan for performing all demolition work required by, and associated with, this project. The Demolition Work Plan shall include site and project specific details regarding health and safety measures, emergency response, work zones, utility location and decommissioning, demolition equipment and methods, staging areas, non-hazardous and hazardous materials management, and other applicable topics.
- B. ENGINEER shall prepare a Stormwater Pollution Control Plan in accordance with the CTDEEP's General Permit for the Discharge of Stormwater and Dewatering Wastewaters Associated with Construction Activities. This plan shall address temporary means needed to prevent discharge of sediment to water courses because of dewatering systems or erosion and off-site removal, and disposal of all water that has contacted exposed solid waste material as a result of construction activities. Submit signed Certificate of Compliance with this Plan.
- C. Submit proof of valid State of Connecticut Class A Demolition License as certified by the State Fire Marshall's Office prior to contract signing.
- D. Submit proof of all applicable permits and approvals necessary prior to initiating any site work. This shall include Demolition Permit and letter from applicable utilities.
- E. Proof of current OSHA HAZWOPER training for applicable personnel (prior to construction).
- F. Copies of “Call-Before-You-Dig” confirmation/ticket and private utility locator reports (prior to demolition work).

1.4 QUALITY ASSURANCE

- A. Demolition Firm Qualifications: An experienced firm that has specialized in demolition work similar in material and extent to that indicated for this project.
- B. Standards: Comply with ANSI A10.6 and NFPA 241.
- C. Pre-demolition Conference: Conduct conference at project site with OWNER, ENGINEER, and subcontractors to review methods and procedures related to demolition work, but not limited to the following:
 1. Sequence of demolition and removal work.

1.5 ENVIRONMENTAL PROTECTION

- A. Provide environmental protection as required to prevent fugitive dust and debris from creating a nuisance or hazard and to prevent spills and pollution of the ground or water on and off-site during the Work. Do not use water for dust control if it results in objectionable conditions such as ice or pollution.

PART 2 – PRODUCTS

Not used

PART 3 - EXECUTION

3.1 PREPARATION

- A. Prior to the start of Work, the CONTRACTOR shall engage a competent person to conduct an engineering survey to address planning and implementation of all aspects of the demolition process in accordance with the important regulations provided within of OSHA, 29 CFR 1926, Subpart T-Demolition. The engineering survey shall be utilized to prepare the Demolition Work Plan detailing safe demolition procedures and all other aspects to be utilized in performance of the Work.
- B. Review Project Record Documents of existing construction (if available) from OWNER. The OWNER does not guarantee that existing conditions are same as those indicated in Project Record Documents.
- C. Prior to any ground disturbing activities, the CONTRACTOR shall contact “Call-Before-You-Dig” and then employ a private underground utility locating company to locate any utilities not marked by “Call-Before-You-Dig”. The CONTRACTOR is solely responsible for location of underground utilities.
- D. Site reconnaissance shall also include an examination of the structures with the OWNER and/or ENGINEER and review of available reports to determine the potential for the presence of hazardous materials such as asbestos, chemicals, or other materials that may require special handling and disposal.
- E. The CONTRACTOR shall incorporate special handling requirements for all hazardous materials in the Demolition Work Plan (and other applicable documents).
- F. The CONTRACTOR shall incur all repair costs to make good all damage resulting from an incomplete underground line survey or for any misinterpretations of supplied information.
- G. Coordinate with the OWNER to identify known subsurface structures and/or utilities at the site prior to demolition work.
- H. Coordinate all demolition work with the OWNER and ENGINEER prior to beginning

work. Obtain full agreement between project representatives, in writing, prior to demolition the structure.

- I. Coordinate with the OWNER regarding corridors and thoroughfares to be kept clear and open.
- J. Provide and maintain temporary barriers and security devices at locations designated by the OWNER, including warning signs and lights, and similar measures, for protection of the public, OWNER, CONTRACTOR'S employees and existing improvements to remain.
- K. Protect existing landscaping material, trees, appurtenances, structures and any other objects which are not to be demolished or otherwise damaged.
- L. Prevent movement or settlement of adjacent structures. Provide bracing or shoring as required.
- M. Clarify with the OWNER the location of temporary debris spoil stockpiles. Note that clarification may be made during pre-bid and pre-constructions conferences.
- N. Verify in writing that hazardous materials have been remediated before proceeding with demolition operations.

3.2 DEMOLITION REQUIREMENTS

- A. Conduct demolition to minimize interference with adjacent structures and occupancies.
- B. Conduct demolition in accordance with the approved Demolition Work Plan and other applicable requirements.
- C. Disconnect, cap and remove utility lines serving the properties to be demolished as indicated. Demolish all aboveground pipelines, utilities and conduits, and areas of below ground pipelines and utilities as needed to demolish the indicated structure, and as approved by the OWNER. Obtain all necessary street use and street opening permits from the OWNER.
- D. Cease operations immediately if adjacent structures appear to be in danger or in the event that materials of unknown or dangerous nature are discovered during the demolition process. Notify ENGINEER of the discovered condition. Do not resume operations until directed.
- E. Conduct operations with minimum interference to public or private accesses. To the maximum extent possible, all required demolition work shall be completed from within the property and not from the street.
- F. Obtain written permission from adjacent property owners when demolition equipment will traverse, infringe upon or limit access to their property.

- G. Sprinkle Work with water or other approved means to minimize dust. Provide hoses and water connections for this purpose, as needed. Provide water treatment as required.
- H. Provide for the continued excavation of the site by a competent person as the work progresses and conditions change to detect and protect against hazards to safety.

3.3 DISPOSAL

- A. Properly dispose of all hazardous materials in accordance with current regulatory and project requirements.

END OF SECTION 02050

SECTION 02110

CLEARING, GRUBBING, STRIPPING, AND CHIPPING

PART 1 - GENERAL

1.1 DESCRIPTION

- A. Remove felled trees (including branches) from the project area. All removed items shall be legally reused/disposed offsite at a preapproved location.
- B. Remove stumps and roots from the area if necessary. These materials shall be modified by chipping or grinding, as needed. All removed stumps and roots shall be legally reused/disposed offsite at a preapproved location.
- C. Removal and legal offsite reuse or disposal of leaves, leaf mulch, etc., which may remain in the existing leaf processing area. All such material shall be legally reused/disposed offsite at a preapproved location.
- D. Clearing, grubbing, stripping, and chipping as required of existing brush, grass, and other near-surface vegetation organic material from the area to be capped. All removed vegetation shall be legally reused/disposed offsite of a preapproved location.
- E. Related Section:
 - 1. Section 02112, Erosion and Sediment Control

1.2 RESERVED

1.3 SUBMITTALS

- A. Submit written notice of intent to perform clearing, grubbing, or stripping to ENGINEER at least 15 days in advance of performing these activities.
- B. Submit proposed recycling/disposal facilities for indicated materials (subject to approval by ENGINEER) at least 15 days prior to start of clearing and grubbing work.
- C. Proof of current OSHA HAZWOPER training for applicable personnel (prior to start of associated work).
- D. Copies of “Call-Before-You-Dig” confirmation/ticket and private utility location report (prior to start of associated work).
- E. ENGINEER shall prepare a Stormwater Pollution Control Plan in accordance with the CTDEEP's General Permit for the Discharge of Stormwater and Dewatering Wastewaters Associated with Construction Activities. This plan shall address temporary means needed to prevent discharge of sediment to water courses because of dewatering systems or erosion and off-site removal, and disposal of all water that has contacted exposed solid

waste material as a result of construction activities. Submit signed Certificate of Compliance with this Plan.

PART 2 - PRODUCTS

Not used.

PART 3 - EXECUTION

3.1 PREPARATION

- A. A pre-construction survey shall be performed by the CONTRACTOR to document site conditions prior to starting work. Note that the topography shown on the Construction Drawings may differ from the topography at the time of construction.
- B. Prior to the start of associated work, the CONTRACTOR shall contact "Call-Before-You-DIG" and then employ a private underground utility locating company to locate any utilities not marked by "Call-Before-You-Dig". The CONTRACTOR is solely responsible for location of underground utilities.
- C. Verify that any existing plant life designated to remain is tagged and identified.
- D. Verify plants to be removed and salvaged are tagged and identified.
- E. Set required lines, levels, and datum by construction by approved means.
- F. Locate utilities, as required.
- G. Provide for dust control.
- H. Protect bench marks, existing structures and features to be preserved from construction equipment and vehicular traffic. Any damage caused by the CONTRACTOR shall be repaired by the CONTRACTOR at no expense to the OWNER.
- I. Provide for dewatering of the construction area as necessary, that includes but is not limited to, diversion, collection, and removal of surface water, seeps, and leachate.
- J. Remove and eradicate all pests from the work area during the clearing and grubbing project and during the course of the project. This shall include the removal of wasp and bees nests.
- K. Protect from damage all existing utility lines that are indicated to remain, as directed in Section 02050. The CONTRACTOR shall be responsible for the repair of any damage to existing utility lines that are indicated or made known to the CONTRACTOR prior to start of clearing and grubbing operations. When utility lines which are to be removed are encountered within the area of operations, the CONTRACTOR shall notify OWNER in ample time to minimize interruption of the service.

3.2 RESERVED

3.3 CLEARING, GRUBBING, STRIPPING AND CHIPPING

- A. The area to be capped shall be cleared, grubbed, and stripped prior to filling, backfilling, and/or grading to design elevations.
- B. Conduct operations and maintain the project site so as to minimize dust creation and dispersion.
- C. Clearing shall consist of cutting and removing all vegetation including trees, shrubs, grass, and other vegetative growth. This shall include the felling, trimming, and cutting of trees and branches into sections as needed. If such trees have not already been felled (by others) at the start of the project.
- D. Grubbing shall consist of the removal and disposal of wood or root matter below the ground surface remaining after clearing and shall include stumps, trunks, roots, or root systems to a minimum depth of 3 feet below the ground surface.
- E. Stripping shall include the removal, stockpile, handling, reuse by processing of stripping debris with soil, and disposal of unused stripping debris. Stripping shall include all organic sod, topsoil, plant growth and associated roots. Stripping shall extend to the bottom of the root zone to a maximum of 12 inches. Topsoil may be reused, if approved.
- F. Surface rocks and boulders encountered during clearing and stripping activities shall be grubbed, and may be reused in the construction if approved by the ENGINEER.
- G. Except as approved otherwise, all vegetative materials, described in this section, shall be legally reused/disposed offsite at preapproved locations. If approved by the ENGINEER, wood chips may be used for dust control on unpaved roads and other suitable areas.

END OF SECTION 02110

SECTION 02112

EROSION AND SEDIMENT CONTROL

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

2002 Connecticut Guidelines for Soil Erosion and Sediment Control,
Prepared by The Connecticut Council on Soil and Water Conservation in
cooperation with the Connecticut Department of Energy and Environmental
Protection, Bulletin 34, May 2002.

2015 General Permit for Coastal Maintenance, DEEP-OLISP-GP-2015-02

1.2 SCOPE OF WORK

The work described herein and as shown on the Contract Drawings shall consist of furnishing all labor, material and equipment and performing all operations required for furnishing and installing the erosion and sediment controls during construction as specified herein and as shown on the Contract Drawings, and maintaining the erosion and sediment controls through the construction period until the area has been remediated, as determined by the Town of Glastonbury.

1.3 SUBMITTALS

Submit to the Town of Glastonbury the following:

1.3.1 Soil Erosion and Sediment Control Plan

Describe materials and methods to be used. Provide plans, sketches, details and sequence.

PART 2 PRODUCTS

2.1 STRUCTURAL PRACTICES

2.1.1 Silt Fence Fabric

The geotextile shall comply with the requirements of ASTM D 4439, and shall consist of polymeric filaments that are formed into a stable network such that filaments retain their

relative positions. The filament shall consist of a long-chain synthetic polymer composed of at least 85 percent by weight of ester, propylene, or amide, and shall contain stabilizers and/or inhibitors added to the base plastic to make the filaments resistance to deterioration due to ultraviolet and heat exposure. Synthetic filter fabric shall contain ultraviolet ray inhibitors and stabilizers to provide a minimum of six months of expected usable construction life at a temperature range of -18 to 49 degrees C (0 to 120 degrees F). The filter fabric shall meet the following requirements:

FILTER FABRIC FOR SILT SCREEN FENCE

<u>Physical Property</u>	<u>Test Procedure</u>	<u>Strength Requirement</u>
Grab Tensile Elongation (&)	ASTM D 4632	100 lbs. min. 30% max.
Trapezoid Tear	ASTM D 4533	55 lbs. min.
Permittivity	ASTM D 4491	0.2 sec-1
AOS (U.S. Std Sieve)	ASTM D 4751	20-100

2.1.2 Run-On /Barrier Fabric

Fabric used to wrap the soil pile in run-on barrier construction shall be non-rotting, ultraviolet light resistant, non-woven polyester geotextile with sufficient strength for the purpose intended.

2.1.3 Hay/Straw bales

Hay/Straw bales used in sedimentation control system shall be made of straw with forty pounds minimum weight and one hundred and twenty pounds maximum. A pile of 50 L.F. of extra straw bales shall be on-site at all times.

2.1.4 Wood Stakes

Wood stakes used in sedimentation control system shall be a minimum 2 inch by 2 inch nominal size by a minimum 3 to 4 feet long (depending on use).

PART 3 EXECUTION

3.1 CONSTRUCTION METHODS

Construction of erosion and sediment control practices shall be sequenced to coordinate with the construction schedule. Perimeter erosion and sediment controls shall be in place and be completely functional prior to start of any land disturbing activities. Perimeter

controls, topsoil stockpiles and other disturbed areas on the site shall be stabilized within 14 calendar days following soil disturbance. All erosion and sediment controls shall be constructed and installed in accordance with the contract drawings and the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control, Prepared by The Connecticut Council on Soil and Water Conservation in cooperation with the Connecticut Department of Energy and Environmental Protection, Bulletin 34, May 2002.

Install controls where shown on plans and as necessary to protect areas disturbed by the Contractor which may not be shown on the plans.

3.1.1 Silt Fence

Furnish and install silt fence as detailed and at the locations as shown on the Contract Drawings. The silt fence shall remain in place during the duration of the project and shall not be removed without the approval of the Town of Glastonbury.

3.2 MAINTENANCE

The erosion and sediment control measures shall remain in place for the duration of the construction period and until the entire storm water basin engineered control is complete. The Contractor shall inspect all erosion and sediment control measures after each rainfall event and replace or repair as necessary for measures to remain functional and as directed by the Town of Glastonbury.

