TOWN OF GLASTONBURY

INVITATION TO BID

BID #	ITEM	DATE & TIME REQUIRED
GL-2021-08	Bulky Waste Water Service Installation	September 22, 2020 at 11:00 A.M.

The Town of Glastonbury will receive on-line bids for the installation of approximately 540 L.F. of a 1" water service to the existing Bulky Waste office building located at 1145 Tryon Street in the location depicted on the plans and details contained within the specifications.

Bidders wishing to submit a bid proposal for this solicitation are directed to respond online through a secure e-Procurement portal. Responses can be submitted at the following link: https://app.negometrix.com/buyer/2832, under the bid title **"GL-2021-08 Bulky Waste Water Service Installation**".

Due to the bid collection being performed through a secure online platform, multiple copies of the bid are not required. Please upload one copy of ALL required bid documentation. Including a copy of the required bid bond. Bidders shall be required to mail the original bid bond to the Town of Glastonbury, Purchasing Department immediately following the bid opening at the following address:

Town of Glastonbury
Purchasing Department
Attn: Mary F. Visone, Purchasing Agent
P O Box 6523
Glastonbury, CT 06033-6523

All bids will be publicly opened and read aloud. No late bids will be accepted. 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.

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

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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1. Bidders submitting a response for this solicitation are directed to respond online through a secure e-Procurement portal. Bids can be submitted at the following link: https://app.negometrix.com/buyer/2832 under the BID title under the bid title **"GL-2021-08 Bulky Waste Water Service Installation**". Bidders will be required to create a profile before submitting their bid. Step-by-step instructions on how to register as a vendor are available at this website: https://help.negometrix.com/en/support/solutions/articles/9000177626-register-on-negometrix4

   Bidders will be required to upload their bid response in the following file located in the bid portal:

   - Bid Response & Related Documents

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

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

6. Specifications must be submitted complete in every detail and, when requested, samples shall be provided. 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 electronic bid submission must be accompanied by a copy of the bid bond payable to the Town for ten percent (10%) of the total amount of the bid. Original bid bonds from all respondents must be mailed to the attention of the Purchasing Agent immediately following the virtual bid opening at the following address: Town of Glastonbury, PO Box 6523, Glastonbury, CT 06033-6523, Attn: Mary F. Visone, Purchasing Agent. 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.

11. ***WAIVED***: A 100% Performance and Payment bond are required of the successful bidder. This bond shall cover all aspects of the specification and shall be delivered to the Purchasing

Agent prior to the issuance of a purchase order. The Performance and Payment Bond will be returned upon the delivery and acceptance of the bid items.

12. The Bidder agrees and warrants that in the submission of this sealed Bid, they will not discriminate or permit discrimination against any person or group of persons on the grounds of race, color, religion, national origin, sex, or physical disability including, but not limited to blindness, unless it is shown by such Bidder that such disability prevents performance of that which must be done to successfully fulfill the terms of this sealed Bid or in any manner which is prohibited by the laws of the 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 28, 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.

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. Each bid shall also include a description of three (3) projects completed by the bidder with references to demonstrate successful experience with similar projects. Please provide project name, contact information and contract value.

21. **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 **Bulky Waste Water Service Installation.***

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: (a) 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, sub-contractor 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 is 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.**
- Municipal projects are exempt from Federal Excise Taxes, as well as, State of Connecticut Sales, Use and Service Taxes and should not be include in the Bidder's proposal.

NOTE: Any technical questions regarding this bid shall be made in writing (email acceptable) and directed to Greg Mahoney, Senior Engineering Technician, via email at greg.mahoney@glastonbury-ct.gov. Telephone (860) 652-7742 between the hours of 8:00 a.m. – 4:30 p.m. For administrative questions concerning this bid/proposal, please contact Mary F. Visone, Purchasing Agent, at (860) 652-7588 or email the Purchasing Department at purchasing@glastonbury-ct.gov. All questions, answers, and/or addenda, as applicable, will be posted on the Town's website at www.glastonbury-ct.gov (Upon entering the website 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 five (5) business days prior to the advertised response deadline**. It is the respondent's responsibility to check the website for addenda prior to submission of any bid/proposal.**

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 Assistant 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 PERMITS

03.01 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.

03.02 The Metropolitan District Commission (MDC) requires a permit for the connection of the proposed water service. The Contractor is responsible for obtaining and adhering to all the permit requirements of the MDC.

03.03 The Department of Public Health requires a permit for the existing well abandonment by a registered well drilling contractor. The Contractor is responsible for the coordination of the registered well drilling contractor for compliance with the procedures of abandonment of the well and notification of the local health department.

04.00 PROPERTY ACCESS

04.01 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.

04.02 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.

04.03 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.

05.00 PROTECTION OF THE PUBLIC AND OF WORK AND PROPERTY

05.01 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.

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

05.03 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.

06.00 EXISTING IMPROVEMENTS

06.01 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.

07.00 SEPARATE CONTRACTS

07.01 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.

08.00 INSPECTION OF WORK

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

08.02 The Metropolitan District Commission (MDC) may require inspection of the proposed water service line. The Contractor shall contact the Command Center (860-278-7850, ext. 3600) to request an inspection. The Contractor is responsible for all inspection fees required to be paid to the MDC at its Utility Services office located at 125 Maxim Road, Hartford, Connecticut 06114 along with coordination of inspections required.

08.03 The Town of Glastonbury Health Department may require inspection for the well abandonment. The Contractor is responsible coordination of all inspections required.

08.04 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.

08.05 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.

08.06 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 reinspection and replacement. If such work is not in accordance with the Contract Documents, the Contractor shall pay such cost.

09.00 RIGHT TO INCREASE OR DECREASE WORK

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

10.00 RIGHT OF ENGINEER TO STOP WORK FOR WEATHER CONDITIONS

10.01 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.

11.00 CONTRACTOR TO BE RESPONSIBLE FOR IMPERFECT WORK OR MATERIALS

11.01 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.

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

12.01 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 NOTICE TO CONTRACTOR

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

01.02 The Contractor is hereby alerted to the fact that the State of Connecticut Department of Transportation Standard Specifications for Roads, Bridges, Facilities and Incidental Construction, Form 817 (Form 817) are the governing specifications and are to be considered part of the Contract Documents. The Form 817 shall not be provided by the Town and any cost associated therewith shall be the responsibility of the Contractor. In case of any discrepancy between the Contract Drawings or Specifications and the Form 817, the matter shall immediately be submitted to the Engineer. The Engineer shall have sole authority in resolving any discrepancies.

01.03 Much time and effort has gone into this project in an effort to minimize impact on trees and adjacent properties. Extreme care shall be taken by the Contractor to honor commitments made by the Town. Prior to doing any work, the Contractor should meet with the Engineer to become familiar with the conditions encountered and commitments made.

02.00 COMMUNICATIONS

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

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

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

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

03.00 PARTIAL USE OF IMPROVEMENTS

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

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

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

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

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

04.00 INSURANCE

04.01 The 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. **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
  Per Accident: $1,000,000
- A Waiver of Subrogation shall be provided in favor of the Town of Glastonbury and its employees and agents.

d. Umbrella of Excess Liability:
- State in the Remarks Section that coverage is follow form.
- Limit of Liability Each Occurrence $1,000,000
  Aggregate $1,000,000

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

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

05.00 WORK BY OTHERS

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

06.00 CONTRACTOR'S WORK AND STORAGE AREA

06.01 The Contractor 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.

07.00 DISPOSAL AREA

07.01 The Tryon Street Bulky Waste Facility will be available to the Contractor, at no charge, for disposal of materials that are accepted at that facility. Waste disposal guidelines for the Bulky Waste facility are published on the Town web site at the address shown below. Each bidder shall have reviewed and understand these guidelines prior to submitting a bid for the project.

https://www.glastonbury-ct.gov/home/showdocument?id=28043

Acceptable materials generally include such materials as brush, stumps, demolition materials, and excess excavated earth materials. Unacceptable materials generally include such items as carpet, appliances, upholstered furniture; hazardous wastes such as pesticides, oil based paints and thinners; or other wastes as designated by the State Department of Environmental Protection. Demolition material cannot contain asbestos or other hazardous materials.

The Contractor shall obtain a disposal area for all other unsuitable or surplus materials at no cost to the Town.

08.00 DUST CONTROL

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

09.00 MAINTENANCE / GUARANTEE PERIOD

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

10.00 PROTECTION OF EXISTING UTILITIES

10.01 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.

10.02 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.

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

11.00 TIME FOR COMPLETION/NOTICE TO PROCEED

11.01 The work under this Contract shall commence on the date ordered by the Engineer in the Notice to Proceed. After the work has begun, it shall continue in an orderly fashion such that all contract work is completed within thirty (30) calendar days of the commencement date indicated in the Notice to Proceed.

Within five (5) business days after the date of the Notice of Award, the Contractor must provide the appropriate bond and insurance certificates to the Town Purchasing Agent and must be issued a Notice to Proceed and Purchase Order for the Project prior to initiating any work.

11.02 When the Contract time is stated on a calendar-day basis, that time shall be the number of consecutive calendar days contained in the Contract period, excluding the time period from each December 1 through the following March 31 (the “winter shutdown period”). The time will be computed as herein provided on a consecutive-day basis, including all Saturdays, Sundays, holidays, and non-work days from April 1 through November 30 of each included year. Time will not be charged for days in the winter shutdown period. If the Engineer so approves, the Contractor may work on certain tasks of the Project during the winter shutdown period with no charge being made against the Contract time.

12.00 SCHEDULE OF DRAWINGS

12.01 The Contractor is hereby alerted that the plans and details located in Attachment B are to be considered part of these specifications.

13.00 CHANGES IN THE WORK

13.01 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.

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

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

15.00 PROSECUTION AND PROGRESS

15.01 BULKY WASTE FACILITY ACCESS DRIVEWAY: The Contractor is required to maintain an ingress/egress travel path not less than 12 feet in width at all times during work required within the Bulky Waste Disposal Site access driveway during the operating hours listed below. Daily traffic to this site consists of residential disposal visits along with a material trucking activity from the active gravel pit operations, located on the easterly portion of the property, requiring access to the existing scale house weight station.

15.02 ALLOWABLE HOURS OF OPERATION (WORK PERIOD):

The Bulky Waste Facility hours of operation are Monday thru Saturday 7:00am to 3:00pm. Contractor is required to adhere to the above hours of operation since this facility is gated after hours. Work during time periods other than those described above will not be permitted. No work will be allowed on designated Town Holidays unless permission is granted by the Town. The Bulky Waste and Transfer Station 2020 Holiday Schedule is attached in Attachment C of the contract documents.

16.00 EXTRA WORK AND RETAINAGE

16.01 Extra and cost plus work shall be governed by Article 1.04.05 and Article 1.09.04 of the Form 817.

16.02 Retainage shall be governed by Article 1.09.06 of the Form 817, except that the retainage amount shall be equal to five (5) percent.

17.00 SUBMITTALS AND MATERIALS TESTING

17.01 Required submittals are outlined in Section 1.06 Control of Materials of the Special Provisions. The Contractor shall provide source and supply information, sieve analysis, and material samples for gravel subbase, process stone base, modified riprap, and other granular materials to the Town for review and approval. The Town shall retain a lab for testing of these materials as required and shall perform in place compaction testing at no expense to the Contractor.

17.02 Shop drawings / catalog cuts shall be provided by the Contractor for all pre-cast concrete structures, pipes and fittings, erosion control products, seed mixes, and other items to be supplied for review and approval by the Engineer as described in the specifications and the Form 817.

17.03 Certified Materials Test Reports and Materials Certificates shall be provided for all products and materials to be provided under this contract as described in these specifications and the Form 817.

BIDDER NAME:_____

TOWN OF GLASTONBURY * 2155 MAIN STREET * GLASTONURY * CT

BID / PROPOSAL NO:	**GL-2021-08**	**DATE DUE:**	**SEPTEMBER 22, 2020**
DATE ADVERTISED:	**SEPTEMBER 9, 2020**	**TIME DUE:**	**11:00 AM**
NAME OF PROJECT:	**Bulky Waste Water Service Installation**		

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 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 a copy of the Bid Bond as per Section 10 of the Information for Bidders. Original Bid Bond to be mailed as specified herein.

_____ 2. Included Disclosure of Past and Pending Mediation, Arbitration, and Litigation cases against the Bidder or its Principals as per Section 17 of the Information for Bidders.

_____ 3. Included Qualifications Statement as per Section 20 of the Information for Bidders.

_____ 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.

_____ 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 21 of the Information for Bidders.

BULKY WASTE WATER SERVICE INSTALLATION **BID #GL-2021-08**
BID PROPOSAL

BIDDER NAME:_____

LINE NO.	ITEM NO.		ITEM DESCRIPTION	UNIT	QTY	UNIT PRICE	EXT
1	0201001	A	CLEARING AND GRUBBING	LS	1	$	$
2	0219011	A	SEDIMENT CONTROL SYSTEM AT CATCH BASIN	EA.	1	$	$
3	0404100	A	BITUMINOUS CONCRETE PATCHING-FULL DEPTH	S.Y.	20	$	$
4	0815001		BITUMINOUS CONCRETE LIP CURBING	L.F.	10	$	$
5	0944000	A	FURNISHING AND PLACING TOPSOIL	S.Y.	170	$	$
6	0950005	A	TURF ESTABLISHMENT	S.Y.	170	$	$
7	1301301	A	WELL ABANDONMENT	L.S.	1	$	$
8	1301301	A	WATER SERVICE BUILDING CONNECTION	L.S.	1	$	$
9	1301303	A	1” COPPER PIPE (TYPE K)	L.F.	540	$	$

TOTAL BID AMOUNT: $_____
(Numeric)

WRITTEN TOTAL BID AMOUNT:_____

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)

Please submit the following on Bidder's Letterhead: (if possible)

Affidavit in Compliance with Town of Glastonbury Ordinance Prohibiting Natural Gas Waste & Oil Waste From Natural Gas Extraction Activities or Oil Extraction Activities:

"The undersigned bidder, _____,
(Name of Bidder)
hereby submits a bid for materials, equipment and/or services for the Town of Glastonbury. The bid is for bid documents titled ***GL-2021-08 Bulky Waste Water Service Installation.***

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: (a) 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, sub-contractor 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 is 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."