END OF SECTION 02112

**SECTION 028213
ASBESTOS ABATEMENT**

PART 1 GENERAL

1.1 SCOPE

- A. Work under this item shall include the abatement of asbestos containing materials (ACM) and associated work by persons who are knowledgeable, qualified, trained and licensed in the removal, treatment, handling, and disposal of ACM and the subsequent cleaning of the affected environment. ACM shall include material composed of any type of asbestos in amounts greater than one percent (1%) by weight. The Contractor performing this work shall possess a valid Asbestos Abatement Contractor license issued by the Connecticut Department of Public Health (CTDPH).
- B. These Specifications govern all work activities that disturb asbestos containing materials. All activities shall be performed in accordance with, but not limited to, the current revision of the OSHA General Industry Standard for Asbestos (29 CFR 1926.1001), the OSHA Asbestos in Construction Regulations (29 CFR 1926.1101), the USEPA Asbestos National Emission Standards for Hazardous Air Pollutants (NESHAP) Regulations (40 CFR Part 61 Subpart M), the CTDPH Standards for Asbestos Abatement, Licensure and Training (19a-332a-1 through 16, 20-440-1 through 9 & 20-441), and the CTDEEP Special Waste Disposal Regulations (22a-209-8(i)).
- C. The asbestos abatement work shall include the removal and disposal of all ACM as identified in these Specifications prior to the planned demolition project.
- D. Deviations from these Specifications require the written approval of the Owner. For the purposes of these specifications the "Owner" is the Town of Glastonbury.
- E. The Contractor may elect to utilize an Alternative Work Practice (AWP), if approved by the CTDPH and/or EPA and the Engineer prior to the initiation of the abatement activities. An AWP is a variance from certain CTDPH/EPA asbestos regulatory requirements, which must provide the equivalent or a greater measure of asbestos emission control than the standard work practices prescribed by the CTDPH/EPA NESHAPS.

1.2 DESCRIPTION OF WORK

- A. The following details the extent of each phase of operation designated for this project. Phase areas may be combined or divided at the direction of the Engineer.

- B. The asbestos abatement work shall include the removal of asbestos-containing materials as specified herein. This abatement project was designed by Ms. Jennifer Peshka, a State of Connecticut licensed Asbestos Project Designer (#000250).

300 Welles Street Structure

Phase 1 includes the removal of:

- **Pipe gaskets (presumed)**

Asbestos removal shall be performed by removing the entire unit intact without disturbance of the ACM in accordance with the CTDPH Regulatory Interpretation Memo of April 7, 2003 Regarding Intact Removal of Non-Friable Asbestos Containing Materials , OSHA Class II and USEPA Asbestos NESHAP requirements.

1.3 SUBMITTALS AND NOTICES

- A. The Contractor shall submit, in accordance with CTDPH Standard 19a-332a-3 and EPA 40 CFR 61.145 (b), proper notification using the prescribed forms, to the Commissioner of the State of Connecticut Department of Public Health and EPA Region 1 not fewer than ten (10) days (10 business days) prior to the commencement of work as follows:
1. Asbestos abatement projects involving greater than ten (10) linear feet (LF) or twenty-five (25) square feet (SF) of ACM (friable or non-friable) within a facility (i.e. interior abatement) and/or greater than 10 LF or 25 SF of friable ACM outside a facility, require an CTDPH Asbestos Abatement Notification. Also, abatement projects greater than one hundred sixty (160) SF, two hundred sixty (260) LF of interior/exterior or 35 cubic feet (CF) of interior/exterior Regulated Asbestos containing materials (RACM) require Notification of Demolition & Renovation to EPA Region 1.
 2. At sites scheduled for demolition, asbestos abatement of exterior non-friable ACM or interior abatement involving less than 10 LF or 25 SF of ACM (friable or non-friable), and/or exterior abatement involving less than 10 LF or 25 SF of friable ACM require a CTDPH Demolition Notification. In most cases, the Demolition Contractor is responsible for filing the CTDPH Demolition Notification not fewer than ten (10) days prior to the commencement of demolition. However, if a portion of the demolition activities are scheduled to be conducted in conjunction with and/or under the supervision of an Asbestos Abatement Contractor (i.e. in the event of a structure which has been condemned, structurally damaged, and/or deemed

unsafe for asbestos abatement activities); then it is the responsibility of the Asbestos Abatement Contractor to submit the CTDPH Demolition Notification.

3. In the event that a CTDPH Asbestos Abatement Notification and EPA Notification of Demolition & Renovation have been submitted and the subject facility is scheduled for demolition, a separate Demolition Notification forms do not need to be submitted. In such cases, the submission of the CTDPH Asbestos Abatement Notification and EPA Notification of Demolition & Renovation forms shall be deemed as satisfying the requirement for the notification of the demolition of the facility.
 4. The Contractor filing the proper notification is responsible for all associated fees.
 5. If the Contractor intends to dispose of ACM waste within the State of Connecticut, a copy of the CTDPH Asbestos Abatement/Demolition Notification must also be submitted to the Department of Environmental Protection, Solid Waste Management Unit, and the Contractor must obtain a CTDEEP Special Waste Disposal authorization.
- B. Seven (7) working days prior to the commencement of asbestos abatement work (Pre-abatement Meeting), the Contractor shall submit to the Engineer/Owner for review and acceptance and/or acknowledgment of the following:
6. Copies of all required notifications.
 7. Permits and licenses for the removal, transport, and disposal of asbestos-containing or contaminated materials, including a CTDPH valid asbestos removal contractor's license.
 8. Documentation dated within the previous twelve (12) months, certifying that all employees have received USEPA Model Accreditation Plan approved asbestos worker/supervisor training in the proper handling of materials that contain asbestos; understand the health implications and risks involved, including the illnesses possible from exposure to airborne asbestos fibers; understands the use and limits of respiratory equipment to be used; and understands the results of monitoring of airborne quantities of asbestos as related to health and respiratory equipment as indicated in 29 CFR 1926.1101 on an initial and annual basis, and copies of all employees CTDPH asbestos worker and/or supervisor licenses.
 9. Documentation from the Contractor, typed on company letterhead and signed by the Contractor, certifying that all employees listed herein have received the following:

- a. Medical monitoring within the previous twelve (12) months, as required in 29 CFR 1926.1101
 - b. Respirator fit testing within the previous twelve (12) months, as detailed in 29 CFR 1910.134 (for all employees who must also don a tight-fitting face piece respirator)
6. Copies of the EPA/State-approved certificates for the proposed asbestos landfill.
 7. Name and qualifications of the Asbestos Abatement Site Supervisor. This individual shall be the OSHA Competent Person for the abatement activities, shall have a minimum of three years working experience as an Asbestos Abatement Site Supervisor, shall be capable of identifying existing asbestos hazards and shall have the authority to implement corrective measures to eliminate such hazards. The Asbestos Abatement Site Supervisor shall be on-site at all times asbestos abatement is occurring, shall comply with applicable Federal, State and Local regulations which mandate work practices, and shall be capable of performing the work of this contract.
- D. No abatement shall commence until a copy of all required submittals have been received and found acceptable to the Engineer. Those employees added to the Contractor's original list will be allowed to perform work only upon submittal to, and receipt of, all required paperwork by the Engineer.
- E. Provide the Engineer/Owner, within 30 days of completion of asbestos abatement, a compliance package; which shall include, but not be limited to, the following:
1. Asbestos Abatement Site Supervisor job log;
 2. OSHA personnel air sampling data and exposure assessments;
 3. Completed waste shipment records.

1.4 SEQUENCE OF WORK

- A. The Contractor shall proceed in accordance with the sequence of work as directed by the Engineer/Construction Manager. Work shall be divided into convenient Work Areas, each of which is to be completed as a separate unit.
- B. The Contractor shall use the following sequence for the asbestos abatement work:
 1. Release of work area to Contractor.
 2. A visual inspection of the work area to determine pre-existing damage to facility components.

3. Removal of all moveable objects from the Work Areas undergoing abatement by the Contractor.
4. All temporary utilities required for the project shall be on site and operational prior to the initiation of asbestos work.
5. Abatement of all asbestos-containing materials by the Contractor.
6. Final visual inspections by the Project Monitor.
7. Air sampling by the Project Monitor for re-occupancy.
8. Cleanup by the Contractor. Work Areas must be returned to their original condition or as directed by the Engineer/Project Monitor.
9. Removal of waste from the site.

PART 2 PRODUCTS

2.1 MATERIALS

- A. All materials shall be delivered to the job site in the original packages, containers, or bundles bearing the name of the manufacturer, the brand name and product technical description.
- B. No damaged or deteriorating materials shall be used. If material becomes contaminated with asbestos, the material shall be decontaminated or disposed of as asbestos-containing waste material. The cost to decontaminate and dispose of this material shall be at the expense of the Contractor.
- C. Fire retardant polyethylene sheet shall be in roll size to minimize the frequency of joints, with factory label indicating four (4) or six (6) mil thickness.
- D. Six (6) mil polyethylene disposable bags shall have pre-printed OSHA/EPA/DOT labels and shall be transparent.
- E. Tape (or equivalent) capable of sealing joints in adjacent polyethylene sheets and for the attachment of polyethylene sheets to finished or unfinished surfaces must be capable of adhering under both dry and wet conditions.
- F. Surfactant is a chemical wetting agent added to water to improve penetration and shall consist of fifty (50) percent polyoxyethylene ether and fifty (50) percent polyoxyethylene ester, or equivalent. The surfactant shall be mixed with water to provide a concentration one (1) ounce surfactant to five (5) gallons of water, or as directed by the manufacturer.

- G. Spray equipment must be capable of mixing necessary chemical agents with water, generating sufficient pressure and volume; and equipped with adequate hose length to access all necessary work areas.
- H. Mechanical mastic removal equipment shall be suitable for the application and shall be operated in a manner which prevents damage to the underlying floor. Sanders, grinders, wire brushes and needle-gun type removal equipment shall be equipped with a High Efficiency Particulate Air (HEPA) filtered vacuum dust collection system.
- I. Containers for storage, transportation and disposal of asbestos containing waste material shall be impermeable and both air and watertight.
- J. Labels and warning signs shall conform to OSHA 29 CFR 1926.1101, USEPA 40 CFR Part 61.152, and USDOT 49 CFR Part 172 as appropriate.
- K. Encapsulant, a material used to chemically entrap asbestos fibers to prevent these fibers from becoming airborne, shall be of the type which has been approved by the Engineer. Use shall be in accordance with manufacturer's printed technical data. The encapsulant shall be clear and must be compatible with new materials being installed, if any.
- L. Glovebag assembly shall be manufactured of six (6) mil transparent polyethylene or PVC with two (2) inward projecting long sleeve gloves, an internal pouch for tools, and an attached labeled receptacle for waste.
- M. Mastic removal chemicals shall be low odor and non-citrus based, with a flash point in excess of 140° F.
- N. Any planking, bracing, shoring, barricades and/or temporary sheet piling, necessary to appropriately perform work activities shall conform to all applicable federal, state and local regulations.
- O. Air filtration devices and vacuum units shall be equipped with HEPA filters.

2.2 TOOLS AND EQUIPMENT

- A. Air monitoring equipment of the type and quantity required to monitor operations and conduct personnel exposure surveillance shall conform to OSHA requirements.
- B. Protective clothing, respirators, filter cartridges, air filters and sample filter cassettes shall be provided in sufficient quantities for the project.
- C. Electrical equipment, protective devices and power cables shall conform to all applicable codes.

- D. Shower stalls and plumbing shall include sufficient hose length and drain system or an acceptable alternate. Showers shall be equipped with hot and cold or warm running water. One shower stall shall be provided for each eight workers. Water is filtered through a 5 micron and a 10 micron filter prior to being discharged into the Town sewer/sanitary system.
- E. The Contractor may need to supply electrical power to the site by either fuel operated generator(s) or temporary restoration of electrical service. Electrical power supply will be sufficient for maintaining in operation all equipment required for this project throughout the duration of the project.
- F. Exhaust air filtration units shall be equipped with HEPA filters capable of providing sufficient air exhaust to create a minimum pressure differential of 0.02 inches of water column, and to allow a sufficient flow of air through the area providing 4 air changes per hour. An automatic warning system shall be incorporated into the equipment to indicate pressure drop or unit failure. No air movement system or air filtering equipment shall discharge unfiltered air outside the Regulated Area. The Contractor shall provide actual airflow measurement of filtration units while the unit is in place and calculate actual air exchange rates.
- G. Pressure differential monitoring equipment shall be provided to ensure exhaust air filtration devices provide the minimum pressure differential required between the Work Area and occupied areas of the facility.
- H. Vacuum units, of suitable size and capabilities for the project, shall have HEPA filters capable of trapping and retaining at least 99.97 percent of all monodispersed particles of three micrometers in diameter or larger.
- I. Ladders and/or scaffolds shall be of adequate length, strength and sufficient quantity to support the work schedule.
- J. Other materials such as lumber, nails and hardware necessary to construct and dismantle the decontamination enclosures and the barriers that isolate the Work Area shall be provided as appropriate for the work.
- K. Spray equipment shall be capable of mixing wetting agent with water and capable of generating sufficient pressure and volume. Hose length shall be sufficient to reach all of the Regulated area.
- L. Mechanical mastic removal equipment shall be suitable for the application and shall be operated in a manner which prevents excessive damage to the underlying floor.

PART 3 EXECUTION

3.1 GENERAL REQUIREMENTS

- A. The Abatement Contractor/Subcontractor shall possess a valid State of Connecticut Asbestos Contractor License. Should any portion of the work be subcontracted, the subcontractor must also possess a valid State of Connecticut Asbestos Contractor License. The Asbestos Abatement Site Supervisor employed by the Contractor shall be in control on the job site at all times during asbestos abatement work. All employees of the Contractor who shall perform work (i.e. Asbestos Abatement Site Supervisor, Asbestos Abatement Worker) shall be properly certified/licensed by the State of Connecticut to perform such duties.
- B. All labor, materials, tools, equipment, services, testing, insurance (with specific coverage for work on asbestos), and incidentals which are necessary or required to perform the work in accordance with applicable governmental regulations, industry standards and codes, and these Specifications shall be provided by the Contractor. The Contractor shall be prepared to work all shifts and weekends throughout the course of this project.
- C. Prior to beginning work, the Engineer and Contractor shall perform a visual survey of each work area and review conditions at the site for safety reasons. In addition, the Contractor shall instruct all workers in all aspects of personnel protection, work procedures, emergency evacuation procedures and use of equipment including procedures unique to this project.
- D. The Contractor shall:
 - 1. Shutdown and isolate heating, cooling, and ventilating air systems to prevent contamination and fiber dispersal to the other areas of the building.
 - 2. Shut down and lock out electrical power, including all receptacles and light fixtures, when feasible. The use or isolation of electrical power will be coordinated with all other ongoing uses of electrical power at the site.
 - 3. Coordinate all power and fire alarm isolation with the appropriate representatives.
 - 4. When necessary, provide temporary power and adequate lighting and ensure safe installation of electrical equipment, including ground fault protection and power cables, in compliance with applicable electrical codes and OSHA requirements. The Contractor is responsible for proper connection and installation of electrical wiring.
- E. If sufficient electrical service is unavailable, the Contractor may need to supply electrical power to the site by fuel operated generator(s). Electrical power supply shall be sufficient for all equipment required for this project in operation throughout the duration of the project. If the Contractor elects to supply electrical power to the work site through the use of generators, the Contractor shall ensure that each work area is a manageable size such that removal, final cleaning and re-occupancy testing

can be accomplished within one work shift while negative air machines are operating.

- F. Negative pressure must be continuously maintained in each work area, until the area achieves satisfactory re-occupancy criteria and is approved by the Project Monitor to be deregulated. Negative air pressure must be maintained twenty-four (24) hours per day and the Contractor shall establish temporary electrical service to the site, rather than utilize generators.
- G. Water service may not be available at the site. Contractor shall supply sufficient water for each shift to operate the decontamination shower units as well as to maintain the work areas adequately wet.
- H. Ladders and/or scaffolds shall be in compliance with OSHA requirements, and of adequate length, strength and sufficient quantity to support the scope of work. Use of ladders/scaffolds shall be in conformance with OSHA 29 CFR 1926 Subpart L and X requirements.
- I. Work performed at heights exceeding six feet (6') shall be performed in accordance with the OSHA Fall Protection Standard 29 CFR 1926 Subpart M including the use of fall arrest systems as applicable.
- J. Data provided regarding asbestos sampling conducted throughout the structure(s) is for informational purposes only. Under no circumstances shall this information be the sole means used by the Contractor for determining the presence and location of all asbestos containing materials. The Contractor shall verify all field conditions affecting performance of the work as described in these Specifications in accordance with OSHA, USEPA, USDOT, CTDPH and CTDEEP standards. Compliance with the applicable requirements is solely the responsibility of the Contractor.
- K. The Engineer will provide a Project Monitor to oversee the activities of the Contractor. No asbestos work shall be performed until the Project Monitor is on-site. Pre-abatement, during abatement and post-abatement air sampling will be conducted as deemed necessary by the Project Monitor. Waste stream testing will be performed, as necessary, by the Project Monitor prior to waste disposal.

3.2 PREPARATION OF WORK AREA ENCLOSURE SYSTEM

- A. Pre-clean the work areas using HEPA filtered equipment (vacuum) and/or wet methods as appropriate, collecting and properly containing all dust and debris as asbestos-containing/asbestos contaminated waste. Vacuum units, of suitable size and capabilities for the project, shall have HEPA filters capable of trapping and retaining at least 99.97 percent of all monodispersed particles of three micrometers in diameter or larger. Do not use methods that raise dust, such as dry sweeping or vacuuming with equipment not equipped with HEPA filters.

- B. After pre-cleaning, movable objects shall be removed from the work areas with the utmost care to prevent damage of any kind and relocated to a temporary storage location coordinated with the Engineer. The Contractor is responsible for protecting all fixed objects that are permanent fixtures or are too large to remove and remain inside the Regulated Area. Fixed objects shall be enclosed with one layer of six (6) mil polyethylene sheeting sealed with tape.
- C. Where non-ACM insulation exists within a Regulated Area, the Contractor has the option of removing the non-ACM insulation material and disposing of as ACM debris, or decontaminating and protecting non-ACM insulation material with two (2) layers of six (6) mil polyethylene sheeting. Any non-ACM insulation removed shall be replaced with new material of equal or better quality at the Contractor's expense.

3.3 WORKER DECONTAMINATION ENCLOSURE SYSTEM

- A. The Contractor shall establish contiguous to the Regulated Area, a Worker Decontamination Enclosure System consisting of Equipment Room, Shower Room and Clean Room in series, as detailed below. Access to the Regulated Area shall only be through this enclosure.
- B. Access between rooms in the Worker Decontamination Enclosure System shall be through airlocks. Other effective designs are permissible. The Clean Room, Shower Room and Equipment Room located within the Worker Decontamination Enclosure, shall be contiguously connected with taped airtight edges, thus ensuring the sole source of airflow originates from outside the regulated areas, once the negative pressure differential within the Regulated Area is established.
- C. The Clean Room shall be adequately sized to accommodate workers and shall be equipped with a suitable number of hooks, lockers, shelves, etc., for workers to store personal articles and clothing. Changing areas of the Clean Room shall be suitably screened from areas occupied by the public.
- D. The Shower Room shall be of sufficient capacity to accommodate the number of workers. One shower stall shall be provided for each eight (8) workers. Showers shall be equipped with hot and cold or warm running water through the use of electric hot water heaters supplied by the Contractor. No worker or other person shall leave a Regulated Area without showering. Shower water shall be collected and filtered using best available technology and dumped down an approved sanitary drain. Shower stalls and plumbing shall include sufficient hose length and drain system or an acceptable alternate.

3.4 EQUIPMENT DECONTAMINATION ENCLOSURE SYSTEM

- A. The Contractor shall establish contiguous to the Regulated Area an Equipment/Waste Removal Decontamination Enclosure System consisting of two (2) totally enclosed chambers divided by a double flap curtained opening. Other effective designs are permissible. This enclosure must be constructed so as to ensure that no personnel enter or exit through this unit.
- B. The Contractor shall ensure that no personnel or equipment be permitted to leave the Regulated Area until proper decontamination procedures (including HEPA vacuuming, wet wiping and showering) to remove all asbestos debris have occurred. No asbestos-contaminated materials or persons shall enter the Clean Room.

3.5 SEPARATION OF WORK AREAS FROM OCCUPIED AREAS

- A. Seal off all windows, doorways, skylights, ducts, grilles, diffusers, vents, light fixtures, electrical receptacles, suspended ceiling tile systems and any other openings between the Regulated Area and the uncontaminated areas outside of the Regulated Area, including the outside of the building, with critical barriers consisting of a minimum of one (1) layer of six (6) mil polyethylene sheeting securing the edges with tape. Doorways and corridors which will not be used for passage during work and separate the regulated areas from occupied areas must be sealed with fixed critical barriers constructed of 2" x 4" wood or metal framing 16" O.C., with ½" plywood on the occupied side and two layers of six (6) mil polyethylene sheeting on the Regulated Area side to prevent unauthorized access or air flow.
- B. The Contractor shall create a negative pressure differential in the range of 0.02 to 0.04 inches of water column between the Regulated Area and surrounding areas by the use of acceptable negative air pressure equipment. Exhaust air filtration units shall be equipped with HEPA filters capable of providing sufficient air exhaust to create a minimum pressure differential of 0.02 inches of water column, and to allow a sufficient flow of air through the area providing 4 air changes per hour. The Contractor shall provide a sufficient quantity of HEPA air filters to maintain the pressure differential throughout the duration of the project. An automatic warning system shall be incorporated into the equipment to indicate pressure drop or unit failure. Continuously monitor the pressure differential between the Regulated Area and surrounding area to ensure exhaust air filtration equipment maintains a minimum pressure differential of 0.02 inches of water column. The Contractor shall provide actual air flow measurement of filtration units while the unit is in place and calculate actual air exchange rates. No air movement system or air filtering equipment shall discharge unfiltered air outside the Regulated Area.
- C. A Negative Pressure Enclosure (NPE) shall be constructed via covering of floor and wall surfaces with polyethylene sheeting sealed with tape. Polyethylene shall

be applied alternately to floors and walls. Cover floors first, with a layer of six (6) mil polyethylene sheeting, so that polyethylene extends at least twelve (12) inches up on wall. Cover wall with a layer of four (4) mil polyethylene sheeting to twelve (12) inches beyond the wall/floor intersection, thus overlapping the floor material by a minimum of twenty-four (24) inches. Repeat the process for the second layer of polyethylene. There shall be no seams at wall-to-floor joints. Protect carpet and floor tile with two additional layers of six (6) mil reinforced polyethylene in addition to the prior two layers required.

- D. Conspicuously label and maintain emergency and fire exits from the Regulated Area satisfactory to fire officials.
- E. Post warning signs meeting the specifications of OSHA 29 CFR 1910.1001 and 29 CFR 1926.1101 at each Regulated Area. In addition, signs shall be posted at all approaches to Regulated Areas so that an employee or building occupant may read the sign and take the necessary protective steps before entering the area. Additional signs may require posting following construction of workplace enclosure barriers.

3.6 ALTERNATE EXTERIOR NON-FRIABLE ASBESTOS SET-UP PROCEDURES

- A. In lieu of the establishment of a negative pressure enclosure (NPE) system as described by CTDPH Sections 19a-332a-5(c), 5(d), 5(e), and 5(h), non-friable ACM will be removed from exterior work areas within an outdoor Regulated Area(s). The regulated work area will be established by the use of appropriately labeled barrier tape and postings in compliance with CTDPH 19a-332a-5(a) as well as OSHA 29 CFR 1926.1101. A remote personnel decontamination unit as specified in Section 19a-332a-6 will be required. This method shall only be utilized provided exposure assessment air sampling data collected during the removal of the exterior non-friable materials indicates that the exposure levels during removal of such materials do not exceed 0.1 asbestos f/cc. Should exposure assessment air sampling data exceed this level, and engineering efforts to reduce the airborne fiber levels not be successful in reducing the levels to less than 0.1 f/cc, removal shall occur within these areas under full containment conditions.

3.7 ALTERNATE "SPOT REPAIR" ASBESTOS PROCEDURES

- A. In lieu of the establishment of a negative pressure enclosure (NPE) system as described by CTDPH Sections 19a-332a-5(c), 5(d), 5(e), and 5(h), less than 3 LF or 3 SF of ACM will be removed as a "spot repair" in accordance with CTDPH Section 19a-332a-10. A regulated area will be established by the use of appropriately labeled barrier tape and postings in compliance with CTDPH 19a-332a-5(a) as well as OSHA 29 CFR 1926.1101. A remote personnel decontamination unit as specified in Section 19a-332a-6 will be required. Air-tight barriers will be constructed to assure that asbestos fibers released during abatement activities are contained within the work area. (Glovebags are permitted, as specified below.) ACM will be adequately wet prior to disturbance and remain wet

until placed in leak-tight container. Following abatement, clean-up methods within the work area will include HEPA-filtered vacuuming or wet cleaning techniques until no visible residue remains.

- B. Glovebags utilized to perform “spot repair” activities on asbestos containing pipe insulation/mudded fitting insulation, in conformance with OSHA 29 CFR 1926.1101(g)(5)(ii), shall be:
1. constructed of 6 mil poly, seamless at bottom, unmodified
 2. installed so that it completely covers the circumference of pipe or other structure where work is to be done, with impermeable dropcloths placed on all surfaces beneath the work area
 3. smoke-tested for leaks and sealed, as needed
 4. used only once, may not be moved
 5. used only on surfaces with temperatures <150°F
 6. collapsed by removing air via HEPA-vacuum, prior to disposal
 7. adhered to surfaces which are intact, surfaces with loose and friable material shall be sealed in two layers of 6 mil poly or otherwise rendered intact
 8. capable of sustaining integrity at connection site to attached waste bag, which must have equivalent of sliding valve for disconnection (as applicable)
 9. performed by a minimum of two (2) persons
- C. Glovebags may also be used for “spot repair” abatement procedures involving additional materials (e.g. floor tile/linoleum, transite, etc.) provided that the glovebag is capable of fully enclosing the material to be removed.

3.8 PERSONNEL PROTECTION

- A. The Contractor shall utilize all appropriate engineering controls and safety and protective equipment while performing the work in accordance with OSHA, USEPA, USDOT, CTDEEP and CTDPH regulations.
- B. The Contractor shall provide and require all workers to wear protective clothing in the Regulated Areas where asbestos fiber concentrations may reasonably be expected to exceed the OSHA established Permissible Exposure Limits (PEL) or where asbestos contamination exists. Protective clothing shall include impervious coveralls with elastic wrists and ankles, head covering, gloves and foot coverings.
- C. Respiratory protection shall be provided and selection shall conform to the requirements of OSHA 29 CFR 1910.134 and 29 CFR 1926.1101 as well as the requirements of the CTDPH regulations and 42 CFR Part 84. A formal respiratory protection program must be implemented in accordance with 29 CFR 1926.1101 and 29 CFR 1910.134.

- D. All other necessary personnel protective equipment (i.e. hardhat, work boots, safety glasses, hearing protection, etc.) required to perform the asbestos abatement work activities shall conform to all applicable federal, state and local regulations.
- E. All other qualified and authorized persons entering into a Regulated Area (i.e. Project Monitor, Regulatory Agency Representative) shall adhere to the requirements of personnel protection as stated in this section.

3.9 ASBESTOS ABATEMENT PROCEDURES

- A. The Asbestos Abatement Site Supervisor, as the OSHA Competent Person shall be at the site at all times.
- B. The Contractor shall not begin abatement work until authorized by the Project Monitor, following a pre-abatement visual inspection.
- C. All workers and authorized persons shall enter and leave the Regulated Area through the Worker Decontamination Enclosure System, leaving contaminated protective clothing in the Equipment Room for reuse or disposal of as asbestos contaminated waste. No one shall eat, drink, smoke, chew gum or tobacco, or apply cosmetics while in a Regulated Area.
- D. During removal, the Contractor shall spray asbestos materials with amended water using airless spray equipment capable of providing a "mist" application to reduce the release of airborne fibers. Spray equipment shall be capable of mixing wetting agent with water and capable of generating sufficient pressure and volume. Hose length shall be sufficient to reach all of the Regulated Area. Do not "flood" the area with hose type water supply equipment with the potential to create water releases from the regulated area.
- E. The Contractor shall continue to spray the asbestos materials with amended water, as necessary, throughout removal activities to ensure the asbestos materials remain adequately wet. The asbestos materials shall not be allowed to dry out.
- F. In order to minimize airborne asbestos concentrations inside the Regulated Area, the Contractor shall remove the adequately wetted asbestos in manageable sections. In addition, asbestos materials removed from any elevated level shall be carefully lowered to the floor.
- G. The Contractor shall promptly place the adequately wet asbestos material in disposal containers (six (6) mil polyethylene bags/fiber drum/poly-lined dumpsters, etc.) as it is removed. Large components removed intact may be wrapped in two (2) layers of six (6) mil polyethylene sheeting secured with tape. As the disposal containers are filled, the Contractor shall promptly seal the containers, apply caution labels and clean the containers before transportation to the equipment decontamination area. Bags shall be securely sealed to prevent accidental opening

and leakage by taping in gooseneck fashion. Small components and asbestos-containing waste with sharp-edged components (e.g. nails, screws, metal lath, tin sheeting) which could tear polyethylene bags and sheeting shall be placed in clean drums and sealed with locking ring tops. All waste containers shall be leak-tight, (typically consisting of two layers of 6 mil poly (or bags)), and shall be properly labeled and placarded with OSHA Danger labels, DOT shipping labels, markings and placards and USEPA NESHAP generators labels. Containers shall be decontaminated by wet cleaning and HEPA vacuuming within the equipment decontamination area prior to exiting the regulated area. Wet clean each container thoroughly before moving to Holding Area.