Signature of Bidder _____

SPECIAL PROVISIONS

INDEX OF SPECIAL PROVISIONS

SECTION 1.05 CONTROL OF THE WORK

Article 1.05.02 - Plans, Working Drawings and Shop Drawings is supplemented as follows:

Subarticle 1.05.02 - (2) is supplemented by the following:

The Contractor shall prepare and submit two (2) sets of catalog cuts and/or shop drawings for all items listed in Section 1.06 to the Town of Glastonbury Engineering Division for approval before ordering or fabricating any materials required for this project.

Please forward to:

Greg Mahoney

Senior Engineering Technician

2155 Main Street, P.O. Box 6523

Glastonbury, CT 06033-6523

Greg.mahoney@glastonbury-ct.gov

Following approval of the shop drawings, the Engineer will provide two hard copies or one PDF document to the contractor. Engineer will retain one hard copy of the approved shop drawings.

SECTION 1.06 CONTROL OF MATERIALS

Article 1.06.01 - Source of Supply and Quality:

Add the following:

For the following items the contractor shall submit a complete description of the item, working drawings, catalog cuts and other descriptive literature which completely illustrates such items presented for formal approval. Such approval shall not change the requirements for a certified test report and materials certificate as may be called for. All shop drawings shall be submitted at one time, unless otherwise approved by the Engineer.

1. 1” Copper Pipe (Type K)
2. Bituminous Concrete for Patching
3. Bituminous Concrete for Curbing
4. Sedimentation System at Catch Basin-Silt Sack
5. Brass Fittings and Valves

SECTION 4.06 BITUMINOUS CONCRETE

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

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

4.06.01—Description: Work under this section shall include the production, delivery, placement, and compaction of a uniform textured, non-segregated, smooth bituminous concrete pavement to the grade and cross section shown on the plans.

The terms listed below as used in this specification are defined as:

Bituminous Concrete: A composite material consisting of prescribed amounts of asphalt binder, and aggregates. Asphalt binder may also contain additives engineered to modify specific properties and/or behavior of the composite material. References to bituminous concrete apply to all of its forms, such as those identified as hot-mix asphalt (HMA) or polymer-modified asphalt (PMA).

Bituminous Concrete Plant (Plant): A structure where aggregates and asphalt binder are combined in a controlled fashion into a bituminous concrete mixture suitable for forming pavements and other paved surfaces.

Course: A continuous layer (a lift or multiple lifts) of the same bituminous concrete mixture placed as part of the pavement structure.

Density Lot: The total tonnage of all bituminous concrete placed in a single lift and as defined in Article 4.06.03.

Disintegration: Erosion or fragmentation of the pavement surface which can be described as polishing, weathering-oxidizing, scaling, spalling, raveling, or formation of potholes.

Dispute Resolution: A procedure used to resolve conflicts between the Engineer and the Contractor's test results that may affect payment.

Hot Mix Asphalt (HMA): A bituminous concrete mixture typically produced at 325°F.

Job Mix Formula (JMF): A recommended aggregate gradation and asphalt binder content to achieve the required mixture properties.

Lift: An application of a bituminous concrete mixture placed and compacted to a specified thickness in a single paver pass.

Percent Within Limits (PWL): The percentage of the lot falling between the Upper Specification Limit (USL) and the Lower Specification Limit (LSL).

Polymer-Modified Asphalt (PMA): A bituminous concrete mixture containing a polymer modified asphalt binder and using a qualified warm mix technology.

Production Lot: The total tonnage of a bituminous concrete mixture from a single source that may receive an adjustment.

Production Sub Lot: Portion of the production lot typically represented by a single sample.

Quality Assurance (QA): All those planned and systematic actions necessary to provide ConnDOT the confidence that a Contractor will perform the work as specified in the Contract.

Quality Control (QC): The sum total of activities performed by the vendor (Producer, Manufacturer, and Contractor) to ensure that a product meets contract specification requirements.

Superpave: A bituminous concrete mix design used in mixtures designated as "S*" Where "S" indicates Superpave and * indicates the sieve related to the nominal maximum aggregate size of the mix.

Segregation: A non-uniform distribution of a bituminous concrete mixture in terms of gradation, temperature, or volumetric properties.

Warm Mix Asphalt (WMA) Technology: A qualified additive or technology that may be used to produce a bituminous concrete at reduced temperatures and/or increase workability of the mixture.

4.06.02—Materials: All materials shall conform to the requirements of Section M.04.

1. Materials Supply: The bituminous concrete mixture must be from one source of supply and originate from one Plant unless authorized by the Engineer.

2. Recycled Materials: Reclaimed Asphalt Pavement (RAP), Crushed Recycled Container Glass (CRCG), Recycled Asphalt Shingles (RAS), or crumb rubber (CR) from recycled tires may be incorporated in bituminous concrete mixtures in accordance with Project Specifications.

4.06.03—Construction Methods:

1. Material Documentation: All vendors producing bituminous concrete must have Plants with automated vehicle-weighing scales, storage scales, and material feeds capable of producing a delivery ticket containing the information below.

a. "State of Connecticut" printed on ticket.
b. Name of producer, identification of Plant, and specific storage silo if used.
c. Date and time.
d. Mixture Designation; Mix type and level Curb mixtures for machine-placed curbing must state "curb mix only".
e. If WMA Technology is used, the additive name and dosage rate or water injection rate must be listed.
f. Net weight of mixture loaded into the vehicle (When RAP and/or RAS is used the moisture content shall be excluded from mixture net weight).
g. Gross weight (equal to the net weight plus the tare weight or the loaded scale weight).
h. Tare weight of vehicle (Daily scale weight of the empty vehicle).
i. Project number, purchase order number, name of Contractor (if Contractor other than Producer).
j. Vehicle number - unique means of identification vehicle.
k. For Batch Plants, individual aggregate, recycled materials, and virgin asphalt max/target/min weights when silos are not used.
l. For every mixture designation the running daily total delivered and sequential load number.

The net weight of mixture loaded into the vehicle must be equal to the cumulative measured weights of its components.

The Contractor must notify the Engineer immediately if, during production, there is a malfunction of the weight recording system in the automated Plant. Manually written tickets containing all required information will be allowed for no more than one hour.

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

2. Transportation of Mixture: The mixture shall be transported in vehicles that are clean of all foreign material, excessive coating or cleaning agents, and, that have no gaps through which mixture might spill. Any material spilled during the loading or transportation process shall be quantified by re-weighing the vehicle. The Contractor shall load vehicles uniformly so that segregation is minimized. Loaded vehicles shall be tightly covered with waterproof covers acceptable to the Engineer. Mesh covers are prohibited. The cover must minimize air infiltration. Vehicles found not to be in conformance shall not be loaded.

Vehicles with loads of bituminous concrete being delivered to State projects must not exceed the statutory or permitted load limits referred to as gross vehicle weight (GVW). The Contractor shall furnish a list and allowable weights of all vehicles transporting mixture.
The State reserves the right to check the gross and tare weight of any vehicle. If the gross or tare weight varies from that shown on the delivery ticket by more than 0.4 percent, the Engineer will recalculate the net weight. The Contractor shall correct the discrepancy to the satisfaction of the Engineer.

If a vehicle delivers mixture to the project and the delivery ticket indicates that the vehicle is overweight, the load may not be rejected but a “Measured Weight Adjustment” will be taken in accordance with Article 4.06.04.

Vehicle body coating and cleaning agents must not have a deleterious effect on the mixture. The use of solvents or fuel oil, in any concentration, is prohibited for the coating of vehicle bodies.

For each delivery, the Engineer shall be provided a clear, legible copy of the delivery ticket.

3. Paving Equipment: The Contractor shall have the necessary paving and compaction equipment at the project site to perform the work. All equipment shall be in good working order and any equipment that is worn, defective or inadequate for performance of the work shall be repaired or replaced by the Contractor to the satisfaction of the Engineer. During the paving operation, the use of solvents or fuel oil, in any concentration, is prohibited as a release agent or cleaner on any paving equipment (i.e., rollers, pavers, transfer devices, etc.).

Refueling or cleaning of equipment is prohibited in any location on the project where fuel or solvents might come in contact with paved areas or areas to be paved. Solvents used in cleaning mechanical equipment or hand tools shall be stored off of areas paved or to be paved.

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

Rollers: All rollers shall be self-propelled and designed for compaction of bituminous concrete. Rollers types shall include steel-wheeled, pneumatic or a combination thereof. Rollers that operate in a dynamic mode shall have drums that use a vibratory or oscillatory system or combination of. Vibratory rollers shall be equipped with indicators for amplitude, frequency and speed settings/readouts to measure the impacts per foot during the compaction process. Oscillatory rollers shall be equipped with frequency indicators. Rollers can operate in the dynamic mode using the oscillatory system on concrete structures such as bridges and catch basins if at the lowest frequency setting.

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

Lighting: For paving operations, which will be performed during hours of darkness, the paving equipment shall be equipped with lighting fixtures as described below, or with an approved equal. Lighting shall minimize glare to passing traffic. The lighting options and minimum number of fixtures are listed in Tables 4.06-1 and 4.06-2:

Table 4.06-1: Minimum Paver Lighting

Option	Fixture Configuration	Fixture Quantity	Requirement
1	Type A	3	Mount over screed area
	Type B (narrow) or Type C (spot)	2	Aim to auger and guideline
	Type B (wide) or Type C (flood)	2	Aim 25 feet behind paving machine
2	Type D Balloon	2	Mount over screed area

TABLE 4.06-2: Minimum Roller Lighting

Option	Fixture Configuration*	Fixture Quantity	Requirement
1	Type B (wide)	2	Aim 50 feet in front of and behind roller
	Type B (narrow)	2	Aim 100 feet in front of and behind roller
2	Type C (flood)	2	Aim 50 feet in front of and behind roller
	Type C (spot)	2	Aim 100 feet in front of and behind roller
3	Type D Balloon	1	Mount above the roller

*All fixtures shall be mounted above the roller.

Type A: Fluorescent fixture shall be heavy-duty industrial type. Each fixture shall have a minimum output of 8,000 lumens. The fixtures shall be mounted horizontally, and be designed for continuous row installation.

Type B: Each floodlight fixture shall have a minimum output of 18,000 lumens.

Type C: Each fixture shall have a minimum output of 19,000 lumens.

Type D: Balloon light: Each balloon light fixture shall have a minimum output of 50,000 lumens, and emit light equally in all directions.

Material Transfer Vehicle (MTV): A MTV shall be used when placing a bituminous concrete surface course as indicated in the contract documents.

The MTV must be a vehicle specifically designed for the purpose of delivering the bituminous concrete mixture from the delivery vehicle to the paver. The MTV must continuously remix the bituminous concrete mixture throughout the placement process.
The use of a MTV will be subject to the requirements stated in Article 1.07.05- Load Restrictions. The Engineer may limit the use of the vehicle if it is determined that the use of the MTV may damage highway components, utilities, or bridges. The Contractor shall submit to the Engineer at time of pre-construction the following information:

- The make and model of the MTV.

- The individual axle weights and axle spacing for each piece of paving equipment (haul vehicle, MTV and paver).
- A working drawing showing the axle spacing in combination with all pieces of equipment that will comprise the paving echelon.

4. Test Section: The Engineer may require the Contractor to place a test section whenever the requirements of this specification or Section M.04 are not met.

The Contractor shall submit the quantity of mixture to be placed and the location of the test section for review and approval by the Engineer. The same equipment used in the construction of a passing test section shall be used throughout production.

If a test section fails to meet specifications, the Contractor shall stop production, make necessary adjustments to the job mix formula, Plant operations, or procedures for placement and compaction. The Contractor shall construct test sections, as allowed by the Engineer, until all the required specifications are met. All test sections shall also be subject to removal as set forth in Article 1.06.04.

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

Permanent Transitions: Defined as any gradual change in pavement elevation that remains as a permanent part of the work.

A transition shall be constructed no closer than 75 feet from either side of a bridge expansion joint or parapet. All permanent transitions, leading and trailing, shall meet the following length requirements:

a) Posted speed limit is greater than 35 MPH: 30 feet per inch of elevation change.
b) Posted speed limit is 35 MPH or less: 15 feet per inch of elevation change.

In areas where it is impractical to use the above described permanent transition lengths the use of a shorter permanent transition length may be permitted when approved by the Engineer.

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

a) Posted speed limit is greater than 50 MPH
   (1) Leading Transitions = 15 feet per inch of vertical change (thickness)
   (2) Trailing Transitions = 6 feet per inch of vertical change (thickness)
b) Posted speed limit is 40, 45, or 50 MPH
   (1) Leading and Trailing = 4 feet per inch of vertical change (thickness)
c) Posted speed limit is 35 MPH or less
   (1) Leading and Trailing = 3 feet per inch of vertical change (thickness)

Note: Any temporary transition to be in-place over the winter shutdown period or during extended periods of inactivity (more than 14 calendar days) shall conform to the greater than 50 MPH requirements shown above.

6. Spreading and Finishing of Mixture: Prior to the placement of the mixture, the underlying base course shall be brought to the plan grade and cross section within the allowable tolerance.

Immediately before placing a bituminous concrete lift, a uniform coating of tack coat shall be applied to all existing underlying pavement surfaces and on the exposed surface of a wedge joint. Such surfaces shall be clean and dry. Sweeping or other means acceptable to the Engineer shall be used.

The mixture shall not be placed whenever the surface is wet or frozen.