- H. If at any time during asbestos removal, the Project Monitor should suspect contamination of areas outside the Regulated Area, the Contractor shall immediately stop all abatement work and take steps to decontaminate these areas and eliminate causes of such contamination. Unprotected individuals shall be prohibited from entering contaminated areas until air sampling and/or visual inspections determine decontamination.
- I. After completion of abatement work, all surfaces from which asbestos has been removed shall be wet brushed, using a nylon brush, wet wiped and sponged or cleaned by an equivalent method to remove all visible material (wire brushes are not permitted). During this work the surfaces being cleaned shall be kept wet. Cleaning shall also include the use of HEPA filtered vacuum equipment.

3.10 CLEAN-UP PROCEDURES

- A. The Contractor shall also remove and containerize all visible accumulations of asbestos-containing and/or asbestos-contaminated debris which may have splattered or collected on the polyethylene engineering controls/barriers.
- B. The Contractor shall clean surfaces of contaminated containers and equipment thoroughly by vacuuming with HEPA filtered equipment and wet sponging or wiping before moving such items into the Equipment Decontamination Enclosure System for final cleaning and removal to uncontaminated areas.
- C. The Contractor shall remove contamination from the exteriors of the air filtration devices, scaffolding, ladders, extension cords, hoses and other equipment inside the Regulated Area. Cleaning may be accomplished by brushing, HEPA vacuuming and/or wet cleaning. The Contractor shall wet wipe the Regulated Area beginning at the point farthest away from the negative air filtration units using cotton rags or lint free paper towels. Rags and towels shall be disposed of after each use. Workers should avoid the use of dirty rags to insure proper cleaning of surfaces. Mop the entire floor with a clean mop head and amended water. Water shall be changed frequently. For those Regulated Areas where lead is also disturbed, the cleaning shall also include a wet washing with a high phosphate detergent solution and HEPA vacuuming. Waste water shall be filtered using best available technology

into leak-proof containers prior to being transported to a sanitary sewer for discharge.

- D. Once the Regulated Area surfaces have dried, the Project Monitor shall perform a thorough post abatement visual inspection utilizing protocols from the ASTM Standard E1368-90 *Standard Practice for Visual Inspection of Asbestos Abatement Projects*. All surfaces within the Regulated Area, including but not limited to ledges, beams, and hidden locations shall be inspected for visible residue. Evidence of asbestos contamination identified during this inspection will necessitate further cleaning as heretofore specified. The area shall be re-cleaned at the Contractor's expense, until the standard of cleaning is achieved.
- E. Once the area has received a satisfactory post-abatement visual inspection, any equipment, tools or materials not required for completion of the work, shall be removed by the Contractor from the Regulated Area. Negative air filtration devices shall remain in place and operating for the remainder of the clean-up operation.
- F. Following the post-abatement visual, the Contractor shall apply a lock-down encapsulant to all surfaces within the Regulated Area from which asbestos has been removed and the cleaned inner layer of polyethylene.

3.11 AIR MONITORING REQUIREMENTS

- A. The Contractor shall:
 - 1. Provide air monitoring equipment including sample filter cassettes of the type and quantity required to properly monitor operations and personnel exposure surveillance throughout the duration of the project.
 - 2. Conduct personnel exposure assessment air sampling, as necessary, to assure that workers are using appropriate respiratory protection in accordance with OSHA Standard 1926.1101. Documentation of air sampling results must be recorded at the work site within twenty-four (24) hours and shall be available for review until the job is complete.
- B. The Project Monitor, acting as the representative of the Engineer during abatement activities, will:
 - 1. Collect air samples in accordance with the current revision of the NIOSH 7400 Method of Air Sampling for Airborne Asbestos Fibers while overseeing the activities of the Abatement Contractor. Frequency and duration of the air sampling during abatement will be representative of the actual conditions at the abatement site. The size and configuration of the asbestos project will be a factor in the number of samples required to monitor the abatement activities and shall be determined by the Project

Monitor. The following schedule of samples may be collected by the Project Monitor:

- a. Pre-Abatement (Optional)
 - i. Background areas
 - ii. Area(s) adjacent to Work Area(s)
 - iii. Work Area(s)
- b. During Abatement (Optional)
 - i. At the exhaust of air filtering device
 - ii. Within Regulated Area(s)
 - iii. Area(s) adjacent to Regulated Areas(s)
(exterior to critical barriers)
 - iv. At the Decontamination Enclosure System
- c. Post-Abatement (reoccupancy air clearance testing) (**REQUIRED**)
 - i. Interior Regulated NPE Area - At least five (5) per homogenous area

Abatement Activity	Pre-Abatement	During Abatement	Post-Abatement
Greater than 1500 SF/500 LF – Interior	PCM	PCM	TEM
Greater than 3 LF/3 SF and Less than 1500 SF/500 LF – Interior	PCM	PCM	PCM
Spot Removal and Glovebag Procedures (<3 LF/3 SF)	---	PCM	---
Exterior Friable/Non-Friable	---	PCM	---

- C. If air samples collected outside of the Regulated Area during abatement activities indicate airborne fiber concentrations greater than original background levels, or greater than 0.1 f/cc, as determined by Phase Contrast Microscopy, whichever is larger, an examination of the Regulated Area perimeter shall be conducted and the integrity of barriers shall be restored. Cleanup of surfaces outside the Regulated Area using HEPA vacuum equipment or wet cleaning techniques shall be done prior to resuming abatement activities.

3.12 POST-ABATEMENT REOCCUPANCY PROCEDURES

- A. For interior NPE Regulated Areas, clearance air sampling will be performed by the Project Monitor as specified in the Air Sampling Schedule. Clearance sampling

will be undertaken using aggressive sampling techniques. Sampling and analysis of clearance samples will follow State of Connecticut Regulations, Section 19a-332a-12. Areas which do not comply shall continue to be cleaned by and at the Contractors expense, until the specified Standard of Cleaning is achieved as evidenced by results of air testing. When the Regulated Area passes the re-occupancy clearance, controls established by these Specifications may be removed.

1. Air sampling will not begin until after the area has received an acceptable post abatement visual inspection, encapsulation has been completed, and no visible water, liquid encapsulant or condensation remain in the Regulated Area.
2. Sampling equipment will be placed at random throughout the Regulated Area.
3. The following aggressive air sampling procedures will be used within the Regulated Area during all air clearance monitoring:
 - a. Before starting the sampling pumps, direct the exhaust from forced air equipment (such as a 1 horsepower leaf blower) against all walls, ceilings, floors, ledges and other surfaces in the Regulated Area.
 - b. Pre-calibrate the sampling pump flow rates through the use of a rotameter calibrated to a primary standard.
 - c. Start the sampling pumps and sample for the required time.
 - d. Post-calibrate the sampling pump flow rates.
4. Air volumes taken for clearance sampling shall be sufficient to accurately determine (to a 95 percent probability) fiber concentrations to 0.010 f/cc of air (1,200 liters).
5. Analysis shall follow the requirements of CTDPH 19a-332a-12.
6. Each homogeneous Regulated Area which does not meet the clearance criteria shall be thoroughly re-cleaned using HEPA vacuuming and/or wet cleaning, with the negative pressure ventilation system in operation. New samples shall be collected in the Regulated Area as described above. The process shall be repeated until the Regulated Area passes the test, with the cost of repeat sampling being borne entirely by the Contractor.
7. For an asbestos abatement project with more than one homogeneous Regulated Area, the release criterion shall be applied independently to each Regulated Area.
8. These clearance sampling procedures may also be implemented for exterior NPE work areas at the discretion of the Engineer.

3.13 POST ABATEMENT WORK AREA DEREGULATION

- A. The Contractor shall remove all remaining polyethylene, including critical barriers, and Decontamination Enclosure Systems leaving negative air filtration devices in operation. HEPA vacuum and/or wet wipe any visible residue which is uncovered during this process. All waste generated during this disassembly process shall be discarded as ACM waste.
- B. A final visual inspection of the work area shall be conducted by the Competent Person and the Project Monitor to ensure that all visible accumulations of suspect materials have been removed and that no equipment or materials associated with the abatement project remain.
- C. The Contractor shall restore all work areas and auxiliary areas utilized during work to conditions equal to or better than original. Any damage caused during the performance of the work activity shall be repaired by the Contractor at no additional expense to the Engineer.

3.14 WASTE DISPOSAL

- A. Unless otherwise specified, all removed materials and debris resulting from execution of this project shall become the responsibility of the Contractor and removed from the premises. Materials not scheduled for reuse shall be removed from the site and disposed of in accordance with all applicable Federal, State and Local requirements.
- B. Waste removal dumpsters and cargo areas of transport vehicles shall be lined with a layer of six (6) mil polyethylene sheeting to prevent contamination from leaking or spilled containers. Floor sheeting shall be installed first, and shall be extended up sidewalls 12-inches. Wall sheeting shall overlap floor sheeting 24-inches and shall be taped into place.
- C. OSHA "Danger" signs must be attached to vehicles used to transport asbestos-containing waste prior to loading ACM waste. The signs must be posted so that they are plainly visible.
- D. Waste haulers and disposal facilities utilized shall match those indicated on the submitted CTDPH notification.
- E. Ensure all waste containers (bags, drums, etc.) are properly packed, sealed and labeled with USEPA NESHAP generator labels, OSHA danger labels and DOT shipping labels. For each shipment of ACM waste, the Contractor shall complete an EPA-approved asbestos waste shipment record.

- F. Authorized representatives signing waste shipment records on behalf of the generator must have USDOT Shipper Certification training in accordance with HMR 49 CFR Parts 171-180.
- G. Transport vehicles hauling ACM waste shall have appropriate USDOT placards visible on all four (4) sides of the vehicle.
- H. The Contractor shall dispose of asbestos-containing and/or asbestos contaminated material at an EPA authorized site and must be in compliance with the requirements of the Special Waste Provisions of the Office of Solid Waste Management, Department of Environmental Protection, State of Connecticut, or other designated agency having jurisdiction over solid waste disposal.
- I. Any asbestos-containing and/or asbestos-contaminated waste materials which also contain other hazardous contaminants shall be disposed of in accordance with the EPA's Resource Conservation and Recovery Act (RCRA), CTDEEP and ConnDOT requirements. Materials may be required to be stored on-site and tested by the Project Monitor to determine proper waste disposal requirements.

END OF SECTION 028213

SECTION 028313

LEAD PAINT ACTIVITY

PART 1: GENERAL

1.1 SCOPE

- A. Work under this item shall include the special handling measures and work practices required for renovation and demolition (construction) activities impacting various materials containing or covered by lead paint, including the loading, transportation and the recycling of metallic components covered with lead paint. **Lead paint includes paint found to contain any detectable amount of lead by Atomic Absorption Spectrophotometry (AAS) or X-Ray Fluorescence (XRF).**
- B. All activities shall be performed in accordance with, but not limited to, the current revision of the OSHA Lead in Construction Regulations (29 CFR 1926.62), the USEPA RCRA Hazardous Waste Regulations (40 CFR Parts 260 through 274), the CTDEEP Hazardous Waste Regulations (22a-209-1 and 22a-449(c)), and the USDOT Hazardous Materials Regulations (49 CFR Parts 171 through 180).
- C. All activities shall be performed by individuals with appropriate levels of OSHA lead awareness and hazard communication training and shall supervised by the Contractors Competent Person on the job site at all times. The Contractors Competent Person is one who is capable of identifying existing and predictable hazards in the surroundings or working conditions which are unsanitary, hazardous or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them.

1.2 DESCRIPTION OF WORK

- A. All work impacting the lead painted materials identified below shall be conducted within an established Regulated Area with a remote wash facility/decontamination system and the OSHA Lead in Construction Standard. In accordance with 29 CFR 1926.62, engineering controls and work practices shall be utilized to prevent the spread of lead dust and debris beyond the Regulated Area and limit the generation of airborne lead. All wastes containing lead paint shall be properly contained and secured for storage, transportation and disposal.
- B. Data for random lead testing conducted on surfaces are attached informational purposes only. Under no circumstances shall this information be the sole means used by the Contractor for determining the extent of lead painted materials. The Contractor shall be responsible for verification of all field conditions affecting performance of the work as described in these Specifications in accordance with

OSHA, USEPA, USDOT, and CTDEEP standards. Compliance with the applicable requirements is solely the responsibility of the Contractor.

- C. The Contractor shall conduct exposure assessments for all tasks which impact lead paint in accordance with OSHA 29 CFR 1926.62(d) and shall implement appropriate personal protective equipment until negative exposure assessments are developed.

Metal Components to Be Impacted - OSHA

Lead paint was identified on various metal components along the structure. XRF readings showed the paint to be lead based.

	Component	Type	XRF Reading
Welles St. Structure	Pipes	Metal	3.2 -4.7 mg/cm ²
	Pipe Structural Beams	Metal	0.1 mg/cm ²
	Catwalk Structural Beam	Metal	10.2 – 15.5 mg/cm ²
	Steps	Metal	2.1 – 2.6mg/cm ²
	Steps Rail	Metal	2.8 – 5.6 mg/cm ²

All work impacting those materials shall be conducted within an established lead control (regulated) area with a remote hand wash facility/decontamination system in accordance with OSHA Lead in Construction Standards. In accordance with OSHA 29 CFR 1926.62, engineering controls and work practices shall be utilized to prevent the spread of lead dust and debris beyond the Regulated area and limit the generation of airborne lead. All steel and metal waste generated from the work shall be segregated and recycled as scrap metal at an approved scrap metal recycling facility. The recycling of scrap metal (regardless of LBP concentration) is exempt from USEPA RCRA and CTDEEP Hazardous Waste Regulation.

1.3 SUBMITTALS AND NOTICES

- A. Prior to beginning work that impacts lead paint, the Contractor shall submit the following to the Engineer:
 - 1. Work plan for work impacting lead paint including engineering controls, methods of containment of debris and work practices to be employed, as needed, to minimize employee exposure and prevent the spread of lead contamination outside the Regulated Area.
 - 2. Copies of all employee certificates, dated within the previous twelve (12) months, relating to OSHA lead awareness and hazard communication training and training in the use of lead-safe work practices. SSPC, HUD LSWP and

EPA RRP training programs may be deemed acceptable as meeting these requirements if it can be demonstrated that such training addressed all required OSHA topics.

3. Name and qualifications of Contractor's OSHA Competent Person under 29 CFR 1926.62.
4. Documentation from the Contractor, typed on company letterhead and signed by the Contractor, certifying that all employees listed therein have received the following:
 - a. medical monitoring within the previous twelve (12) months, as required in 29 CFR 1926.62;
 - b. biological monitoring within the previous six (6) months, as required in 29 CFR 1926.62;
 - c. respirator fit testing within the previous twelve (12) months, as required in 29 CFR 1910.134 (for those who don a tight-fitting face piece respirator)
5. Negative exposure assessments conducted within the previous 12 months documenting that employee exposure to lead for each task is below the OSHA Action Level of $30 \mu\text{g}/\text{m}^3$. If a negative exposure assessment has not been conducted, the Contractor shall submit its air monitoring program for the work tasks.