The Engineer may verify the mixture temperature by means of a probe or infrared type of thermometer. The Engineer may reject the load based on readings from a probe type thermometer and the specify temperature in the quality control plan (QCP) for placement.

Tack Coat Application: The tack coat shall be applied by a pressurized spray system that results in uniform overlapping coverage at an application rate of 0.03 to 0.05 gallons per square yard for a non-milled surface and an application rate of 0.05 to 0.07 gallons per square yard for a milled surface. For areas where both milled and un-milled surfaces occur, the tack coat shall be an application rate of 0.03 to 0.05 gallons per square yard. The Engineer must approve the equipment and the method of measurement prior to use. The material for tack coat shall not be heated in excess of 160°F and shall not be further diluted.

Tack coat shall be allowed sufficient time to break prior to any paving equipment or haul vehicles driving on it.

The Contractor may request to omit the tack coat application between bituminous concrete layers that have not been exposed to traffic and are placed during the same work shift. Requests to omit tack coat application on the exposed surface of a wedge joint will not be considered.
Placement: The mixture shall be placed and compacted to provide a smooth, dense surface with a uniform texture and no segregation at the specified thickness and dimensions indicated in the plans and specifications.

When unforeseen weather conditions prevent further placement of the mixture, the Engineer is not obligated to accept or place the bituminous concrete mixture that is in transit from the Plant.

In advance of paving, traffic control requirements shall be set up, maintained throughout placement, and shall not be removed until all associated work including density testing is completed.

The Contractor shall inspect the newly placed pavement for defects in the mixture or placement before rolling is started. Any deviation from standard crown or section shall be immediately remedied by placing additional mixture or removing surplus mixture. Such defects shall be corrected to the satisfaction of the Engineer.

Where it is impractical due to physical limitations to operate the paving equipment, the Engineer may permit the use of other methods or equipment. Where hand spreading is permitted, the mixture shall be placed by means of suitable shovels and other tools, and in a uniformly loose layer at a thickness that will result in a completed pavement meeting the designed grade and elevation.

Placement Tolerances: Each lift of bituminous concrete placed at a specified thickness shall meet the following requirements for thickness and area. Any pavement exceeding these limits shall be subject to an adjustment or removal. Lift tolerances will not relieve the Contractor from meeting the final designed grade. Lifts of specified non-uniform thickness, i.e. wedge or shim course, shall not be subject to thickness and area adjustments.

a) Thickness- Where the average thickness of the lift exceeds that shown on the plans beyond the tolerances shown in Table 4.06-3, the Engineer will calculate the thickness adjustment in accordance with Article 4.06.04.

TABLE 4.06-3: THICKNESS TOLERANCES

Mixture Designation	Lift Tolerance
S1	+/- ⅜ inch
S0.25, S0.375, S0.5	+/- ¼ inch

Where the thickness of the lift of mixture is less than that shown on the plans beyond the tolerances shown in Table 4.06-3, the Contractor, with the approval of the Engineer, shall take corrective action in accordance with this specification.

b) Area- Where the width of the lift exceeds that shown on the plans by more than the specified thickness, the Engineer will calculate the area adjustment in accordance with Article 4.06.04.
c) Delivered Weight of Mixture - When the delivery ticket shows that the vehicle exceeds the allowable gross weight for the vehicle type, the Engineer will calculate the weight adjustment in accordance with Article 4.06.04.

Transverse Joints: All transverse joints shall be formed by saw-cutting to expose the full thickness of the lift. Tack coat shall be applied to the sawn face immediately prior to additional mixture being placed.

Compaction: The Contractor shall compact the mixture to meet the density requirements as stated in Article 4.06.03 and eliminate all roller marks without displacement, shoving, cracking, or aggregate breakage.

When placing a lift with a specified thickness less than one and one-half (1 ½) inches, or a wedge course, the Contractor shall provide a minimum rolling pattern as determined by the development of a compaction curve. The procedure to be used shall be documented in the Contractor's QCP for placement and demonstrated on the first day of placement.
The use of the vibratory system on concrete structures is prohibited. When approved by the Engineer, the Contractor may operate a roller using an oscillatory system at the lowest frequency setting.

If the Engineer determines that the use of compaction equipment in the dynamic mode may damage highway components, utilities, or adjacent property, the Contractor shall provide alternate compaction equipment. The Engineer may allow the Contractor to operate rollers in the dynamic mode using the oscillatory system at the lowest frequency setting.

Rollers operating in the dynamic mode shall be shut off when changing directions.

These allowances will not relieve the Contractor from meeting pavement compaction requirements.

Surface Requirements:
Each lift of the surface course shall not vary more than ¼ inch from a Contractor-supplied 10 foot straightedge. For all other lifts, the tolerance shall be ⅜ inch. Such tolerance will apply to all paved areas.

Any surface that exhibits these characteristics or exceeds these tolerances shall be corrected by the Contractor at its own expense.

7. Longitudinal Joint Construction Methods: The Contractor shall use Method I- Notched Wedge Joint (see Figure 4.06-1) when constructing longitudinal joints where lift thicknesses are between 1½ and 3 inches. S1.0 mixtures shall be excluded from using Method I. Method II Butt Joint (see Figure 4.06-2) shall be used for lifts less than 1½ inches or greater than or equal to 3 inches. During placement of multiple lifts, the longitudinal joint shall be constructed in such a manner that it is located at least 6 inches from the joint in the lift immediately below. The joint in the final lift shall be at the centerline or at lane lines. Each longitudinal joint shall maintain a consistent offset from the centerline of the roadway along its entire length.

The difference in elevation between the two faces of any completed longitudinal joint shall not exceed ¼ inch in any location.

Method I - Notched Wedge Joint:

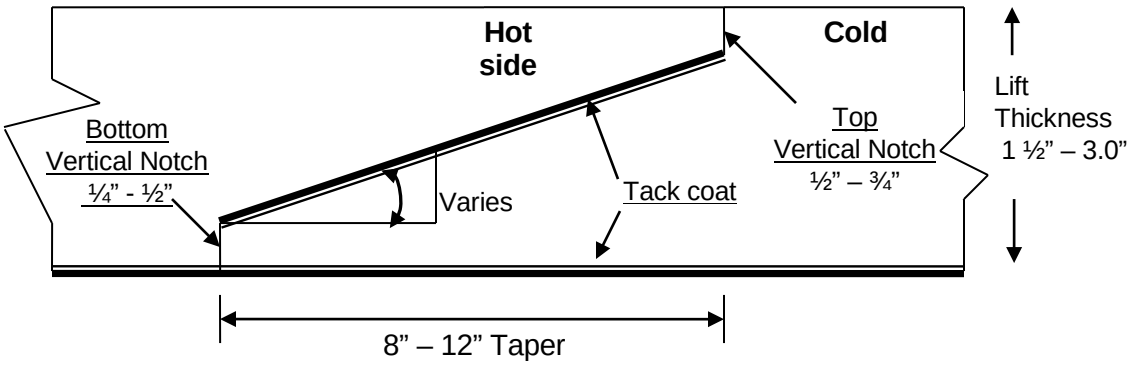

FIGURE 4.06-1: Notched Wedge Joint

A notched wedge joint shall be constructed as shown in Figure 4.06-1 using a device that is attached to the paver screed and is capable of independently adjusting the top and bottom vertical notches. The device shall have an integrated vibratory system.

The taper portion of the wedge joint must be placed over the longitudinal joint in the lift immediately below. The top vertical notch must be located at the centerline or lane line in the final lift. The requirement for paving full width "curb to curb" as described in Method II may be waived if addressed in the QC plan and approved by the Engineer.

The taper portion of the wedge joint shall be evenly compacted using equipment other than the paver or notch wedge joint device.

The taper portion of the wedge joint shall not be exposed to traffic for more than 5 calendar days.

Any exposed wedge joint must be located to allow for the free draining of water from the road surface.

The Engineer reserves the right to define the paving limits when using a wedge joint that will be exposed to traffic.

If Method I, Notched Wedge Joint cannot be used on lifts between 1.5 and 3 inches, Method III Butt Joint may be substituted according to the requirements below for "Method III – Butt Joint with Hot Pour Rubberized Asphalt Treatment."

Method II - Butt Joint:

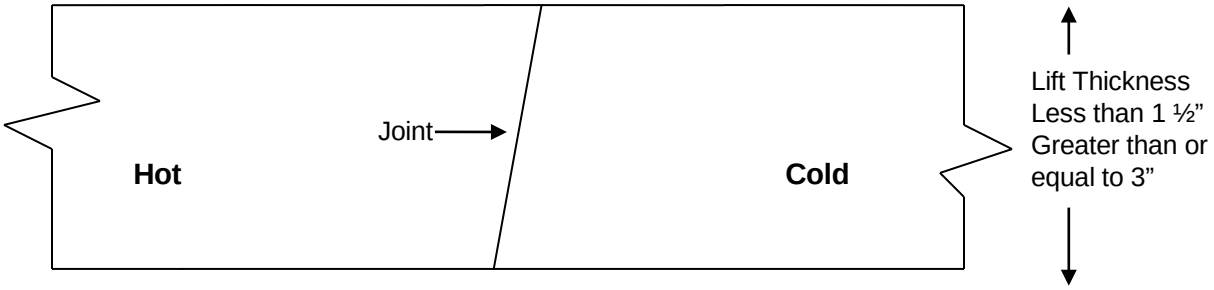

FIGURE 4.06-2: Butt Joint

When adjoining passes are placed, the Contractor shall utilize equipment that creates a near vertical edge (refer to Figure 4.06-2). The completing pass (hot side) shall have sufficient mixture so that the compacted thickness is not less than the previous pass (cold side). The end gate on the paver should be set so there is an overlap onto the cold side of the joint.

The Contractor shall not allow any butt joint to be incomplete at the end of a work shift unless otherwise allowed by the Engineer. When using this method, the Contractor is not allowed to leave a vertical edge exposed at the end of a work shift and must complete paving of the roadway full width "curb to curb."

Method III- Butt Joint with Hot Poured Rubberized Asphalt Treatment: If Method I Wedge Joint cannot be used due to physical constraints in certain limited locations; the contractor may submit a request in writing for approval by the Engineer, to utilize Method III Butt Joint as a substitution in those locations. There shall be no additional measurement or payment made when the Method III Butt Joint is substituted for the Method I Notched Wedge Joint. When required by the contract or approved by the Engineer, Method III (see Figure 4.06-3) shall be used.

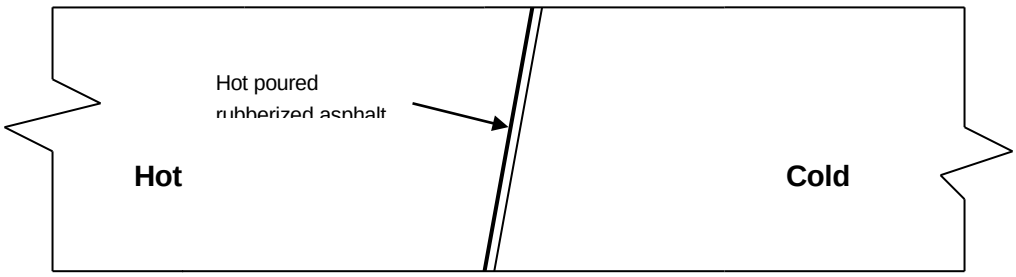

FIGURE 4.06-3: Butt Joint with Hot Poured Rubberized Asphalt Treatment

All of the requirements of Method II must be met with Method III. In addition, the longitudinal vertical edge must be treated with a rubberized joint seal material meeting the requirements of ASTM D 6690, Type 2. The joint sealant shall be placed on the face of the "cold side" of the butt joint as shown above prior to placing the "hot side" of the butt joint. The joint seal material shall be applied in accordance with the manufacturer's recommendation so as to provide a uniform coverage and avoid excess bleeding onto the newly placed pavement.

8. Contractor Quality Control (QC) Requirements: The Contractor shall be responsible for maintaining adequate quality control procedures throughout the production and placement operations. Therefore, the Contractor must ensure that the materials, mixture and work provided by Subcontractors, Suppliers and Producers also meet contract specification requirements.

This effort must be documented in Quality Control Plans and address the actions, inspection, or sampling and testing necessary to keep the production and placement operations in control, to determine when an operation has gone out of control and to respond to correct the situation in a timely fashion.

The Standard QCP for production shall consist of the quality control program specific to the production facility.

There are three components to the QCP for placement: a Standard QCP, a Project Summary Sheet that details project specific information, and if applicable a separate Extended Season Paving Plan as required in Section 9 “Temperature and Seasonal Requirements”.

The Standard QCP for both production and placement shall be submitted to the Department for approval each calendar year and.at a minimum of 30 days prior to production or placement.

Production or placement shall not occur until all QCP components have been approved by the Engineer.

Each QCP shall include the name and qualifications of a Quality Control Manager (QCM). The QCM shall be responsible for the administration of the QCP, and any modifications that may become necessary. The QCM shall have the ability to direct all Contractor personnel on the project during paving operations. All Contractor sampling, inspection and test reports shall be reviewed and signed by the QCM prior to submittal to the Engineer. The QCPs shall also include the name and qualifications of any outside testing laboratory performing any QC functions on behalf of the Contractor.

Approval of the QCP does not relieve the Contractor of its responsibility to comply with the project specifications. The Contractor may modify the QCPs as work progresses and must document the changes in writing prior to resuming operations. These changes include but are not limited to changes in quality control procedures or personnel. The Department reserves the right to deny significant changes to the QCPs.

QCP for Production: Refer to Section M.04.03-1.

QCP for Placement: The Standard QCP, Project Summary Sheet, and Extended Season Paving Plan shall conform to the format provided by the Engineer. The format is available at http://www.ct.gov/dot/lib/dot/documents/dconstruction/pat/qcp_outline_hma_placement.pdf.