PART 2: PRODUCTS

2.1 MATERIALS

- A. All materials shall be delivered to the job site in the original packages, containers, or bundles bearing the name of the manufacturer, the brand name and product technical description, with MSDS sheets as applicable.
- B. No damaged or deteriorating materials shall be used. If material becomes contaminated with lead, the material shall be decontaminated or disposed of as lead-containing waste material. The cost to decontaminate and dispose of this material shall be at the expense of the Contractor.
- C. Fire retardant polyethylene sheet shall be in roll size to minimize the frequency of joints, with factory label indicating six (6) mil thickness.
- D. Polyethylene disposable bags shall be six (6) mils thick.
- E. Tape (or equivalent) capable of sealing joints in adjacent polyethylene sheets and for the attachment of polyethylene sheets to finished or unfinished surfaces must be capable of adhering under both dry and wet conditions.

- F. Cleaning agents and detergent shall be lead specific, such as TriSodium Phosphate (TSP).
- G. Any chemical strippers and chemical neutralizers to be utilized shall be compatible with the substrate as well as with each other. Such chemical strippers shall contain less than 50% volatile organic compounds (VOCs) in accordance with RCSA 22a-174-40 Table 40-1.
- H. Labels and warning signs shall conform to OSHA 29 CFR 1926.62, USEPA 40 CFR 260 through 274 and USDOT 49 CFR 172 as appropriate.
- I. Any planking, bracing, shoring, barricades and/or temporary sheet piling, necessary to appropriately perform work activities shall conform to all applicable federal, state and local regulations.
- J. Air filtration devices and vacuum units shall be equipped with HEPA filters.

2.2 TOOLS AND EQUIPMENT

- A. The Contractor shall provide tools and equipment that are suitable for lead paint related activity:
 - 1. Air monitoring equipment of the type and quantity required to monitor operations and conduct personnel exposure surveillance in accordance with OSHA requirements.
 - 2. Electrical equipment, protective devices and power cables shall conform to all applicable codes.
 - 3. Where lead exposures are above the OSHA Action Level or PEL, the Contractor shall provide wash facilities/shower stalls and plumbing that include sufficient hose length and drain system or an acceptable alternate. One shower stall shall be provided for each eight workers.
 - 4. Where lead exposures are above the OSHA PEL, the Contractor shall provide exhaust air filtration units that are equipped with HEPA filters to provide local exhaust ventilation at the work area to reduce airborne lead emissions.
 - 5. The Contractor shall provide vacuum units of suitable size and capabilities for the project which have HEPA filters capable of trapping and retaining at least 99.97 percent of all monodispersed particles of three micrometers in diameter or larger.
 - 6. The Contractor shall provide ladders and/or scaffolds of adequate length, strength and sufficient quantity to support the work schedule. Scaffolds

shall be equipped with safety rails and kick boards in compliance with OSHA requirements.

7. Protective clothing, respirators, and HEPA P100 filter cartridges shall be provided in sufficient quantities for the project.
8. Equipment suitable for building renovation/demolition and proper waste/debris collection/packing/removal, (e.g. excavators, grapples, backhoes, roll-offs, etc.) shall be provided by the Contractor as required.

PART 3: EXECUTION

3.1 GENERAL REQUIREMENTS

- A. All employees of the Contractor who perform work impacting lead paint shall be properly trained to perform such duties. In addition, the Contractor shall instruct all workers in all aspects of personnel protection, work procedures, emergency evacuation procedures and use of equipment including procedures unique to this project.
- B. Contractor shall provide all labor, materials, tools, equipment, services, testing, insurance (with specific coverage for work on lead), and incidentals which are necessary or required to perform the work in accordance with applicable governmental regulations, industry standards and codes, and these Specifications.
- C. Ladders and/or scaffolds to be utilized throughout this project shall be in compliance with OSHA requirements, and of adequate length, strength and sufficient quantity to support the scope of work. Use of ladders/scaffolds shall be in conformance with OSHA 29 CFR 1926 Subpart L and X requirements.
- F. Work performed at heights exceeding six feet (6') shall be performed in accordance with the OSHA Fall Protection Standard 29 CFR 1926 Subpart M including the use of fall arrest systems as applicable.
- G. If adequate electrical supply is not available at the site, the Contractor shall supply temporary power. Such temporary power shall be sufficient to provide adequate lighting and power the Contractor's equipment. The Contractor is responsible for proper connection and installation of electrical wiring and shall ensure safe installation of electrical equipment in compliance with applicable electrical codes and OSHA requirements.
- H. If water service is not be available at the site for Contractor's use, the Contractor shall supply sufficient water for each shift to operate the wash facility/decontamination shower units in addition to the water needed at the work area.

- I. The Town of Glastonbury may provide a Project Monitor to monitor compliance of the Contractor. In such cases no activity impacting lead paint shall be performed until the Project Monitor is on-site. Environmental sampling, including ambient air sampling, TCLP waste stream sampling and/or dust wipe sampling, will be conducted by the Engineer/Project Monitor as deemed necessary throughout the project. **Air monitoring to comply with the Contractor's obligations under OSHA remains solely the responsibility of the Contractor.**
- J. If air samples collected outside of the Regulated Area during activities impacting lead paint indicate airborne lead concentrations greater than original background levels or 30 ug/m³, whichever is larger, or if at any time visible emissions of lead paint extend out from the Regulated Area, an examination of the Regulated Area shall be conducted and the cause of such emissions corrected. Cleanup of surfaces outside the Regulated Area using HEPA vacuum equipment or wet cleaning techniques shall be done prior to resuming work.

3.2 ESTABLISHMENT OF REGULATED WORK AREAS

- A. The Contractor shall establish a Regulated Area, through the use of appropriate barrier tape, or other means to control unauthorized access into the area when activities impacting lead paint are occurring.
- B. Warning signs meeting the requirements of OSHA 29 CFR 1926.62 shall be posted at all approaches to Regulated Areas. These signs shall read:

WARNING
LEAD WORK AREA
POISON
NO SMOKING OR EATING

- C. The Contractor shall implement appropriate engineering controls such as critical barriers, poly drop cloths, negative pressure, local exhaust ventilation, wet dust suppression methods, etc. as necessary, to prevent the spread of lead contamination beyond the Regulated Area.

3.3 WASH FACILITIES

- A. The Contractor shall provide hand wash facilities in compliance with 29 CFR 1926.51(f) and 29 CFR 1926.62 regardless of airborne lead exposure.
- B. If employee exposure to airborne lead exceeds the OSHA Permissible Exposure Limit (PEL) of 50 micrograms per cubic meter of air (ug/m³), shower rooms must be provided. The Shower Room shall be of sufficient capacity to accommodate the number of workers. One shower stall shall be provided for each eight (8) workers. Showers shall be equipped with hot and cold or warm running water. Shower water shall be collected and filtered using best available technology and

disposed of in accordance with all federal, state and local laws, regulations and ordinances.

3.4 PERSONNEL PROTECTION

- A. Exposure Assessments: The Contractor shall initially determine if any employee performing construction tasks impacting lead paint may be exposed to lead at or above the OSHA Action Level of 30 micrograms per cubic meter (30 $\mu\text{g}/\text{m}^3$). Assessments shall be based on initial air monitoring results as well as other relevant information. The Contractor may rely on historical air monitoring data obtained within the past 12 months under workplace conditions closely resembling the process, type of material, control methods, work practices and environmental conditions used and prevailing in the Contractors current operations to satisfy the exposure assessment requirements. Monitoring shall continue as specified in the OSHA standard until a negative exposure assessment is developed.
- B. Until a negative exposure assessment is developed for each task impacting lead paint, the Contractor shall ensure that all workers and authorized person entering the Regulated Area wear protective clothing and respirators in accordance with OSHA 29 CFR 1926.62. Protective clothing shall include impervious coveralls with elastic wrists and ankles, head covering, gloves and foot coverings. Sufficient quantities shall be provided to last throughout the duration of the project.
- C. Respiratory protective equipment shall be provided and selection shall conform to 42 CFR Part 84, 29 CFR Part 1910.134, and 29 CFR Part 1926.62. A formal respiratory protection program must be implemented in accordance with 29 CFR Part 1926.62 and 29 CFR Part 1910.134.

3.5 AIR MONITORING REQUIREMENTS

- A. The Contractor shall:
 - 1. Provide air monitoring equipment including sample filter cassettes of the type and quantity required to properly monitor operations and personnel exposure surveillance throughout the duration of the project.
 - 2. Conduct initial exposure monitoring to determine if any employee performing construction tasks impacting lead paint may be exposed to lead at or above the OSHA Action Level of 30 micrograms per cubic meter. Monitoring shall continue as specified in the OSHA standard until a negative exposure assessment is developed.
 - 3. Conduct personnel exposure assessment air sampling, as necessary, to assure that workers are using appropriate respiratory protection in accordance with OSHA Standard 1926.62. Documentation of air sampling results must be recorded at the work site within twenty-four (24) hours

and shall be available for review until the job is complete.

3.6 LEAD PAINT ACTIVITY PROCEDURES

- A. The Contractor's Competent Person shall be at the job at all times during work impacting lead.
- B. Any activity impacting lead painted surfaces shall be performed in a manner which minimizes the spread of lead dust contamination and generation of airborne lead.
- C. No one shall eat, drink, smoke, chew gum or tobacco, or apply cosmetics while in the Regulated Area.
- D. Utilize appropriate engineering controls and work practices (e.g. wet methods) as directed by 29 CFR 1926.62 to control lead emissions and contamination.
- E. Properly contain wastes containing lead paint for appropriate storage, transport and disposal.
- F. Stop all work in the regulated area and take steps to decontaminate non-work areas and eliminate causes of such contamination should lead contamination be discovered in areas outside of the regulated area.
- G. Special Requirements:
 - 1. Component Removal/Replacement:
 - a. Wet down components which are to be removed to reduce the amount of dust generated during the removal process.
 - b. Remove the building components by approved methods which will provide the least disturbance to the substrate material. Do not damage adjacent surfaces.
 - c. Clean up immediately after component removals have been completed. Remove any dust located behind the component removed.

3.7 PROHIBITED REMOVAL METHODS

- A. The use of heat guns in excess of 700 degrees Fahrenheit to remove lead paint is prohibited.
- B. The use of sand, steel grit, water, air, CO₂, baking soda, or any other blasting media to remove lead or lead paint without the use of a HEPA ventilated contained negative pressure enclosure is prohibited.

- C. Power tool assisted grinding, sanding, cutting, or wire brushing of lead paint without the use of cowled HEPA vacuum dust collection systems is prohibited.
- D. Lead paint burning, busting of rivets painted with lead paint, welding of materials painted with lead paint, and torch cutting of materials painted with lead paint is prohibited. Where cutting, welding, busting, or torch cutting of materials is required, pre-remove the lead paint in the area affected.
- E. Use of chemical strippers containing Methylene Chloride is prohibited.
- F. Compressed air shall not be utilized to remove lead paint.
- G. Power/Pressure washing shall not be used to remove paint.

3.8 CLEAN-UP

- A. Remove and containerize all lead waste material and visible accumulations of debris and associated items.
- B. During clean up the Contractor shall utilize rags and sponges wetted with lead-specific detergent and water as well as HEPA filtered vacuum equipment.

3.9 POST ABATEMENT WORK AREA DEREGULATION

- A. Lead painted debris generated from the renovation/demolition of those materials, including rags, poly drop cloths, PPE and associated items shall be containerized and stored on-site with the remainder of the **non-metallic** building waste materials.
- B. The Design Consultant shall conduct TCLP testing or mass balance calculations on a representative sample of the stored waste materials to determine if the materials shall be disposed of as hazardous or non-hazardous construction waste. **Metallic debris shall be segregated and recycled as scrap metal at an approved metal recycling facility.**
- C. The Contractor shall restore all work areas and auxiliary areas utilized during work to conditions equal to or better than original. Any damage caused during the performance of the work activity shall be repaired by the Contractor at no additional expense to the Town of Glastonbury.

3.10 WASTE DISPOSAL/RECYCLING

- A. Metallic debris shall be segregated and recycled as scrap metal at an approved metal recycling facility.
- B. Should any waste material be determined to be hazardous, it shall be handled and disposed of in accordance with USEPA/CTDEEP Hazardous Waste Regulations.

- C. Non-metallic waste material determined to be non-hazardous shall be disposed of as non-hazardous construction and demolition (C&D) bulky waste at an approved CTDEEP Solid Waste landfill.