The Contractor shall perform all quality control sampling and testing, provide inspection, and exercise management control to ensure that placement conforms to the requirements as outlined in its QCP during all phases of the work. The Contractor shall document these activities for each day of placement.

The Contractor shall submit complete field density testing and inspection records to the Engineer within 48 hours in a manner acceptable to the Engineer.

The Contractor may obtain one (1) mat core and one (1) joint core per day for process control, provided this process is detailed in the QCP. The results of these process control cores shall not be used to dispute the Department determinations from the acceptance cores. The Contractor shall submit the location of each process control core to the Engineer for approval prior to taking the core. The core holes shall be filled to the same requirements described in sub-article 4.06.03-10.

9. Temperature and Seasonal Requirements: Paving, including placement of temporary pavements, shall be divided into two seasons, “In-Season” and “Extended-Season”. In-Season paving occurs from May 1 – October 14, and Extended Season paving occurs from October 15- April 30. The following requirements shall apply unless otherwise authorized or directed by the Engineer:

- Mixtures shall not be placed when the air or sub base temperature is less than 40°F regardless of the season.

- Should paving operations be scheduled during the Extended Season, the Contractor must submit an Extended Season Paving Plan for the project that addresses minimum delivered mix temperature considering WMA, PMA or other additives, maximum paver speed, enhanced rolling patterns and the method to balance mixture delivery and placement operations. Paving during Extended Season shall not commence until the Engineer has approved the plan.

10. **Obtaining Bituminous Concrete Cores:** This Section describes the methodology and sampling frequency the Contractor shall use to obtain pavement cores.

Coring shall be performed on each lift specified to a thickness of one and one-half (1 ½) inches or more within 5 days of placement. The Contractor shall extract cores (4 or 6 inch diameter for S0.25, S0.375 and S0.5 mixtures 6 inch diameter for S1.0 mixtures) from locations determined by the Engineer. The Engineer must witness the extraction, labeling of cores and filling of the core holes.

A density lot will be complete when the full designed paving width and length of the lot has been placed and shall include all longitudinal joints between the curb lines. HMA S1 mixes are excluded from the longitudinal joint density requirements.

A standard density lot is the quantity of material placed within the defined area exclusive of any structures. A combo density lot is the quantity of material placed within the defined area inclusive of structures less than or equal to 500 feet long. A bridge density lot is the quantity of material placed on a structure larger than 500 feet in length.

Prior to paving, the type and number of lot (s) shall be determined by the Engineer. The number of cores per lot shall be determined in accordance to Tables 4.06-4, 4.06-5A and 4.06-5B. Noncontiguous areas such as highway ramps may be combined to create one lot. Combined areas should be set up to target a 2000 ton lot size. The longitudinal locations of mat cores within a lot containing multiple paving passes will be determined using the total distance covered by the paver. The locations of the joint cores will be determined using the total length of longitudinal joints within the lot.

Sampling is in accordance with the following tables:

TABLE 4.06-4: BRIDGE DENSITY LOT(S)

Length of Each Structure (Feet)	No. of Mat Cores	No. of Joint Cores
≤ 500’	See Table 4.06-5(A or B)	See Table 4.06-5(A or B)
501’ – 1500’	3	3
1501’ – 2500’	4	4
2501’ and greater	5	5

All material placed on structures less than or equal to 500 feet in length shall be included as part of a standard lot as follows:

TABLE 4.06-5A: STANDARD AND COMBO DENSITY LOT(S) > 500 TONS

<table>
<tr><th>Lot Type</th><th colspan="2">No. of Mat Cores</th><th colspan="2">No. of Joint Cores</th><th>Target Lot Size (Tons)</th></tr>
<tr><td>Standard Lot / Without Bridge (s)</td><td colspan="2">4</td><td colspan="2">4</td><td>2000</td></tr>
<tr><td rowspan="2">Combo Lot / Lot With Bridge(s)[1]</td><td rowspan="2">4 plus</td><td>1 per structure (≤ 300’)</td><td rowspan="2">4 plus</td><td>1 per structure (≤ 300’)</td><td rowspan="2">2000</td></tr>
<tr><td>2 per structure (301’ – 500’)</td><td>2 per structure (301’ – 500’)</td></tr>
</table>

TABLE 4.06-5B: STANDARD AND COMBO DENSITY LOT < 500 TONS

Lot Type	No. of Mat Cores		No. of Joint Cores	
Standard Lot / Without Bridge (s)	3		3	
Combo Lot / Lot With Bridge(s)[(1)]	2 plus	1 per structure	2 plus	1 per structure

Note:
(1) If a combo lot mat or joint core location randomly falls on a structure, the core is to be obtained on the structure in addition to the core(s) required on the structure.

After the lift has been compacted and cooled, the Contractor shall cut cores to a depth equal to or greater than the lift thickness and remove them without damaging the lift(s) to be tested. Any core that is damaged or obviously defective while being obtained will be replaced with a new core from a location within 2 feet measured in a longitudinal direction.

A mat core shall not be located any closer than one foot from the edge of a paver pass. If a random number locates a core less than one foot from any edge, the location will be adjusted by the Engineer so that the outer edge of the core is one foot from the edge of the paver pass.

Method I, Notched Wedge Joint cores shall be taken so that the center of the core is 5 inches from the visible joint on the hot mat side (Figure 4.06-5).

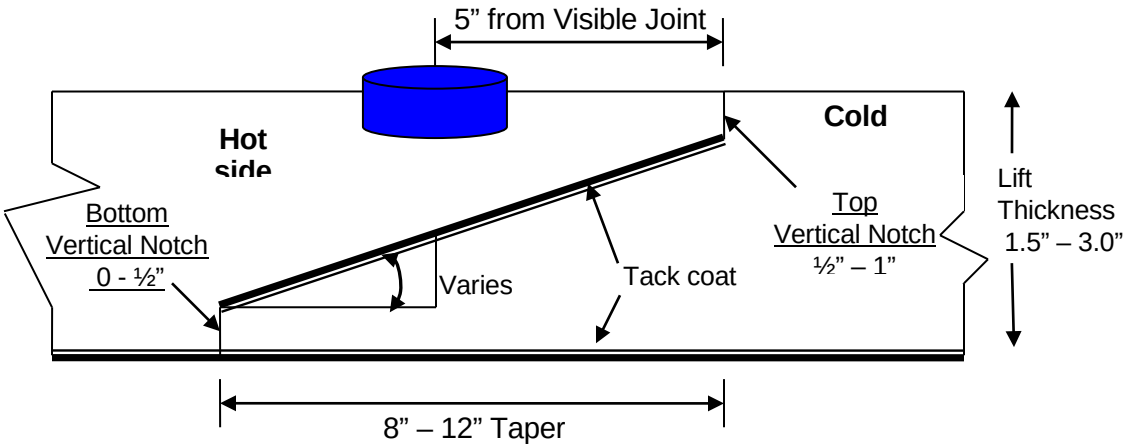

FIGURE 4.06-5: Notched Wedge Joint Cores

When Method II or Method III Butt Joint is utilized, cores shall be taken from the hot side so the edge of the core is within 1 inch of the longitudinal joint.

The cores shall be labeled by the Contractor with the project number, date placed, lot number and sub-lot number. The core’s label shall, include “M” for a mat core and “J” for a joint core. A mat core from the second lot and first sub-lot shall be labeled “M2 – 1” (Figure 4.06-4). The Engineer shall fill out a MAT-109 to accompany the cores. The Contractor shall deliver the cores and MAT-109 to the Department’s Central Lab. The Contractor shall use a container approved by the Engineer. The container shall have a lid capable of being locked shut and tamper proof. The Contractor shall use foam, bubble wrap, or another suitable material to prevent the cores from being damaged during handling and transportation. Once the cores and MAT-109 are in the container the Engineer will secure the lid using a security seal. The security

seal's identification number must be documented on the MAT-109. Central Lab personnel will break the security seal and take possession of the cores.

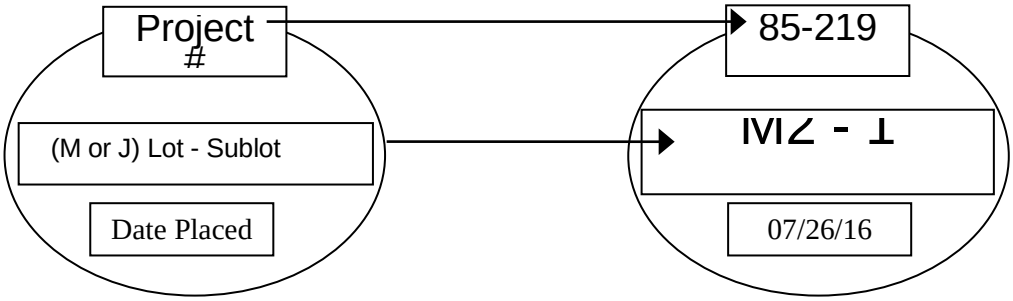

FIGURE 4.06-4: Labeling of Cores

Each core hole shall be filled within four hours upon core extraction. Prior to being filled, the hole shall be prepared by removing any free water and applying tack coat using a brush or other means to uniformly cover the cut surface. The core hole shall be filled using a bituminous concrete mixture at a minimum temperature of 240ºF containing the same or smaller nominal maximum aggregate size and compacted with a hand compactor or other mechanical means to the maximum compaction possible. The bituminous concrete shall be compacted to ⅛ inch above the finished pavement.

11. Acceptance Sampling and Testing: Sampling and testing shall be performed at a frequency not less than the minimum frequency specified in Section M.04 and sub-article 4.06.03-10.

Sampling shall be performed in accordance with ASTM D 3665, or a statistically based procedure of stratified random sampling approved by the Engineer.

Plant Material Acceptance: The Contractor shall provide the required sampling and testing during all phases of the work in accordance with Section M.04. The Department will verify the Contractor's acceptance test results. Should any test results exceed the specified tolerances in the Department's current QA Program for Materials, the Contractor test results for a subject lot or sub lot may be replaced with the Department's results for the purpose of calculating adjustments. The verification procedure is included in the Department's current QA Program for Materials.

Density Acceptance: The Engineer will perform all acceptance testing in accordance with AASHTO T 331. The density of each core will be determined using the daily production's average maximum theoretical specific gravity (Gmm) established during the testing of the parent material at the Plant. When there was no testing of the parent material or any Gmm exceeds the specified tolerances in the Department's current QA Program for Materials, the Engineer will determine the maximum theoretical density value to be used for density calculations.

12. Density Dispute Resolution Process: The Contractor and Engineer will work in partnership to avoid potential conflicts and to resolve any differences that may arise during quality control or acceptance testing for density. Both parties will review their sampling and testing procedures and results and share their findings. If the Contractor disputes the Engineer's test results, the Contractor must submit in writing a request to initiate the Dispute Resolution Process within 7 calendar days of the notification of the test results. No request for dispute resolution will be allowed unless the Contractor provides quality control results within the timeframe described in sub-article 4.06.03-9 supporting its position. No request for Dispute Resolution will be allowed for a Density Lot in which any core was not taken within the required 5 calendar days of placement. Should the dispute not be resolved through evaluation of existing testing data or procedures, the Engineer may authorize the Contractor to obtain a new set of core samples per disputed

lot. The core samples must be extracted no later than 14 calendar days from the date of Engineer's authorization.

The number and location (mat, joint, or structure) of the cores taken for dispute resolution must reflect the number and location of the original cores. The location of each core shall be randomly located within the respective original sub lot. All such cores shall be extracted and the core hole filled using the procedure outlined in Article 4.06.03. The dispute resolution results shall be added to the original results and averaged for determining the final in-place density value.

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

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

b) Any corrective courses placed as the final wearing surface shall match the specified lift thickness after compaction.

14. Protection of the Work: The Contractor shall protect all sections of the newly finished pavement from damage that may occur as a result of the Contractor's operations for the duration of the Project.

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

4.06.04—Method of Measurement:

1. HMA S* or PMA S*: The quantity of bituminous concrete measured for payment will be determined by the documented net weight in tons accepted by the Engineer in accordance with this specification and Section M.04.

2. Adjustments: Adjustments may be applied to bituminous concrete quantities and will be measured for payment using the following formulas:

Yield Factor for Adjustment Calculation = 0.0575 Tons/SY/inch

Actual Area = [(Measured Length (ft)) x (Avg. of width measurements (ft))]

Actual Thickness (t) = Total tons delivered / [Actual Area (SY) x 0.0575 Tons/SY/inch]

a) Area: If the average width exceeds the allowable tolerance, an adjustment will be made using the following formula. The tolerance for width is equal to the specified thickness (in.) of the lift being placed.

Tons Adjusted for Area (T_A) = [(L x W_{adj})/9] x (t) x 0.0575 Tons/SY/inch = (-) Tons

Where: L = Length (ft)
(t) = Actual thickness (inches)
W_{adj} = (Designed width (ft) + tolerance /12) - Measured Width)

b) Thickness: If the actual average thickness is less than the allowable tolerance, the Contractor shall submit a repair procedure to the Engineer for approval. If the actual thickness exceeds the allowable tolerance, an adjustment will be made using the following formula:

Tons Adjusted for Thickness (T_T) = A x t_{adj} x 0.0575 = (-) Tons

Where: A = Area = {[L x (Designed width + tolerance (lift thickness)/12)] / 9}
t_{adj} = Adjusted thickness = [(Dt + tolerance) - Actual thickness]
Dt = Designed thickness (inches)

c) Weight: If the quantity of bituminous concrete representing the mixture delivered to the project is in excess of the allowable gross vehicle weight (GVW) for each vehicle, an adjustment will be made using the following formula:

Tons Adjusted for Weight (T_W) = GVW – DGW= (-) Tons

Where: DGW = Delivered gross weight as shown on the delivery ticket or measured on a certified scale.

d) Mixture Adjustment: The quantity of bituminous concrete representing the production lot at the Plant will be adjusted as follow:

i. Non-PWL Production Lot (less than 3500 tons):
The adjustment values in Table 4.06-6 and 4.06-7 shall be calculated for each sub lot based on the Air Void (AV) and Asphalt Binder Content (PB) test results for that sub lot. The total adjustment for each day's production (lot) will be computed using tables and the following formulas:

Tons Adjusted for Superpave Design (TSD) = [(AdjAVt + AdjPBt) / 100] X Tons

Percent Adjustment for Air Voids = $AdjAV_t = [AdjAV_1 + AdjAV_2 + AdjAV_i + \ldots + AdjAV_n)] /n$

Where: $AdjAV_t$ = Total percent air void adjustment value for the lot
$AdjAV_i$ = Adjustment value from Table 4.06-7 resulting from each sub lot or the average of the adjustment values resulting from multiple tests within a sub lot, as approved by the Engineer.
n = number of sub lots based on Table M.04.03-2

TABLE 4.06-6: Adjustment Values for Air Voids

Adjustment Value ($AdjAV_i$) (%)	S0.25, S0.375, S0.5, S1 Air Voids (AV)
+2.5	3.8 - 4.2
+3.125*(AV-3)	3.0 - 3.7
-3.125*(AV-5)	4.3 – 5.0
20*(AV-3)	2.3 – 2.9
-20*(AV-5)	5.1 – 5.7
-20.0	≤ 2.2 or ≥ 5.8

Percent Adjustment for Asphalt Binder $AdjPB_t$ = [$(AdjPB_1 + AdjPB_2 + AdjPB_i + \ldots + AdjPB_n)$] / n

Where: $AdjPB_t$= Total percent asphalt binder adjustment value for the lot

$AdjPB_i$ = Adjustment value from Table 4.06-7 resulting from each sub lot
n = number of binder tests in a production lot

TABLE 4.06-7: Adjustment Values for Binder Content

Adjustment Value ($AdjAV_i$) (%)	**S0.25, S0.375, S0.5, S1 Pb**
0.0	JMF Pb ± 0.3
- 10.0	≤ JMF Pb - 0.4 or ≥ JMF Pb + 0.4

ii. PWL Production Lot (3500 tons or more):

For each lot, the adjustment values shall be calculated based on PWL for AV, VMA and PB test results. The lot will be considered as being normally distributed and all applicable equations in AASHTO R9 and AASHTO R42 Appendix X4 will apply.

Only one test result will be considered for each sub lot. The specification limits are listed in Section M.04.

For AV, PB and voids in mineral aggregate (VMA), the individual material quality characteristic adjustment (Adj) will be calculated as follow:

For PWL between 50 and 90%: $Adj(AV_t \text{ or } PB_t \text{ or } VMA_t) = (55 + 0.5\ PWL) - 100$
For PWL at and above 90%: $Adj(AV_t \text{ or } PB_t \text{ or } VMA_t) = (77.5 + 0.25\ PWL) - 100$

Where:
$AdjAV_t$ = Total percent AV adjustment value for the lot
$AdjPB_t$= Total percent PB adjustment value for the lot
$AdjVMA_t$= Total percent VMA adjustment value for the lot

Lots with PWL less than 50% in any of the three individual material quality characteristics will be evaluated under 1.06.04.

The total adjustment for each production lot will be computed using the following formula:

Tons Adjusted for Superpave Design (T_{SD}) = $[(0.5AdjAV_t + 0.25AdjPB_t + 0.25\ AdjVMA_t) / 100]$ X Tons

iii. Partial Lots:

Lots with less than 4 sublots will be combined with the prior lot. If there is no prior lot with equivalent material or if the last test result of the prior lot is over 30 calendar days old, the adjustment will be calculated as indicated in 4.06.04-2.d.i.
Lots with 4 or more sublots will be calculated as indicated in 4.06.04-2.d.ii.

e) Density Adjustment: The quantity of bituminous concrete measured for payment in a lift of pavement specified to be 1½ inches or greater may be adjusted for density. Separate density adjustments will be made for each lot and will not be combined to establish one density adjustment. The final lot quantity shall be the difference between the total payable tons for the project and the sum of the previous lots. If either the Mat or Joint adjustment value is “remove and replace”, the density lot shall be removed and replaced (curb to curb).

No positive adjustment will be applied to a Density Lot in which any core was not taken within the required 5 calendar days of placement.

Tons Adjusted for Density (T_D) = $[\{(PA_M \times .50) + (PA_J \times .50)\} / 100]$ X Density Lot Tons

Where: T_D = Total tons adjusted for density for each lot
PA_M = Mat density percent adjustment from Table 4.06-9
PA_J = Joint density percent adjustment from Table 4.06-10

TABLE 4.06-9: Adjustment Values for Pavement Mat density

Average Core Result Percent Mat Density	Percent Adjustment (Bridge and Non-Bridge) (1)(2)
97.1 - 100	-1.667*(ACRPD-98.5)
94.5 – 97.0	+2.5
93.5 – 94.4	+2.5*(ACRPD-93.5)
92.0 – 93.4	0
90.0 – 91.9	-5*(92-ACRPD)
88.0 – 89.9	-10*(91-ACRPD)
87.0 – 87.9	-30
86.9 or less	Remove and Replace (curb to curb)

TABLE 4.06-10: Adjustment Values for Pavement Joint Density

Average Core Result Percent Joint Density	Percent Adjustment (Bridge and Non-Bridge) (1)(2)
97.1 – 100	-1.667*(ACRPD-98.5)
93.5 – 97.0	+2.5
92.0 – 93.4	+1.667*(ACRPD-92)
91.0 – 91.9	0
89.0 – 90.9	-7.5*(91-ACRPD)
88.0 – 88.9	-15*(90-ACRPD)
87.0 – 87.9	-30
86.9 or less	Remove and Replace (curb to curb)

(1) ACRPD = Average Core Result Percent Density
(2) All Percent Adjustments to be rounded to the second decimal place. For example, 1.667 is to be rounded to 1.67.

3. Transitions for Roadway Surface: The installation of permanent transitions shall be measured under the appropriate item used in the formation of the transition.

The quantity of material used for the installation of temporary transitions shall be measured for payment under the appropriate item used in the formation of the transition. The installation and removal of a bond breaker, and the removal and disposal of any temporary transition formed by milling or with bituminous concrete pavement is not measured for payment.

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

5. Material for Tack Coat: The quantity of tack coat will be measured for payment by the number of gallons furnished and applied on the Project and approved by the Engineer. No tack coat material shall be included that is placed in excess of the tolerance described in Article 4.06.03.

a. Container Method- Material furnished in a container will be measured to the nearest ½ gallon. The volume will be determined by either measuring the volume in the original container by a method approved by the Engineer or using a separate graduated container capable of measuring the volume to the nearest ½ gallon. The container in which the material is furnished must include the description of material, including lot number or batch number and manufacturer or product source.

b. Vehicle Method-

i. Measured by Weight: The number of gallons furnished will be determined by weighing the material on calibrated scales furnished by the Contractor. To convert weight to gallons, one of the following formulas will be used:

$$\text{Tack Coat (gallons at 60°F)} = \frac{\text{Measured Weight (pounds)}}{\text{Weight per gallon at 60°F}}$$

$$\text{Tack Coat (gallons at 60°F)} = \frac{\text{Wt\% x Measured Weight (pounds)}}{\text{Weight per gallon at 77°F}}$$

ii. Measured by automated metering system on the delivery vehicle:

Tack Coat (gallons at 60°F) = Factor (from Table 4.06-11) multiplied by the measured gallons.

TABLE 4.06-11: Factor to Convert Volume of Tack Coat to 60°F

Tack Coat Application Temperature (°F)	Factor	Tack Coat Application Temperature (°F)	Factor
75	0.996	120	0.985
80	0.995	125	0.984
85	0.994	130	0.983
90	0.993	135	0.982
95	0.991	140	0.980
100	0.990	145	0.979
105	0.989	150	0.978
110	0.988	155	0.977
115	0.986	160	0.976

6. Material Transfer Vehicle (MTV): The furnishing and use of a MTV will be measured separately for payment based on the actual number of surface course tons delivered to a paver using the MTV.

4.06.05—Basis of Payment:

1. HMA S* or PMA S*: The furnishing and placing of bituminous concrete will be paid for at the Contract unit price per ton for “HMA S*” or “PMA S*”.

- All costs associated with providing illumination of the work area are included in the general cost of the work.
- All costs associated with cleaning the surface to be paved, including mechanical sweeping, are included in the general cost of the work. All costs associated with constructing longitudinal joints are included in the general cost of the work.
- All costs associated with obtaining cores for acceptance testing and dispute resolution are included in the general cost of the work.

2. Bituminous Concrete Adjustment Costs: The adjustment will be calculated using the formulas shown below if all of the measured adjustments in Article 4.06.04 are not equal to zero. A positive or negative adjustment will be applied to monies due the Contractor.

Production Lot: $[T_T + T_A + T_W + T_{SD}]$ x Unit Price = Est. (P)

Density Lot: T_D x Unit Price = Est. (D)

Where: Unit Price = Contract unit price per ton per type of mixture
T_* = Total tons of each adjustment calculated in Article 4.06.04
Est. ( ) = Pay Unit represented in dollars representing incentive or disincentive.

The Bituminous Concrete Adjustment Cost item if included in the bid proposal or estimate is not to be altered by the Contractor.

3. Transitions for Roadway Surface: The installation of permanent transitions shall be paid under the appropriate item used in the formation of the transition. The quantity of material used for the installation of temporary transitions shall be paid under the appropriate pay item used in the formation of the transition. The installation and removal of a bond breaker, and the removal and disposal of any temporary transition formed by milling or with bituminous concrete pavement is included in the general cost of the work.

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

5. Material for tack coat will be paid for at the Contract unit price per gallon at 60°F for "Material for Tack Coat".

4. The Material Transfer Vehicle (MTV) will be paid at the Contract unit price per ton for a "Material Transfer Vehicle".

Pay Item*	Pay Unit*
HMA S*	ton
PMA S*	ton
Bituminous Concrete Adjustment Cost	est.
Material for Tack Coat	gal.
Material Transfer Vehicle	ton

ITEM # 0201001A CLEARING AND GRUBBING

Description:

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

Construction Methods:

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

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

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

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

Branches, limbs, and roots shall not be cut except by permission or at the direction of the Engineer. All cutting shall be smoothly and neatly done without splitting or crushing. In case of cutting or unavoidable injury to branches, limbs, and trunks of trees, the cut or injured portions shall be neatly trimmed and covered with an application of grafting wax or tree-healing paint, as directed.

Cultivated hedges, shrubs, and plant that might be injured by the Contractor's operations shall be protected by suitable means or shall be dug up and temporarily replanted and maintained. After the construction operations have been substantially completed, they shall be replanted in their original positions and cared for until growth is re-established. If cultivated hedges, shrubs, and plants are injured to such a degree as to affect their growth or diminish their beauty or usefulness, they shall be replaced by items of kind and quality at least equal to the kind and quality existing at the start of the work at the Contractor's expense.

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

Clearing: From areas to be cleared, the Contractor shall cut or otherwise remove all trees, saplings, brush, vines, and other vegetable matter such as snags, sawdust, bark, etc., and refuse. The area to be cleared shall be confined to the width shown on the plans or as required for proper execution of the work. Vines, brush, and similar undergrowth shall be cut as close to the ground as practicable. Trees may be cut leaving

a longer stump to facilitate their removal by power-operated equipment. No trees shall be cut or trimmed unless they are so indicated on the drawings.

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

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

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

Wood Posts: Wood Posts located within the vicinity of the proposed 1" water service installation shall be removed, stored, and reset in their existing location after final grading and surface restoration has been completed.

Fences: Fences located within the vicinity of the proposed 1" water service installation shall be removed, stored, and reset in their existing location after final grading and surface restoration has been completed.

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

Measurement and Payment:

Except as provided otherwise in the Bid Proposal or Special Conditions, this work shall be paid for at the contract lump sum price for "Clearing and Grubbing" as listed in the Bid Proposal, which price shall include protection of existing trees and vegetation, installation of high visibility construction fence, tree removal, clearing and grubbing within the limits of the work, stump grinding, removal and disposal of trees, roots, stumps, brush, Removal, storage, and resetting of existing wood posts, Removal, storage, and resetting of existing fencing, leveling of areas to accommodate the work, removing and resetting traffic signs and mailboxes, and all labor, materials, tools, and equipment necessary thereto.

Item No.	Description	Unit
0201001A	CLEARING AND GRUBBING	L.S.

ITEM # 0219011A SEDIMENT CONTROL SYSTEM AT CATCH BASIN

Description:

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

Materials:

Sediment control sacks shall be the "Siltsack" product as manufactured by ACF Environmental or approved equal. Curb inlet (Type 'C') catch basins shall use a "Type B – High Flow" siltsack (with gutter deflector) without the optional overflow. Flat top (Type C-L) catch basin shall use a "Type A – High Flow" siltsack without the optional overflow.

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

Construction Methods:

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

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

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

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

The sediment control sack is reusable. Once the construction cycle is complete, the sedimentation control sack shall be removed from the basin and cleaned.

Basis of Payment:

Sediment control sacks shall be paid for at the contract unit price for "Sedimentation Control System at Catch Basin" as listed in the Bid Proposal for each unit provided and installed. Maintenance of the sediment control sacks, removal and proper disposal of accumulated sediment, and cleaning after completion of construction as described herein shall also to be included in this bid price.

Item No.	Description	Unit
0219011A	SEDIMENT CONTROL SYSTEM AT CATCH BASIN	EA.

ITEM # 0404100A BITUMINOUS CONCRETE PATCHING – FULL DEPTH

Description:

The Contractor shall furnish all labor, materials, tools, and equipment necessary and shall construct full depth pavement patches in areas as shown on the plans and as directed by the Engineer. Pavement shall be installed per the typical pavement repair detail and constructed to the existing pavement cross section depicted on the plans or as identified in the field.