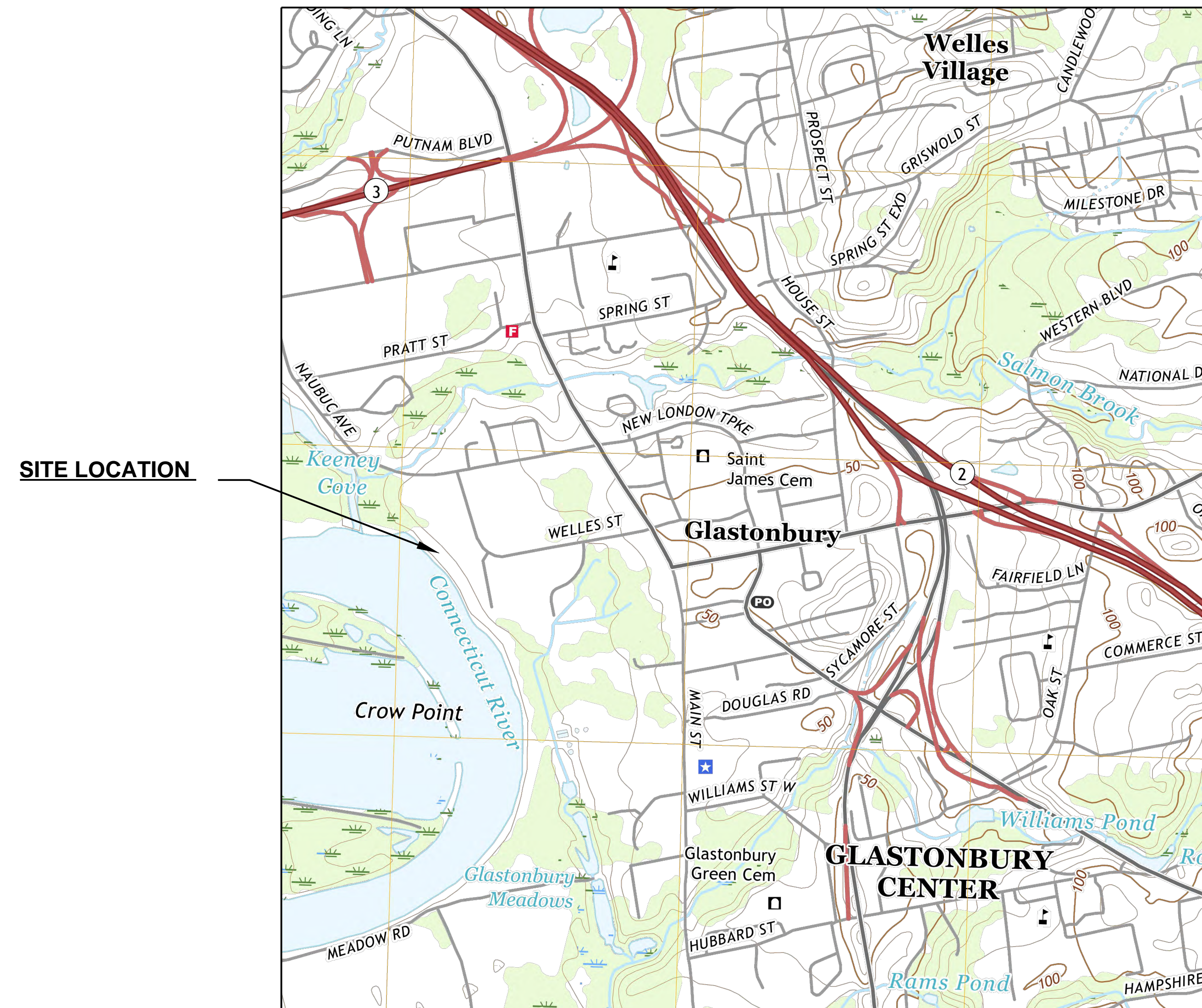
END OF SECTION 028313

**HISTORIC TERMINAL PIPING REMOVAL PROJECT
300 WELLES STREET**

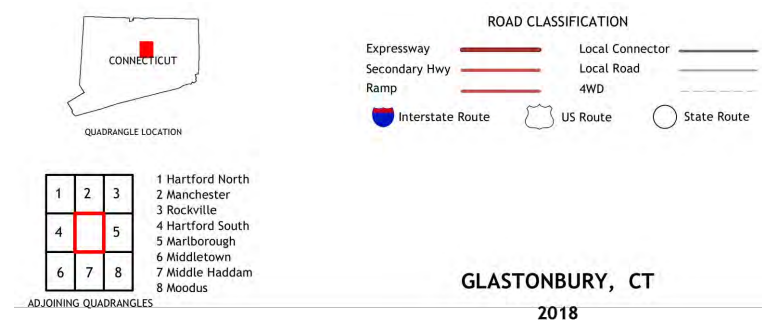
BID #GL-2019-14

**ATTACHMENT A:
CONSTRUCTION PLANS**

TOWN OF GLASTONBURY HISTORIC TERMINAL PIPING REMOVAL 300 WELLS STREET GLASTONBURY, CONNECTICUT



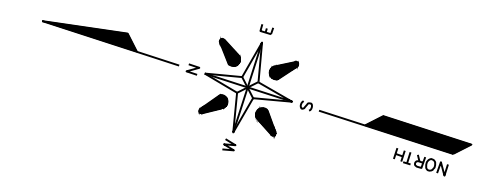
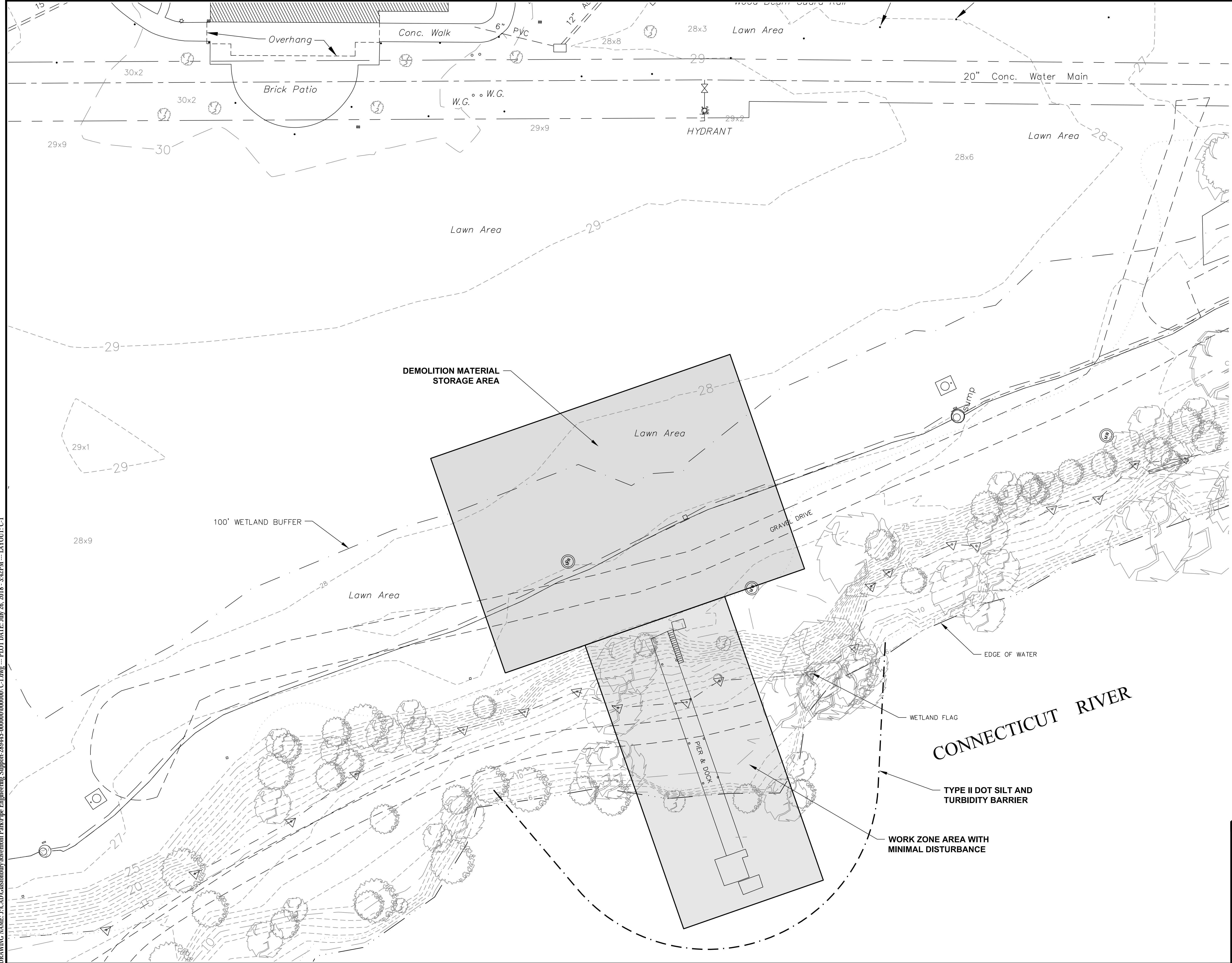
SITE LOCATION MAP
SCALE: 1"=1,000'



DRAWING INDEX	
DWG.	DESCRIPTION
T-1	TITLE SHEET WITH SITE LOCATION MAP AND DRAWING INDEX
C-1	SITE PLAN
C-2	SOIL EROSION AND SEDIMENT CONTROL AND SITE RESTORATION DETAILS

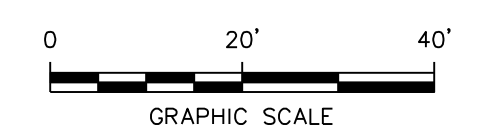
PROJECT:		TOWN OF GLASTONBURY 300 WELLS STREET GLASTONBURY, CONNECTICUT	
TITLE:		TITLE SHEET WITH SITE LOCATION MAP AND DRAWING INDEX	
DRAWN BY:		K. HOLLENBECK	PROJ. NO.: 289445-000000-000000
CHECKED BY:		B. GILPIN	
APPROVED BY:		B. GILPIN	T-1
DATE:		07/26/2018	
		21 Griffin Road North Windsor, CT 06095 Phone: 860.298.9692 www.trcsolutions.com	
FILE NO.:		T-1.dwg	

PLOT DATE: July 26, 2018 - 3:39PM --- LAYOUT: T-1
 DRAWING NAME: J:\CAD\Glastonbury\Riverfront Park\Pipe Engineering\Support\289445-000000\000000\T-1.dwg
 ATTACHED MAPS:



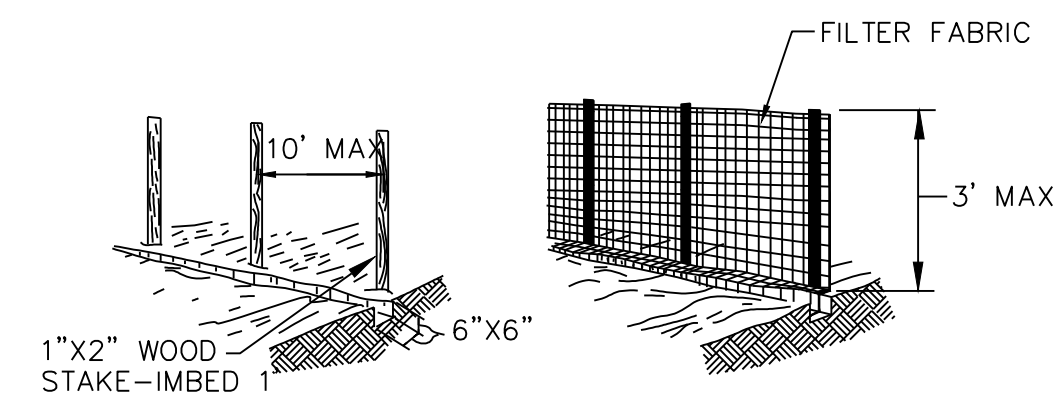
NOTE:
THE COASTAL JURISDICTION LINE,
ELEVATION 3.5', IS BELOW THE WATER
ELEVATION AT THE TIME OF SURVEY.

SOURCE:
MAP TITLED "PROPOSED STREET LOCATION,
PLAN DEPICTING PROPOSED STREET
LOCATION AT GLASTONBURY RIVERFRONT
PARK LOCATED ON WELLES STREET,
GLASTONBURY, CONNECTICUT",
DATED:8/27/2002, BY THE TOWN OF
GLASTONBURY ENGINEERING DEPARTMENT.



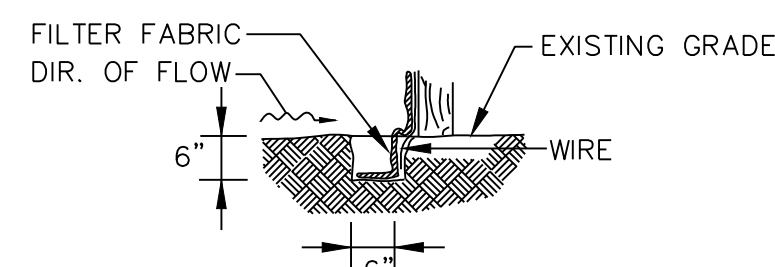
2408 - NSIP - K:\Hollenbeck - ATTACHED SHEETS - ATTACHED IMAGES -
 DRAWING NAME: F:\CAD\Glastonbury\Riverfront Park\Pipe Engineering_Support\289445-000000\000000\C-1.dwg --- PLOT DATE: July 26, 2018 - 3:42PM --- LAYOUT: C-1
 Version: 2017-09-21

PROJECT:	TOWN OF GLASTONBURY 300 WELLES STREET GLASTONBURY, CONNECTICUT	
TITLE:	WORKING SITE PLAN COPY	
DRAWN BY:	K. HOLLENBECK	PROJ. NO.: 289445-000000-000000
CHECKED BY:	B. GILPIN	C-1
APPROVED BY:	B. GILPIN	
DATE:	07/26/2018	
		21 Griffin Road North Windsor, CT 06095 Phone: 860.298.9692 www.trcsolutions.com
FILE NO.:	C-1.dwg	



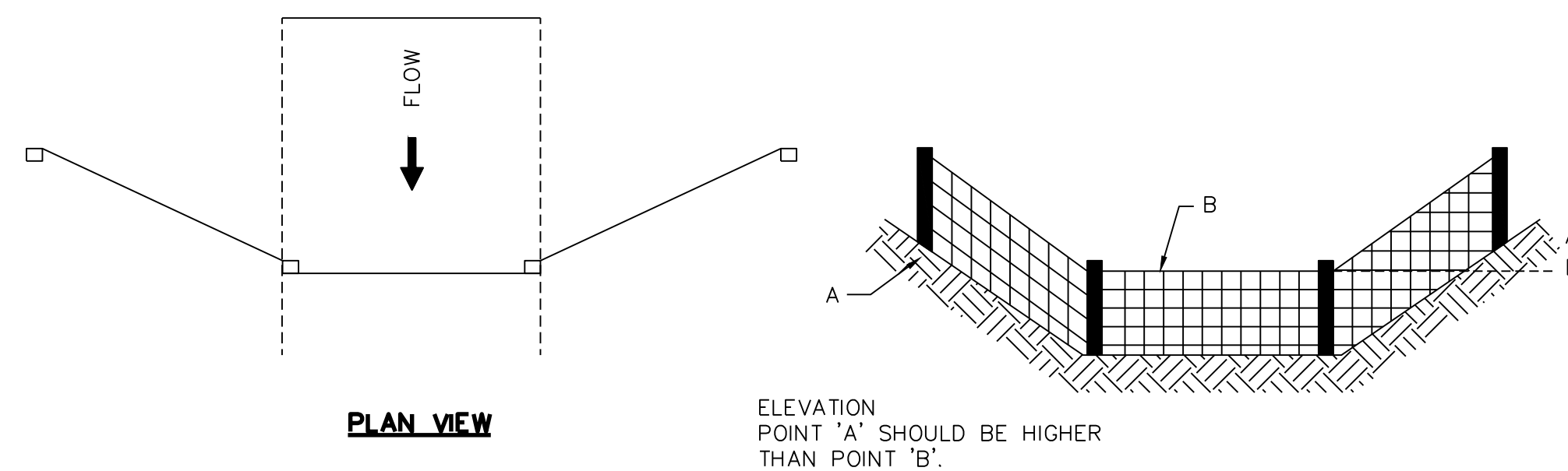
1. SET STAKE AND EXCAVATE A 6" X 6" TRENCH UPSLOPE ALONG THE LINE OF POSTS.
2. STAPLE FILTER FABRIC TO THE STAKE, OVERLAP A MINIMUM OF 6-INCHES AND EXTEND INTO TRENCH.
3. BACKFILL AND COMPACT THE EXCAVATED SOIL INTO THE TRENCH.
4. FILTER FABRIC SHALL MEET CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL.

EXTENSION OF FABRIC INTO THE TRENCH.