Prior to excavation in paved areas, the Contractor shall cut the surface of the existing pavement with a pneumatic cutter or it's equal. The pavement shall be cut in as straight a line as possible on both sides of the proposed patch for the entire length of the job.

Bulky Waste Access Driveway Pavement Section within the proposed work area:

Depth:	**Material:**	**Material Equivalent:**
1"	Bituminous Concrete Class 2	(HMA S0.375")
1-1/2"	Bituminous Concrete Binder Course	(HMA S0.5")
6"	Process Aggregate Base	(Processed Stone Base)
10"	Gravel Base	(Subbase)

Materials:

All materials for Bituminous Concrete Patching shall be as per Section M.04 Special Provision included in this contract.

Processed Stone Base: The material for this item shall be **crushed trap rock** conforming to the requirements of Article M.05.01 Processed Aggregate Base and Pavement of the Form 817, except that coarse aggregate shall be broken stone, and fine aggregate shall be stone sand, screenings, or a combination thereof. Gravel or reclaimed miscellaneous aggregate shall not be used.

Subbase: The material for this item shall conform to the requirements of Article M.02.02-Subbase Grading "C" Gravel, except that reclaimed miscellaneous aggregate shall not be used.

Construction Methods:

The following procedure shall be followed when making a full depth pavement patch.

The 10-inch depth of subgrade material shall be installed in two 5-inch thick lifts and compacted to 95% density to provide a firm base over the entire disturbed area. The 6" Process Aggregate Base shall be installed and compacted to 95% density. The area immediately adjacent to the edges of the trench must be swept clean so that no loose sand, temporary patch, or other debris remains, and the exposed edges of the pavement cuts coated with a tack coat approved by the Engineer prior to installation of bituminous materials..

A 1-1/2-inch thick lift of Bituminous Concrete Binder Course (HMA 0.5") bituminous binder course of shall be placed and compacted. A 1-inch thick lift of Bituminous Concrete Class 2 (HMA 0.375") bituminous wearing surface shall be placed and compacted to match the existing pavement surface elevation.

All depth measurements shall be considered to be compacted depths. Bituminous material shall be compacted to a minimum 90% density.

The Contractor shall remove and acceptably dispose of all excavated material before proceeding with the remainder of the work.

Method of Measurement:

Bituminous Concrete Patching-Full Depth will be measured by the accepted number of square yards complete in place. There will be no direct payment for saw cutting, removal of pavement, removal of curbing, excavation, formation of subgrade, fine grading,

Basis of Payment:

The construction of Bituminous Concrete Patching-Full Depth shall be paid for at the contract price per square yard. The unit price shall include removal of pavement, removal of curbing, excavation, formation of subgrade, subbase, fine grading, furnishing and placing bituminous concrete, saw cutting, compaction, tack coat, and all other labor, equipment, and materials incidentals necessary to complete the work described.

Item No.	Description	Unit
0404100A	BITUMINOUS CONCRETE PATCHING-FULL DEPTH	S.Y.

ITEM # 0944000A FURNISHING AND PLACING TOPSOIL

Work under this item shall conform to the applicable provisions of Section 9.44 TOPSOIL of the Standard Specifications Form 817 amended as follows:

Basis of Payment:

This work will be measured for payment by the number of square yards of area on which the placing of the topsoil has been completed and the work accepted.

The limits of payment shall be to the slope limits as shown on the plans. In the absence of slope limits, the maximum area of measurement shall be the area extending two feet behind the sidewalk and the area between the sidewalk and edge of pavement. No payment shall be made outside of these limits unless the disturbance was directed or approved by the Engineer. No payment shall be made for areas disturbed for staging, storage of materials, or other area disturbed for the convenience of the Contractor.

This work will be paid for at the Contract unit price per square yard for "Furnishing and Placing Topsoil", which price shall include all materials, equipment, tools, labor, and work incidental thereto.

Item No.	Description	Unit
0944000A	FURNISHING AND PLACING TOPSOIL	S.Y.

ITEM # 0950005A TURF ESTABLISHMENT

Description:

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

Materials:

The materials for this work shall conform to the requirements of Section M.13 of the Form 817, except as noted below.

Seed mix for lawn areas shall consist of 30% Crest Kentucky Bluegrass, 30% Baron Kentucky Bluegrass, 20% Victory II Chewings Fescue, and 20% Perennial Rye Grass.

Seed mix for other roadside areas designated for turf establishment shall consist of 70% Red Fescue, 20% Kentucky Blue Grass, and 10% Perennial Rye Grass.

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

Hydroseeding, when required by the Engineer, shall be performed using a homogenous slurry consisting of wood fiber mulch, fertilizer, live seed, and organic tackifiers conforming to Section M.13 of the Form 817.

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

Construction Methods:

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

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

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

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

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

All disturbed soil areas shall be treated during the seeding seasons as follows:
(a) Areas at final grade: Seeding will be accomplished.

(b) "Out-of-season" seedings shall be performed in the same manner as "in-season" seedings. Since acceptable turf establishment is less likely, the Contractor shall be responsible for "in-season" reseeding until the turf stand conforms to this specification.

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

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

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

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

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

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

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

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

Method of Measurement:

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

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

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

Basis of Payment:

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

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

Item No.	Description	Unit
0950005A	TURF ESTABLISHMENT	S.Y.

ITEM # 1301301A WELL ABANDONMENT

Description:

Work under this item includes the abandonment of an existing well serving the Bulky Waste Disposal Office building by a registered Well Driller licensed in the State of Connecticut according to State and Local Health Codes. Also included in this pay item is the removal and disposal of the existing well pump and well pump electrical service located inside the office building as described below.

Construction Method:

Well abandonment shall be performed according to State and Local Health Codes.

Electrical wiring to the existing well pump shall be disconnected and the well pump, electrical connection and associated piping removed from the well casing and disposed of. Removal and abandonment of the electric service to the well shall be performed in accordance with applicable State and Local Codes and power company requirements.

The well shall be plugged to prevent the entrance of surface water, circulation of water between or among producing zones, or any other process resulting in the contamination or pollution of groundwater resources.

In the event of temporary abandonment or discontinuance of the use of any well, the well shall be sealed with a watertight cap or seal.

The well shall be chlorinated prior to abandonment using a chlorine solution with a minimum concentration of one hundred fifty parts per million (150ppm) of chlorine. This is equivalent to 5.5 quarts of bleach at 2.25% available chlorine to five hundred (500) gallons of water or three hundred thirty-three (333) feet of six (6) inch diameter well.

The well shall be checked from land surface to the entire depth of the well before it is sealed, to insure against the presence of any obstruction that will interfere with sealing operations.

The well bore shall be filled and sealed with any of the following materials: heat cement grout, sand cement grout, bentonite clay grout, or sand clay or bentonite cement grout.

The grout material shall be placed in such a way to prevent voids in the grout or dilution of the grout.

Any well constructed in a consolidated rock formation, may be filled with fine sand in the zone or zones of consolidated rock. The top of the sand fill shall be at least ten (10) feet below the bottom of the casing, and the remaining portions of the well shall be filled with any of the grout materials specified above.

Any test well or bore shall be abandoned in such a manner that it does not become a channel for the vertical movement of water or other substance to the potable ground water resources.

Deep waste disposal or oil wells with casings free of any breaks, and extending below the potable ground water zones, may be sealed with a water tight cap or welded plate.

Upon completion of the abandonment of the well, the top of the casing or grout material must be terminated at least four (4) feet below the ground surface.

After removal of the well casing, the area shall be backfilled and compacted in twelve (12) inch lifts, and the disturbed area restored with topsoil, seed, and fertilizer.

Method of Measurement:

Well Abandonment, being paid for as a lump sum basis, will not be measured for payment

Basis of Payment:

This work shall be paid for under the lump sum price for well abandonment. This price shall include all permit fees, Abandonment, Removal and disposal of the electrical well pump wiring, Removal and disposal of the existing well pump piping, furnishing and placing backfill material, compaction, labor, equipment, tools, and materials necessary thereto.

Furnishing and placing of topsoil shall be paid for under Item 0944000A-Furnish and Placing of Topsoil within the bid proposal.

Turf establishment shall be paid for under Item 0950005A-Turf Establishment within the bid proposal.

Item No.	Description	Unit
1301301A	WELL ABANDONMENT	L.S.

ITEM # 1301301A WATER SERVICE BUILDING CONNECTION

Description:

Work under this item includes the abandonment, modification and reconnection of portions of the existing well water supply piping internally serving the Bulky Waste Disposal Office building to accept the new 1" water service per the current plumbing codes. Included in this pay item is the reconnection of the existing internal building water service piping required after the removal of the existing well and water filtration system component's, reconnection to all internal water service plumbing fixtures including the existing hot water tank, sinks, toilets, etc.

Construction Method:

All required plumbing work within this contract shall be performed by a licensed plumber.

Contractor is required to make all the necessary modifications and necessary reconnections to the existing internal building water service plumbing to accept the new 1" water service per current plumbing codes.

Contractor shall supply all water service piping, valves, and fittings required to reconnect the existing building to the new 1" water service connection.

Contractor shall remove and dispose of all the existing internal building well and well filtration system components by a licensed plumber in accordance with applicable State and Local Codes.

Method of Measurement:

Water Service Building Connection, being paid for as a lump sum basis and will not be measured for payment.

Basis of Payment:

This work shall be paid for under the lump sum price for "Water Service Building Connection". This price shall include all permit fees, removal and disposal of any existing internal plumbing, removal and disposal of the existing well and well water filtration system component's, furnishing and installing internal plumbing reconnections, valves, fittings, labor, equipment, tools, and materials necessary thereto.

Item No.	Description	Unit
1301301A	WATER SERVICE BUILDING CONNECTION	L.S.

ITEM # 1301303A 1" COPPER PIPE (TYPE K)

Description:

The work specified in this section includes furnishing and installing 1-inch diameter copper pipe (Type K) as directed, to the lines and grades shown on the contract drawings, complete as shown, specified and directed The work includes, all as shown, specified and directed, transporting materials, trenching, disposing of unused excavated materials, removing and disposing of sections of present services, making connections to existing service pipes, furnishing and installing the 1" water service to the existing building complete with necessary fittings, valves, appurtenances, air valves, thrust blocks and utility identification tape, disinfecting and chlorination, backfilling and compacting of trenches, furnishing additional material for backfilling, miscellaneous grading, bracing, pumping, pressure testing, foundation coring and all incidental work, except as otherwise provided for.

Reference to "District" refers to "The Metropolitan District ".

All water service connection work shall be done in accordance with District standards.

District forces shall make the proposed 1" Copper Water Service connection to the existing 1" Copper compression fitting installed by the District within the existing meter box. The Contractor shall provide the properly shored and dewatered excavation so that District forces can make the connection.

The Contractor is advised that the detail shown on the Contract Drawings is intended only to show a typical installation, and that the exact details of any particular installation will depend on the conditions found upon excavating the existing water service. The size, type and number of components required for any water service connection may vary significantly from that shown. The Contractor shall have no claim for additional compensation beyond that indicated in the Proposal, or claim for delay, because of any work or materials required for the satisfactory completion of a water service connection.

Submittals: In accordance with the General Conditions, two (2) sets of the manufacturers' literature for the materials of this section shall be submitted for approval.

Scheduling: All taps of the water main, restraining of existing gate valves, and connection to the existing meter box will be performed by District forces upon request. Taps and restraint shall be requested a minimum of forty-eight (48) hours before they are desired by calling the District's Systems Repair Activity at 278-7850, extension 3615.

Materials:

COPPER PIPE: The copper tubing shall conform to ASTM B88, Type K of the soft variety. Tubing shall be continuous and 1-inch minimum in diameter unless shown otherwise.

FITTINGS AND VALVES: All brass fittings and valves shall be of standard design generally used by water utilities and be in accord with ASTM B 62 and ANSI/AWWA C800. The properly sized corporation will be furnished and installed by District forces.

All fittings and valves shall be compression for copper pipe or threaded for valves or wrought iron pipe. Compression fittings, valves, etc., shall be of the design employing the pipe clamp feature.

UTILITY IDENTIFICATION TAPE. The tape shall be 4-inches wide non-detectable, designed to withstand extended underground exposure, colored blue and be durably imprinted with an appropriate warning indicating the presence of the buried pipe.

Construction Methods:

INSPECTION BEFORE INSTALLATION: All tubing, pipe, fittings and valves shall be carefully examined for defects and no material shall be installed which is known to be defective. Should any defective tubing, pipe, fitting or valve be discovered after being installed, it shall be removed and replaced with sound material at no additional cost to the Town of Glastonbury.

INSTALLATION: The top of the service pipe shall be at least 4-1/2 feet below proposed finished grade and shall be laid on a 4-inch thick sand bed in the public right-of-way, the trench shall be refilled with special trench refill to the sub-grade level of the surfacing material.

Pipe shall not be laid in a trench with other pipes or conduits unless separated from the other pipes or conduits by at least 2 feet and laid on undisturbed earth shelf. All service pipes shall be laid, in so far as is practicable, in a straight line from the main pipe to the connection point unless otherwise approved by the Engineer. At least 18" inches clearance shall be maintained when the service is installed beneath storm and/or sanitary sewers.

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

The new water service components shall be installed complete, from the new 1 " copper compression fitting within the water meter box to the point on the existing well water piping to remain where a minimum 4.5' of proposed cover will be maintained throughout the length of the water service. The existing well water service components shall be removed as required for the installation of the new water service.

Prior to making final water service connection, Contractor is required to disinfect and chlorinate the new service per MDC Standards.

Method of Measurement:

This work will be measured for payment by the accepted number of linear feet of "1" Copper Pipe (Type K)" installed and accepted by the Engineer.

The 4-inch sand bed and the bank run gravel used for trench backfill will not be measured for payment, but will be considered as included in the price bid for "1" Copper Pipe (Type K)".

Utility identification tape will not be measured for payment, but will be considered as included in the price bid for "1" Copper Pipe (Type K)".

Support of excavation and dewatering will not be measured for payment, but will be considered as included in the price bid for "1" Copper Pipe (Type K)".

Basis of Payment:

This work will be paid for at the Contract unit price per linear foot "1" Copper Pipe (Type K)", installed, complete and accepted, which prices shall include trenching, shoring, dewatering, bedding material, backfill, compaction, all fittings and valves, disinfecting and chlorination, pressure testing, foundation coring, existing building connections, all materials, equipment, tools and labor incidental thereto.

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

Item No.	Description	Unit
1301303A	1" COPPER PIPE (TYPE K)	L.F.

ATTACHMENT A:
PLANS AND DETAILS

TOWN OF GLASTONBURY
ENGINEERING DEPARTMENT
BULKY WASTE
WATER SERVICE INSTALLATION
located at
1145 TRYON STREET
GLASTONBURY, CONNECTICUT

LOCATION MAP
SCALE: 1"=1000'

AUGUST 2020

RICHARD J. JOHNSON
TOWN MANAGER

DANIEL A. PENNINGTON
MANAGER OF PHYSICAL SERVICES/TOWN ENGINEER

SHEET INDEX

GENERAL NOTES:

1. THESE PLANS HAVE BEEN PREPARED BY THE TOWN GLASTONBURY ENGINEERING DIVISION.
2. ALL WORK UNDER THIS CONTRACT IS TO BE COVERED BY AND IN CONFORMITY WITH THE STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROADS, BRIDGES, FACILITIES AND INCIDENTAL CONSTRUCTION, FORM 817, 2016 INCLUDING SUPPLEMENT DATED JULY 2019 GOVERN.
3. PROJECT OWNER IS THE TOWN OF GLASTONBURY
4. PARCEL AREA: 51.68± ACRES
5. PROJECT AREA IS ZONED RESERVE LAND
6. THE LOCATION OF UNDERGROUND UTILITIES DEPICTED HEREIN ARE BASED ON INFORMATION PROVIDED BY OTHERS AND SHOULD BE CONSIDERED APPROXIMATE. THE ACTUAL LOCATIONS MAY VARY FROM THAT INDICATED ON THE PLANS AND ALL UNDERGROUND UTILITIES MAY NOT BE SHOWN. CONTRACTOR SHALL CONTACT CALL BEFORE YOU DIG TO VERIFY THE LOCATION OF ALL UNDERGROUND UTILITIES AND RESOLVE CONFLICTS PRIOR TO STARTING CONSTRUCTION.
7. TOPOGRAPHY DEPICTED ON THE PLANS IS BASED ON LIMITED FIELD SURVEY CONDUCTED BY THE TOWN OF GLASTONBURY IN OCTOBER, 2019. HORIZONTAL COORDINATES ARE BASED ON NAD83, VERTICAL DATUM IS NGVD88.
8. THE CONTRACTOR SHALL NOTIFY THE TOWN OF GLASTONBURY ENGINEERING DIVISION 24 HOURS PRIOR TO BEGINNING ANY STORM DRAINAGE, SANITARY SEWER INSTALLATION, ROADWAY PREPARATION, PAVING, SIDEWALK, CURBING, OR ANY EXCAVATION IN THE TOWN RIGHT OF WAY TO SCHEDULE INSPECTIONS. THE DIVISION CAN BE REACHED BETWEEN 8:00 AM – 4:30 PM MONDAY THRU FRIDAY AT (860) 652–7735.
9. THE CONTRACTOR IS REQUIRED TO MAINTAIN AN INGRESS/EGRESS TRAVEL PATH NOT LESS THAN 12 FEET IN WIDTH AT ALL TIMES DURING WORK REQUIRED WITHIN THE BULKY WASTE DISPOSAL SITE ACCESS DRIVEWAY DURING OPERATING HOURS. DAILY TRAFFIC TO THIS SITE CONSISTS OF RESIDENTIAL DISPOSAL VISITS ALONG WITH A MATERIAL TRUCKING ACTIVITY FROM THE ACTIVE GRAVEL PIT OPERATIONS, LOCATED ON THE EASTERLY PORTION OF THE PROPERTY, REQUIRING ACCESS TO THE EXISTING SCALE HOUSE WEIGHT STATION.

MAP REFERENCES:

1. "OLD MAIDS LANE AND TRYON STREET WATER MAIN EXTENSION CONTRACT NO. 2019–MDC–01 TRYON STREET PLAN AND PROFILE STA. 30+00 TO STA. 36.74.0 THE METROPOLITAN DISTRICT 555 MAIN STREET HARTFORD CONNECTICUT SHEET NO. C–4, SCALE: 1"=40' HOR. 1"=10' VER., DESIGNED BY: F.C., DRAWN BY: E.D. DATE: 4/30/19"
2. "THE CONNECTICUT LIGHT & POWER COMPANY – A NORTHEAST UTILITIES COMPANY – ELECTRIC FACILITIES ON LAND OF THE TOWN OF GLASTONBURY CT. JOB: SERVICE TO FAA–LOM SITE DISTRICT:EAST HAMPTON TOWN: GLASTONBURY TOWN CLERK MAP NO.: 3900"
3. "TOWN OF GLASTONBURY CONNECTICUT PUBLIC WORKS DEPARTMENT – BULKY WASTE DISPOSAL SITE PLOT PLAN OF LOCATION FOR SANITATION FACILITIES SHEET: 1 OF 1, DRAWN: HEK 4–80, SCALE: 1"=40', FILE: DRAWER TRYON STREET 42"
4. "TOWN OF GLASTONBURY CONNECTICUT PUBLIC WORKS DEPARTMENT – BULKY WASTE DISPOSAL SITE FIELD OFFICE SHEET: 1 OF 1, DRAWN: K.H.B. 5–80, DESIGNED: K.H.B. 5–80, P.W. #7601, FILE: DRAWER TRYON STREET 43"

PW-1908

NO.	DESCRIPTION	DATE
1.	————	————

DRAWING ISSUE STATUS

SCALE: AS SHOWN	DATE:
DRAWN BY: GJM	10/2019
CHECKED BY: S.M.B.	12/2019
APPROVED BY: D.A.P.	12/2019
ST. FILE:	

DO NOT SCALE THIS DRAWING. USE THE DIMENSIONS GIVEN. IF THERE ARE ANY DISCREPANCIES OR QUESTIONS, CONTACT THE TOWN OF GLASTONBURY, ENGINEERING OFFICE.

GRID NORTH

TOWN OF GLASTONBURY
BULKY WASTE
WATER SERVICE INSTALLATION
LOCATED ON
1145 TRYON STREET
GLASTONBURY, CONNECTICUT

SHEET NO.
1
OF 4

NOTES:

UNDERGROUND UTILITY, STRUCTURE AND FACILITY LOCATIONS DEPICTED AND NOTED HEREON HAVE BEEN COMPILED IN PART FROM RECORD MAPPING SUPPLIED BY THE RESPECTIVE UTILITY COMPANIES OR GOVERNMENTAL AGENCIES, FROM PAROLE TESTIMONY AND FROM OTHER SOURCES. THESE LOCATIONS MUST BE CONSIDERED AS APPROXIMATE IN NATURE. ADDITIONALLY, OTHER SUCH FEATURES MAY EXIST ON THE SITE, THE EXISTANCE OF WHICH ARE UNKNOWN TO THE UNDERSIGNED. THE SIZE, LOCATION AND EXISTANCE OF ALL SUCH FEATURES MUST BE FIELD DETERMINED AND VERIFIED BY THE APPROPRIATE AUTHORITIES PRIOR TO CONSTRUCTION. CALL BEFORE YOU DIG 1-800-922-4455 OR 811.

THE CONTRACTOR SHALL NOTIFY THE TOWN OF GLASTONBURY ENGINEERING DIVISION 24 HOURS PRIOR TO BEGINNING ANY STORM DRAINAGE, SANITARY SEWER INSTALLATION, ROADWAY PREPARATION, PAVING, SIDEWALK, CURBING, OR ANY EXCAVATION IN THE TOWN RIGHT OF WAY TO SCHEDULE INSPECTIONS. THE DIVISION CAN BE REACHED BETWEEN 8:00 AM – 4:30 PM MONDAY THRU FRIDAY AT (860) 652-7735.

THE CONTRACTOR SHALL COORDINATE WITH THE METROPOLITAN DISTRICT COMMISSION (MDC) FOR THE WATER SERVICE CONNECTION TO THE EXISTING FORD BOX.

THE CONTRACTOR IS REQUIRED TO MAINTAIN AN INGRESS/EGRESS TRAVEL PATH NOT LESS THAN 12 FEET IN WIDTH AT ALL TIMES DURING WORK REQUIRED WITHIN THE BULKY WASTE DISPOSAL SITE ACCESS DRIVEWAY DURING OPERATING HOURS. DAILY TRAFFIC TO THIS SITE CONSISTS OF RESIDENTIAL DISPOSAL VISITS ALONG WITH A MATERIAL TRUCKING ACTIVITY FROM THE ACTIVE GRAVEL PIT OPERATIONS, LOCATED ON THE EASTERLY PORTION OF THE PROPERTY, REQUIRING ACCESS TO THE EXISTING SCALE HOUSE WEIGHT STATION.

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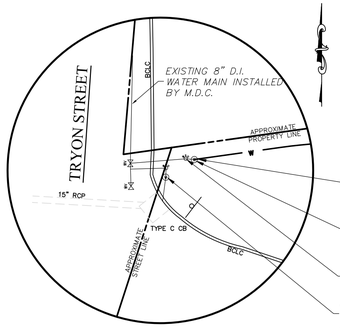
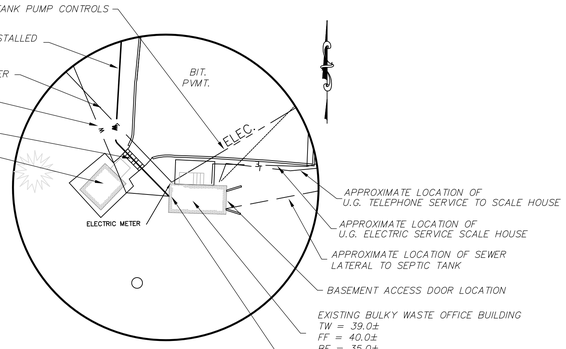


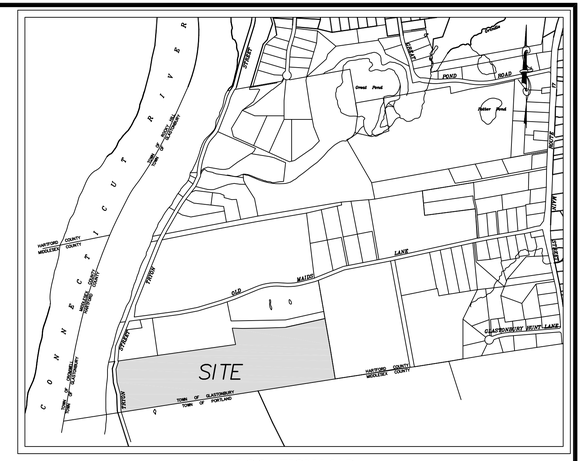
ENLARGEMENT A

N.T.S.



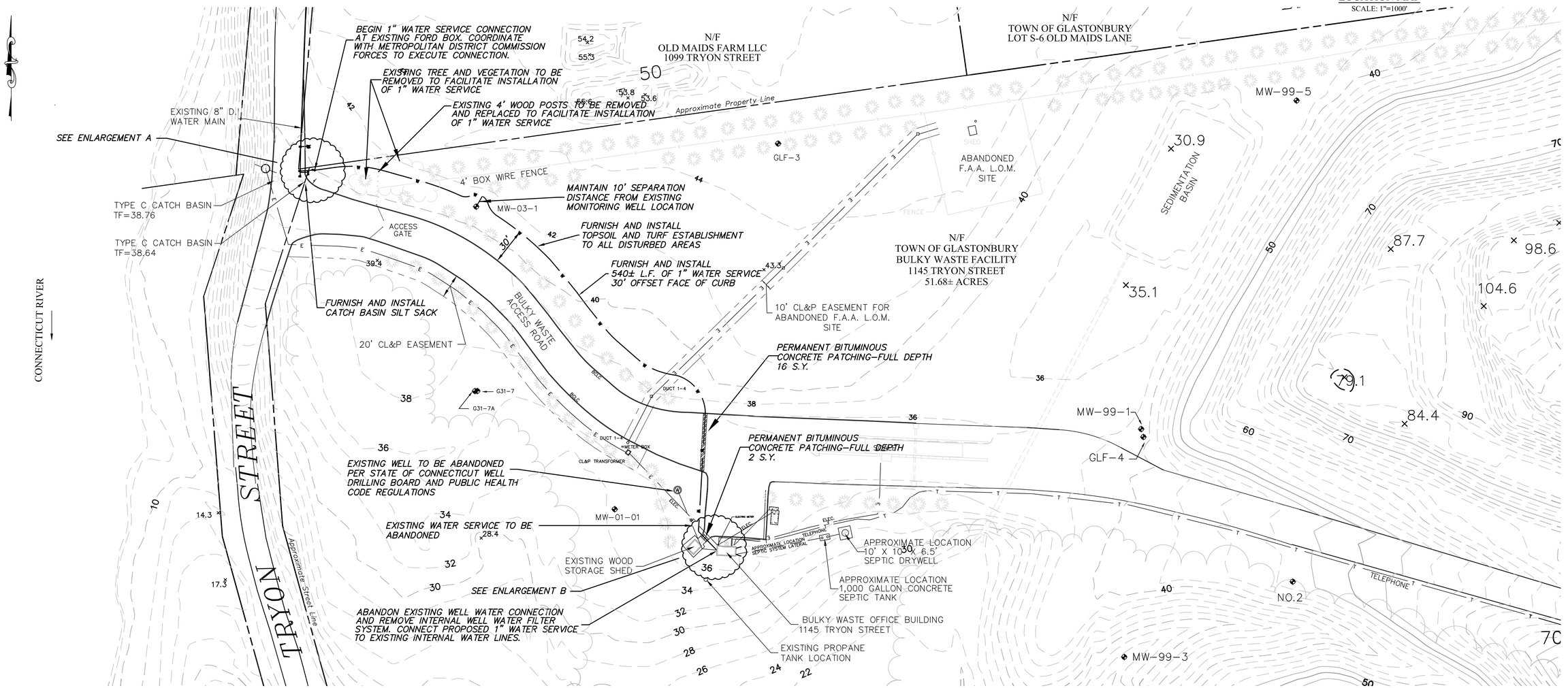
ENLARGEMENT B

N.T.S.