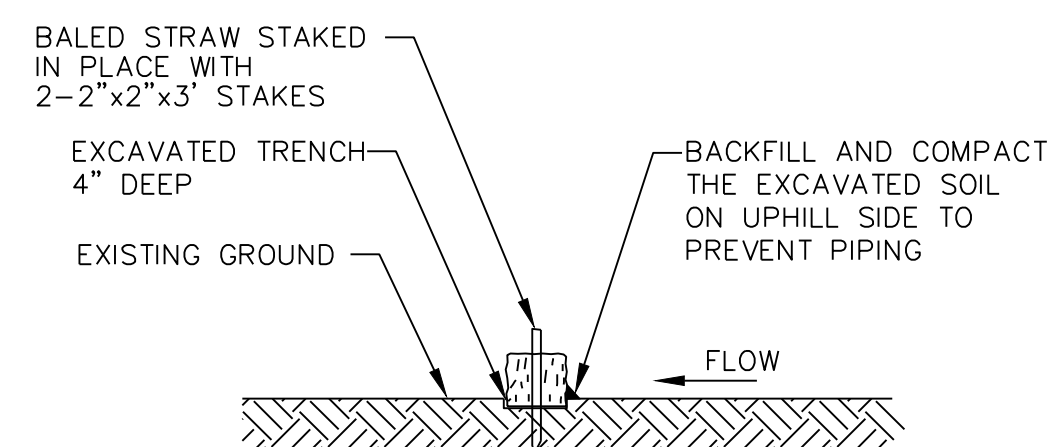
1 TEMPORARY SEDIMENT AND EROSION CONTROL BARRIER-SILT FENCE

NTS

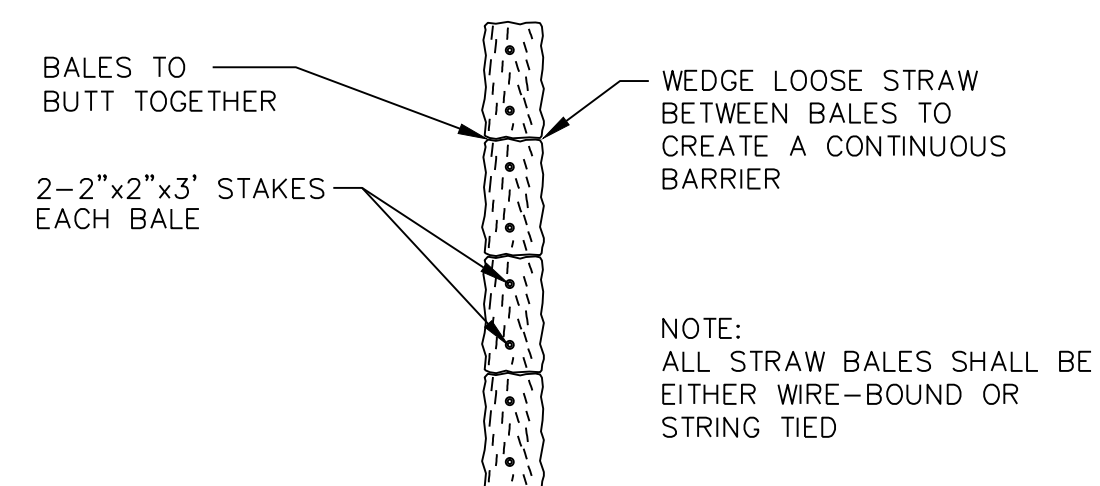


4 SILT FENCE SWALE BARRIER

NTS



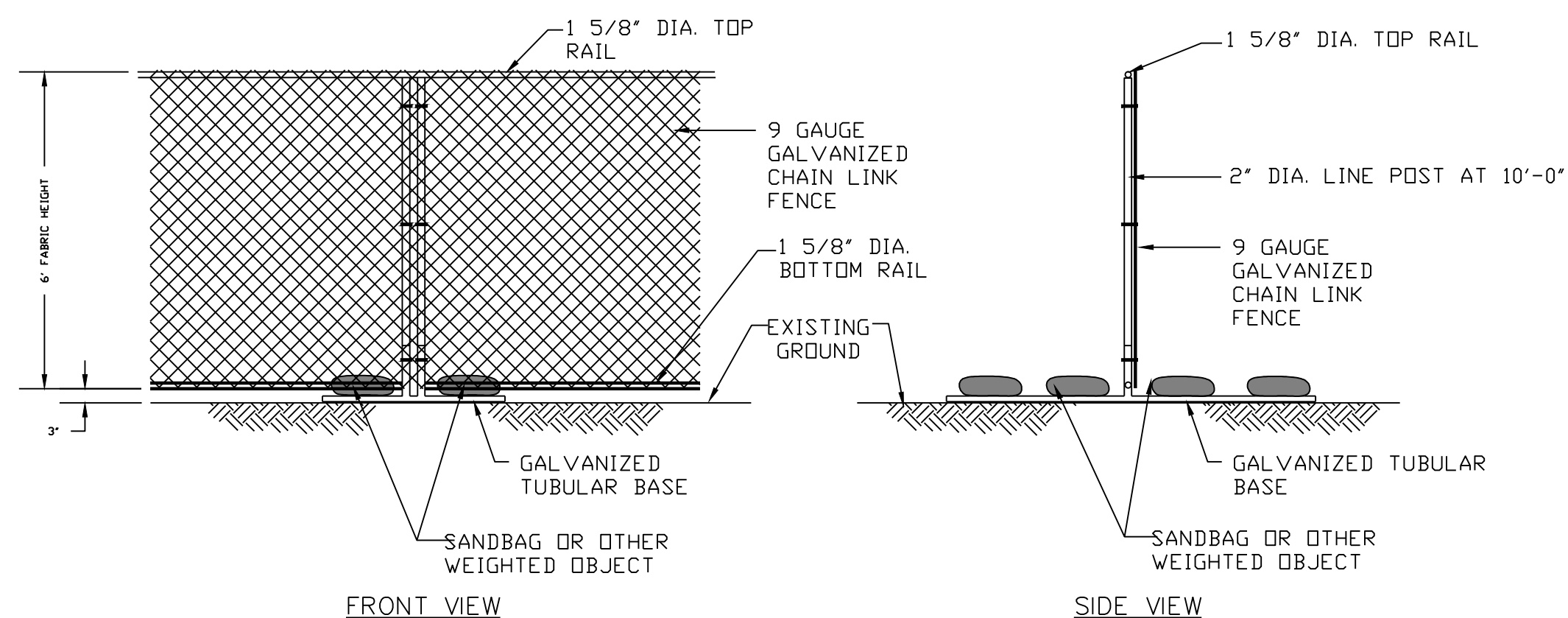
ELEVATION



PLAN

5 TEMPORARY SEDIMENT AND EROSION CONTROL BARRIER-STRAW BALES

NTS

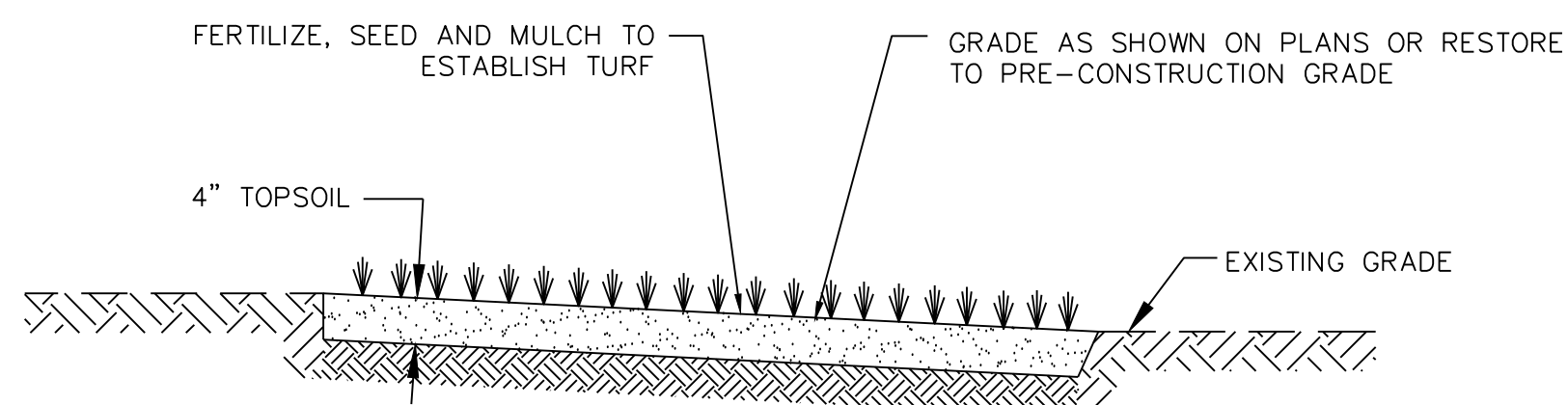


FRONT VIEW

SIDE VIEW

2 TEMPORARY SECURITY FENCE DETAIL

NTS



SITE RESTORATION NOTE:
ALL AREAS DISTURBED BY CONSTRUCTION OPERATIONS WHERE THE TURF COVER HAS BEEN REMOVED OR DAMAGED SHALL BE RESTORED AS INDICATED.

3 TURF RESTORATION DETAIL

NTS

SOIL EROSION AND SEDIMENT CONTROL NOTES

- SE/SC-1. All soil erosion and sediment control practices shall be installed prior to any major soil disturbances, in their proper sequence, and maintained until permanent protection is established. This includes installing and maintaining sediment controls at all catch basins, until turf is established, and on all slopes. All disturbed areas shall be restored with topsoil and hydroseeded with mulch mixture as soon as possible following disturbance.
- SE/SC-2. Any disturbed areas that will be left exposed more than 30 days and not subject to construction traffic, will immediately receive a temporary seeding. If the season prevents the establishment of a temporary cover, the disturbed areas will be mulched with straw, or equivalent material, at a rate of two (2) tons per acre, or according to State Standards.
- SE/SC-3. Permanent vegetation to be seeded on all exposed areas within ten (10) days after final grading. Mulch will be used for protection until seeding is established.
- SE/SC-4. At the time when the site preparation for permanent vegetative stabilization is going to be accomplished, any soil that will not provide a suitable environment to support adequate vegetative ground cover, shall be removed or treated in such a way that will permanently adjust the soil conditions and render it suitable for vegetative ground cover. If the removal or treatment of the soil will not provide suitable conditions, non-vegetative means of permanent ground stabilization will have to be employed (e.g. erosion netting).

PROJECT:		TOWN OF GLASTONBURY 300 WELLS STREET GLASTONBURY, CONNECTICUT	
TITLE:		SOIL EROSION AND SEDIMENT CONTROL AND SITE RESTORATION DETAILS	
DRAWN BY:	K. HOLLENBECK	PROJ. NO.:	289445-000000-000000
CHECKED BY:	B. GILPIN	C-2	
APPROVED BY:	B. GILPIN		
DATE:	07/26/2018		
		21 Griffin Road North Windsor, CT 06095 Phone: 860.298.9692 www.trcsolutions.com	
FILE NO.:	C-2.dwg		

PLOT DATE: July 26, 2018 - 2:50PM -- LAYOUT: Figure 2
 DRAWING NAME: J:\CAD\Glastonbury\Riverfront Park\Engineering Support\289445-000000-000000\C-2.dwg
 USER: KHL
 DATE: 7/26/2018

Laboratory Report – Paint Samples

Client: Mr. Brent Gilpin
TRC Environmental Consultants
21 Griffin Rd., North
Windsor, CT 06095

Analytical Report

CET# 8050584



Report Date: May 22, 2018
Project: 300 Welles St, Glastonbury

Connecticut Laboratory Certificate: PH 0116
Massachusetts laboratory Certificate: M-CT903



New York NELAP Accreditation: 11982
Rhode Island Certification: 199

CET #: 8050584

Project: 300 Welles St, Glastonbury

SAMPLE SUMMARY

The sample(s) were received at 24.0°C.

This report contains analytical data associated with following samples only.

Sample ID	Laboratory ID	Matrix	Collection Date/Time	Receipt Date
1	8050584-01	Paint Chip	5/15/2018	05/16/2018
2	8050584-02	Paint Chip	5/15/2018	05/16/2018
3	8050584-03	Paint Chip	5/15/2018	05/16/2018
4	8050584-04	Paint Chip	5/15/2018	05/16/2018
5	8050584-05	Paint Chip	5/15/2018	05/16/2018
6	8050584-06	Paint Chip	5/15/2018	05/16/2018
7	8050584-07	Paint Chip	5/15/2018	05/16/2018

Analyte: Total Lead [EPA 6010C]

Analyst: SS

Prep: EPA 3051A

Matrix: Paint Chip

Laboratory ID	Client Sample ID	Result	RL	Units	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
8050584-07	7	0.33	0.10	%	1	B8E2127	05/21/2018	05/22/2018 12:20	

Analyte: TCLP Lead [EPA 6020A]

Analyst: CED

Prep: EPA 3005A-1311

Matrix: Extract

Laboratory ID	Client Sample ID	Result	RL	Units	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
8050584-01	1	370	0.013	mg/L	1	B8E1823	05/18/2018	05/21/2018 13:30	
8050584-02	2	64	0.013	mg/L	1	B8E1823	05/18/2018	05/21/2018 13:34	
8050584-03	3	160	0.013	mg/L	1	B8E1823	05/18/2018	05/21/2018 13:44	
8050584-04	4	120	0.013	mg/L	1	B8E1823	05/18/2018	05/21/2018 14:06	
8050584-05	5	170	0.013	mg/L	1	B8E1823	05/18/2018	05/21/2018 14:23	
8050584-06	6	280	0.013	mg/L	1	B8E1823	05/18/2018	05/21/2018 14:28	

CET # : 8050584

Project: 300 Welles St, Glastonbury

CASE NARRATIVE

No collection times provided by client on chain of custody for the following samples: 8050584-01 through -07.

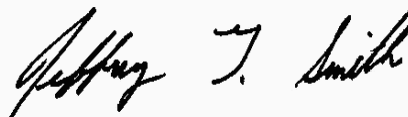
All questions related to this report should be directed to David Ditta, Timothy Fusco, or Robert Blake at 203-377-9984.

Sincerely,

This technical report was reviewed by Jeffrey Smith



David Ditta
Laboratory Director



Project Manager

Report Comments:

Sample Result Flags:

- E- The result is estimated, above the calibration range.
- H- The surrogate recovery is above the control limits.
- L- The surrogate recovery is below the control limits.
- B- The compound was detected in the laboratory blank.
- P- The Relative Percent Difference (RPD) of dual column analyses exceeds 40%.
- D- The RPD between the sample and the sample duplicate is high. Sample Homogeneity may be a problem.
- + - The Surrogate was diluted out.
- *C1- The Continuing Calibration did not meet method specifications and was biased low for this analyte. Increased uncertainty is associated with the reported value which is likely to be biased low.
- *C2- The Continuing Calibration did not meet method specifications and was biased high for this analyte. Increased uncertainty is associated with the reported value which is likely to be biased high.
- *F1- The Laboratory Control Sample recovery is outside of control limits. Reported value for this analyte is likely to be biased on the low side.
- *F2- The Laboratory Control Sample recovery is outside of control limits. Reported value for this analyte is likely to be biased on the high side.
- I- The Analyte exceeds %RSD limits for the Initial Calibration. This is a non-directional bias.

All results met standard operating procedures unless indicated by a data qualifier next to a sample result, or a narration in the QC report.

For Percent Solids, if any of the following prep methods (3050B, 3540C, 3545A, 3550C, 5035 and 9013A) were used for samples pertaining to this report, the percent solids procedure is within that prep method.

Complete Environmental Testing is only responsible for the certified testing and is not directly responsible for the integrity of the sample before laboratory receipt.

ND is None Detected at or above the specified reporting limit

RL is the Reporting Limit.

All analyses were performed in house unless a Reference Laboratory is listed.

Samples will be disposed of 30 days after the report date.

CET # : 8050584

Project: 300 Welles St, Glastonbury

CERTIFICATIONS

Certified Analyses included in this Report

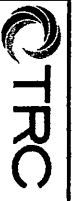
Analyte	Certifications
<i>EPA 6010C in Solid</i>	
Lead	CT
<i>EPA 6020A in Water</i>	
Lead	CT

Complete Environmental Testing operates under the following certifications and accreditations:

Code	Description	Number	Expires
CT	Connecticut Public Health	PH0116	09/30/2018



8050584



21 GRIFFIN ROAD NORTH

WINDSOR, CONNECTICUT 06095

TELEPHONE (860) 298-9692

FAX (860) 298-6380

TCLP CHAIN OF CUSTODY

Edition: November 2013
Supersede Previous Edition

PROJECT NUMBER

PROJECT NAME

300 Welles St. Glastonbury

PARAMETERS

LAB ID #

TURNAROUND TIME

TCLP	24hr	48hr	3day	5day
	24hr	48hr	3day	5day

INSPECTOR: (SIGNATURE)

Eric Gibberg

(PRINTED)

Eric Gibberg

FIELD SAMPLE NUMBER	DATE	TIME	TYPE		SAMPLE LOCATION	RCRA Pb	RCRA Pb, AS, CR, CD	8 RCRA Metals	TCLP Pb	SPLP Pb	Total Pb	MATERIAL
			COMP	GRAB								
1	5/15/18				Asphalt structural beam				X			White Paint
2					I				X			Grey Paint
3					Pipe				X			Grey/Blue Paint
4					I				X			Grey Paint
5					Steps				X			Grey Paint
6					Stair Railing				X			Grey Paint
7					Pipe structural Beam						X	Black Paint

Relinquished by: (Signature)

Eric Gibberg

Date:

5/15/18

Received by: (Signature)

Greg Gilman

Date:

5/16/18

Relinquished by: (Signature)

Eric Gibberg

Date:

5/16/18

Received by: (Signature)

Eric Gibberg

(Printed)

Eric Gibberg

Time: 1235

(Printed)

GRAG GILMAN

Time: 1235

(Printed)

GRAG GILMAN

Time: 1540

(Printed)

Eric Gibberg

Results to Beipin@treresolutions.com and Trishka@treresolutions.com



PHOTO 1.
Looking west at historic terminal product transfer piping.

Specifications Reference:

- 01010 - Summary of Work
- 01205 - Payment Items
- 01540 - Barriers and Enclosures
- 01560 - Temporary Controls
- 02050 - Demolition
- 02110 - Clearing, Grubbing, Stripping and Chipping
- 02112 - Erosion and Sediment Control
- 028313 - Lead Paint Activity



PHOTO 2.
Looking west at historic terminal product transfer piping.

Specifications Reference:

- 01010 - Summary of Work
- 01205 - Payment Items
- 01540 - Barriers and Enclosures
- 01560 - Temporary Controls
- 02050 - Demolition
- 02110 - Clearing, Grubbing, Stripping and Chipping
- 02112 - Erosion and Sediment Control
- 028313 - Lead Paint Activity



PHOTO 3.
Looking east at piping and piping support structure.

Specifications Reference:

- 01010 - Summary of Work
- 01205 - Payment Items
- 01540 - Barriers and Enclosures
- 01560 - Temporary Controls
- 02050 - Demolition
- 02110 - Clearing, Grubbing, Stripping and Chipping
- 02112 - Erosion and Sediment Control
- 028313 - Lead Paint Activity



PHOTO 4.
Looking west at piping and piping support structure.

Specifications Reference:

- 01010 - Summary of Work
- 01205 - Payment Items
- 01540 - Barriers and Enclosures
- 01560 - Temporary Controls
- 02050 - Demolition
- 02110 - Clearing, Grubbing, Stripping and Chipping
- 02112 - Erosion and Sediment Control
- 028313 - Lead Paint Activity



PHOTO 5.
Looking southeast at piping and piping support from Connecticut River.

Specifications Reference:

- 01010 - Summary of Work
- 01205 - Payment Items
- 01540 - Barriers and Enclosures
- 01560 - Temporary Controls
- 02050 - Demolition
- 02110 - Clearing, Grubbing, Stripping and Chipping
- 02112 - Erosion and Sediment Control
- 028313 - Lead Paint Activity



PHOTO 6.
Looking southeast at piping and piping support from Connecticut River.

Specifications Reference:

- 01010 - Summary of Work
- 01205 - Payment Items
- 01540 - Barriers and Enclosures
- 01560 - Temporary Controls
- 02050 - Demolition
- 02110 - Clearing, Grubbing, Stripping and Chipping
- 02112 - Erosion and Sediment Control
- 028313 - Lead Paint Activity



PHOTO 7.
Looking north at piping support structure at edge of Connecticut River.

Specifications Reference:

- 01010 - Summary of Work
- 01205 - Payment Items
- 01540 - Barriers and Enclosures
- 01560 - Temporary Controls
- 02050 - Demolition
- 02110 - Clearing, Grubbing, Stripping and Chipping
- 02112 - Erosion and Sediment Control
- 028313 - Lead Paint Activity



PHOTO 8.

Photo showing western end of terminal product transfer piping and valves (with possible asbestos flange gaskets).

Specifications Reference:

- 01010 - Summary of Work
- 01205 - Payment Items
- 01540 - Barriers and Enclosures
- 01560 - Temporary Controls
- 02050 - Demolition
- 02110 - Clearing, Grubbing, Stripping and Chipping
- 02112 - Erosion and Sediment Control
- 028213 - Asbestos Removal
- 028313 - Lead Paint Activity



PHOTO 9.
Steel staircase on southern side of piping support structure.

Specifications Reference:

- 01010 - Summary of Work
- 01205 - Payment Items
- 01540 - Barriers and Enclosures
- 01560 - Temporary Controls
- 02050 - Demolition
- 02110 - Clearing, Grubbing, Stripping and Chipping
- 02112 - Erosion and Sediment Control
- 028313 - Lead Paint Activity



PHOTO 10.

Looking west at piping support structure and vegetative area beneath structure.

Specifications Reference:

- 01010 - Summary of Work
- 01205 - Payment Items
- 01540 - Barriers and Enclosures
- 01560 - Temporary Controls
- 02050 - Demolition
- 02110 - Clearing, Grubbing, Stripping and Chipping
- 02112 - Erosion and Sediment Control
- 028313 - Lead Paint Activity



PHOTO 11.

Looking west along the southern side of the piping support structure showing pedestrian catwalk.

Specifications Reference:

- 01010 - Summary of Work
- 01205 - Payment Items
- 01540 - Barriers and Enclosures
- 01560 - Temporary Controls
- 02050 - Demolition
- 02110 - Clearing, Grubbing, Stripping and Chipping
- 02112 - Erosion and Sediment Control
- 028313 - Lead Paint Activity



PHOTO 12.

Looking west at vegetative area below the piping support structure at river elevation.

Specifications Reference:

- 01010 - Summary of Work
- 01205 - Payment Items
- 01540 - Barriers and Enclosures
- 01560 - Temporary Controls
- 02050 - Demolition
- 02110 - Clearing, Grubbing, Stripping and Chipping
- 02112 - Erosion and Sediment Control
- 028313 - Lead Paint Activity



Triton Type II DOT Silt and Turbidity Barrier



Triton [Type 2](#) DOT Silt Curtains are designed to meet or exceed state DOT requirements for silt and turbidity control in areas with moving water, currents, waves or tides. These barriers surround projects and help to contain materials until they have enough time to settle.



GEI
WORKS

Triton Type II DOT Silt and Turbidity Barrier

Constructed using robust and reliable components, these barriers actively work to contain silt, turbidity and displaced particles around your site. [Type 2](#) DOT curtains are typically recommended for use in water locations with waves up to two feet (2'), moderate wind, and currents up to 1 knot.

Applications:

- Dredging Projects
- DOT Roadwork and Construction Projects
- Dock Repair, Demolition and Maintenance
- Boat Ramp Creation
- Pile Driving
- Shoreline Construction
- Rip Rap Installation
- Remediation Projects

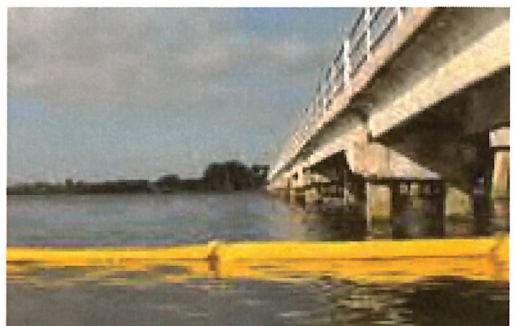
Accessories are an important component to the installation of any silt curtain or barrier in order to maximize effectiveness.

Turbidity Curtain Accessories:

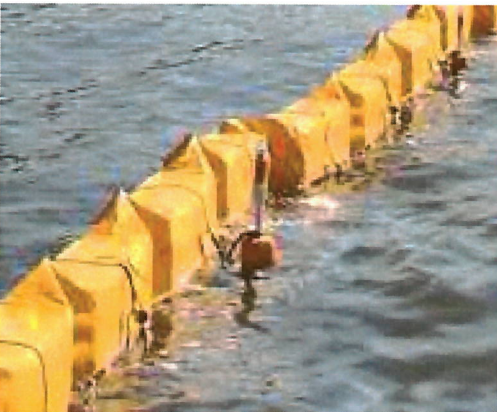
- Anchor Kits
- Buoys
- Marker Lights
- Tow Bridles

Importance of Anchoring:

Anchoring and anchor kits are one of the most important accessories for sites dealing with moving currents, waves, tides or other site factors. Having the right anchor pattern, installation design and anchors can significantly influence, reduce and redistribute loads placed on your barrier. Contact our technical team (+1 772.646.0597) for more information regarding anchor placement and use.



Triton Type II DOT Silt and Turbidity Barrier



How a Turbidity Curtain Works:

The main function of a silt screen or turbidity barrier is to control the dispersion of suspended silt and to improve settling times (Stokes Law). During a construction project, silt and other materials often become suspended in the water area. Curtains are placed within the water to create a confined zone of contained materials. Contained areas allow marine contractors to stay within Federal and State Clean Water Act and NPDES Phase II regulations. In turn, this helps sites to avoid fines and allows projects to be completed on time.

Please note, turbidity curtains are designed to act as a temporary area that increases the amount of time solids have to settle back down to the bottom of the area. They will not act as dams or walls.

Product Considerations:

Knowing these elements can help determine the right anchoring strategy, curtain model and deployment method.

Turbidity Curtains and Salt Water

When using the Type II Silt Barrier in salt water areas, consideration should be given to the tension cables and connectors. The following component adjustments are recommended for any location with salt water; Stainless Steel Cable and Zinc Anode Connectors upgrade, Stainless Steel Chain upgrade, or a combined Cable/Chain upgrade.

For short term projects, galvanized components can be used for a period of up to 12 months.

Fabric Considerations

Alternative fabrics are also available for extended deployment in areas with high pH levels, high temperatures, low temperatures or in areas where chemicals are present.

When should I use a Permeable Silt Curtain?

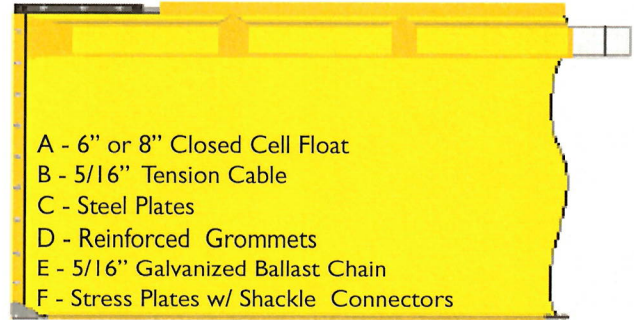
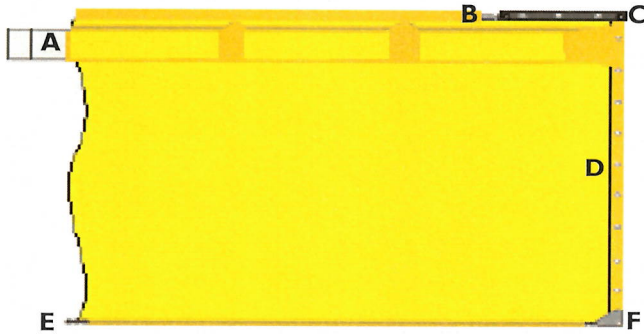
Permeable Type II Silt Barriers are most commonly used when they are either specified in a site project or when the curtain will be dealing with a significant amount of water pressure. Use of the bottom filter panel can help reduce pressure on the curtain by allowing water to continue to the flow through the curtain.

Water Conditions, Factors and Considerations

Consideration of site and water conditions is an important step for any location looking to control silt in a moving water body. Due to the current and waves in these areas, additional pressure is placed on the barrier during use. In order to accommodate and contain silt in these conditions, it is important to consider the following:

- Water Velocity
- Waves (height, frequency)
- Wind Speed and Direction
- Tides
- Soil Type (contaminated?)
- Project Duration

Triton Type II DOT Silt and Turbidity Barrier



- A - 6" or 8" Closed Cell Float
- B - 5/16" Tension Cable
- C - Steel Plates
- D - Reinforced Grommets
- E - 5/16" Galvanized Ballast Chain
- F - Stress Plates w/ Shackle Connectors

SPECIFICATIONS

Length	50' or 100'
Depth	5' (3' - 20' Available on Request)
Fabric	18 oz. PVC
Flotation	Square Foam Filled Flotation
Flotation Size	6" or 8"
Tension Cable	5/16" Tension Cable Below Float
Bottom Ballast Chain	5/16" Galvanized Chain
Section Connectors	Grommets, Top & Bottom Stress Plates
Color	Yellow
Anchor Points	Every 50'

GEI Works is dedicated to developing innovative turbidity curtain solutions that provide superior performance and achieve the desired results for our customers. We work closely with our client team to design a deployment layout that takes into consideration all of your project requirements including water conditions, project progress, budget and water quality goals.

Our goal is to work with our clients to develop the best solution for their specific project and help them come in under budget and on time.

For more complete information on GEI Works products and solutions, visit us on the Web at www.geiworks.com.

Phone: (1+) 772-646-0597 | info@geiworks.com

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