LOCATION MAP

SCALE: 1"=1000'



GRAPHIC SCALE

40 0 20 40 80 160

(IN FEET)

1 inch = 40 ft.

Certified to be substantially correct

DANIEL A. PENNINGTON P.E. Reg. No. 20101

NO.	DESCRIPTION	DATE
	DRAWING ISSUE STATUS	
1.	-----	-----

PW-1908

SCALE: AS SHOWN	DATE:
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GRID NORTH

TOWN OF GLASTONBURY BULKY WASTE WATER SERVICE INSTALLATION LOCATED ON 1145 TRYON STREET GLASTONBURY, CONNECTICUT

SHEET NO. 2 OF 4

PROJECT NARRATIVE:

PROJECT IS FOR THE INSTALLATION OF APPROXIMATELY 524 LF OF 1" WATER SERVICE PIPING TO SERVICE THE EXISTING BULKY WASTE OFFICE BUILDING. PROJECT INVOLVES TRENCHING, INSTALLATION OF A 1" WATER SERVICE PIPING, BACKFILLING AND COMPACTING OF TRENCHES, AND TURF AND PAVEMENT RESTORATION.

AREA OF DISTURBANCE: APPROXIMATELY 1,620 S.F. / 0.04± ACRES

CONSTRUCTION SEQUENCING:

1. CONTRACTOR SHALL NOTIFY C.B.Y.D. TO MARK OUT EXISTING UTILITY LOCATIONS PRIOR TO BEGINNING ANY EXCAVATION.
2. CONTRACTOR TO INSTALL ALL EROSION AND SEDIMENTATION CONTROL DEVICES IN THE LOCATIONS DEPICTED ON THE PLANS.
3. CONTRACTOR SHALL REMOVE ALL TREES AND VEGETATION REQUIRED TO FACILITATE INSTALLATION OF THE PROPOSED WATER SERVICE IN THE LOCATIONS DEPICTED ON THE PLANS OR AS DIRECTED BY THE ENGINEER.
4. CONTRACTOR SHALL EXCAVATE AND LOCATE THE PROPOSED WATER SERVICE CONNECTION POINT AT THE EXISTING WATER METER BOX AND COORDINATE WITH M.D.C. FORCES TO MAKE THE NEW CONNECTION.
5. CONTRACTOR SHALL SAW CUT EXISTING BITUMINOUS PAVEMENT IN THE LOCATIONS DEPICTED ON THE PLANS OR AS DIRECTED BY THE ENGINEER.
6. CONTRACTOR SHALL BEGIN TRENCH EXCAVATION, WATER SERVICE INSTALLATION, BACKFILLING , AND COMPACTION THE ENTIRE LENGTH REQUIRED AS DEPICTED ON THE PLANS OR AS DIRECTED BY THE ENGINEER.
7. CONTRACTOR SHALL CONNECT THE NEW WATER SERVICE TO THE EXISTING BULKY WASTE FACILITY EXISTING INTERNAL PLUMBING. CONTRACTOR SHALL MAKE ALL THE NECESSARY MODIFICATIONS TO THE EXISTING INTERNAL PLUMBING REQUIRED.
8. CONTRACTOR SHALL ABANDON THE EXISTING WELL AND REMOVE AND DISPOSE OF THE EXISTING WELL PUMP. PUMP ELECTRICAL WIRING.
9. CONTRACTOR SHALL PERFORM ALL TURF AND PAVEMENT RESTORATION OF ALL DISTURBED AREAS.
10. CONTRACTOR SHALL REMOVE ALL EROSION AND SEDIMENTATION CONTROL MEASURES ONCE THE SITE HAS BEEN STABILIZED.

PROJECT SPECIFIC SEDIMENTATION AND EROSION CONTROL PLAN

CONSTRUCTION ACTIVITIES OF CONCERN RELATIVE TO THE PROTECTION OF ADJACENT WETLANDS AND WATERCOURSES FROM SEDIMENTATION ARE AS FOLLOWS:

1. PROTECTION OF EXISTING STORM DRAIN INLETS: SEDIMENT CONTROL SACKS SHALL BE INSTALLED IN ALL STORM DRAIN INLETS PRIOR TO THE START OF CONSTRUCTION TO PROTECT THEM FROM SEDIMENT. IT IS IMPERATIVE TO ROUTINELY INSPECT, MAINTAIN, AND REPLACE SEDIMENT CONTROL SACKS SINCE MOST STORMWATER COLLECTED AND CONVEYED ON THE DISTURBED AREAS WILL FLOW TOWARD AND INTO THE EXISTING INLETS WHICH ULTIMATELY DISCHARGE INTO WETLANDS AND WATERCOURSES.

2. WIND EROSION / DUST CONTROL: CONTRACTOR SHALL MONITOR THE CONDITION OF EXPOSED SOIL, PARTICULARLY IN ROADWAY AREAS, TO MINIMIZE POTENTIAL FOR WIND EROSION AND CONTROL DUST CREATED BY VEHICULAR TRAFFIC ON UNPAVED SURFACES. CALCIUM CHLORIDE AND/OR WATER SHALL BE APPLIED FOR DUST CONTROL AS NECESSARY THROUGHOUT THE DURATION OF CONSTRUCTION.

3. DEWATERING: OPEN TRENCH EXCAVATIONS WILL NEED TO BE DEWATERED AS NECESSARY FOR PROPER INSTALLATION OF THE PROPOSED PIPES. IN THESE AREAS, ALL WATER REMOVED FROM THE TRENCH SHALL BE ADEQUATELY TREATED PRIOR TO DISCHARGE USING MEASURES DESCRIBED IN SECTION 5-13 OF THE 2002 CT GUIDELINES FOR EROSION AND SEDIMENT CONTROL. THIS MAY INCLUDE A STONE SUMP AND STANDPIPE FOR PUMP INTAKE PROTECTION, AND A DIRT BAG OR PUMPING SETTLING BASIN FOR TREATMENT OF THE PUMPED WATER PRIOR TO DISCHARGE.

4. STOCKPILING: EXCAVATED MATERIAL SHALL NOT BE STOCKPILED ADJACENT TO STORM DRAIN INLETS, WETLANDS, OR WATERCOURSES. WHEN IT IS NECESSARY BASED ON THE PROPOSED METHODS OF CONSTRUCTION TO STAGE EXCAVATED MATERIAL FOR SHORT DURATIONS IN THE VICINITY OF STORM DRAIN INLETS, THESE INLETS SHALL BE PROPERLY PROTECTED AS DESCRIBED ON THE PLANS. LONGER DURATION STOCKPILING OF MATERIAL, WHEN NECESSARY, SHALL BE ONLY IN LOCATIONS APPROVED IN ADVANCE BY THE ENGINEER, AND SUCH STOCKPILES SHALL BE RINGED WITH A SEDIMENTATION CONTROL SYSTEM.

5. DISTURBED AREAS: LIMITS OF DISTURBANCE SHALL BE IN STRICT ACCORDANCE WITH THE APPROVED PLAN. ALL AREAS DISTURBED BY CONSTRUCTION SHALL BE STABILIZED WITH THE FINAL SURFACE TREATMENT AS SOON AS POSSIBLE AFTER CONSTRUCTION ACTIVITIES ARE COMPLETED. DISTURBED AREAS WITH STEEP OR LONG SLOPES AND OTHER AREAS WITH SIGNIFICANT POTENTIAL FOR CAUSING SEDIMENTATION SHALL BE PROTECTED WITH TEMPORARY STRAW MULCH, WOOD CHIPS, EROSION CONTROL MATTING, OR OTHER SUITABLE MATERIALS PRIOR TO SIGNIFICANT FORECASTED RAIN STORM EVENTS TO REDUCE EROSION POTENTIAL.

6. DRAINAGE WAYS: CONSTRUCTION OF DITCHES, CHANNELS, THAT ACTIVELY CONVEY FLOW SHALL BE PERFORMED SUCH THAT THE PORTION OF DRAINAGE WAY DISTURBED DURING A GIVEN DAY IS COMPLETED WITH THE PERMANENT LINING BY DAYS END, OR OTHERWISE AS NECESSARY TO PROVIDE FOR TEMPORARY BYPASS OF STORMWATER AND ENSURE THAT DOWNSTREAM WETLAND AREAS ARE PROTECTED FROM SEDIMENTATION AND EROSION OF THE CHANNEL.

7. CULVERTS CONVEYING WATERCOURSES: CULVERTS CONVEYING WATERCOURSES SHALL BE CONSTRUCTED IN SUCH A MANNER AS TO PROVIDE A TEMPORARY BYPASS OF THE WORK AREA THROUGH A TEMPORARY PIPE OR OTHER MEANS APPROVED BY THE ENGINEER AT THE END OF EACH WORK DAY AS REQUIRED TO CONVEY STORMWATER THROUGH THE WORK AREA AND ENSURE THAT DOWNSTREAM WETLAND AREAS ARE PROTECTED FROM SEDIMENTATION AND EROSION.

8. TRAVEL AREAS: A STONE CONSTRUCTION ENTRANCE SHALL BE INSTALLED AS SHOWN ON THE PLANS AS REQUIRED TO PREVENT SOIL FROM BEING TRACKED OUT OF THE CONSTRUCTION SITE AND INTO THE ROAD. THIS CONSTRUCTION ENTRANCE SHALL BE MAINTAINED UNTIL ALL DISTURBED AREAS OF THE PROJECT HAVE BEEN RESTORED.

9. SEVERE WEATHER CONTINGENCY PLAN: IN ADVANCE OF A SEVERE WEATHER EVENT, ALL EROSION CONTROLS DESCRIBED ABOVE AND ELSEWHERE ON THE PLANS SHALL BE INSPECTED AND ADJUSTED AS NECESSARY.

RESPONSIBLE PARTIES:

THE CONTRACTOR SHALL PROVIDE A REPRESENTATIVE WHO IS RESPONSIBLE FOR IMPLEMENTING THE EROSION AND SEDIMENTATION CONTROL PLAN. THIS INCLUDES THE INSTALLATION AND MAINTENANCE OF ALL CONTROL MEASURES, INFORMING ALL PARTIES ENGAGED ON THE CONSTRUCTION SITE OF THE REQUIREMENTS AND OBJECTIVES OF THE PLAN.

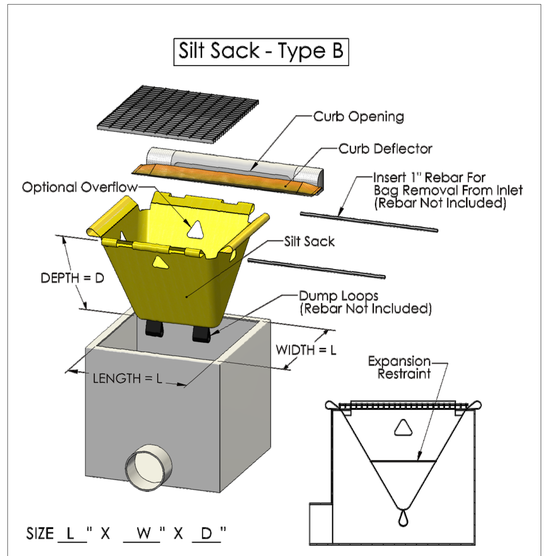
GENERAL SEDIMENTATION AND EROSION CONTROL REQUIREMENTS:

THESE GUIDELINES SHALL APPLY TO ALL WORK CONSISTING OF ANY AND ALL TEMPORARY AND/OR PERMANENT MEASURES TO CONTROL WATER POLLUTION AND SOIL EROSION AS MAY BE REQUIRED, DURING THE CONSTRUCTION OF THE PROJECT.

IN GENERAL, ALL ACTIVITIES SHALL PROCEED IN SUCH A MANNER SO AS NOT TO POLLUTE ANY WETLANDS, WATERCOURSE, WATERBODY, AND CONDUIT CARRYING WATER, ETC. THE DEPARTMENT OF PHYSICAL SERVICES SHALL LIMIT, INSOFAR AS POSSIBLE, THE SURFACE AREA OF EARTH MATERIALS EXPOSED BY CONSTRUCTION METHODS, AND IMMEDIATELY PROVIDE PERMANENT AND TEMPORARY POLLUTION CONTROL MEASURES TO PREVENT CONTAMINATION OF ADJACENT WETLANDS, WATERCOURSES AND WATERBODIES, AND TO PREVENT, INSOFAR AS POSSIBLE, EROSION ON THE SITE.

CONSTRUCTION METHODS, IN GENERAL, SHALL BE IN ACCORDANCE WITH THE PROVISIONS SET FORTH IN THE "GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL" (2002) BY THE STATE OF CONNECTICUT COUNCIL ON SOIL AND WATER CONSERVATION.

1. ALL CONTROL MEASURES SHALL BE INSTALLED AS NOTED ABOVE AND AS SHOWN ON THE PLANS.
2. ALL CONTROL MEASURES SHALL BE INSPECTED AND APPROVED BY THE ENGINEER PRIOR TO COMMENCEMENT OF ANY WORK, INCLUDING PRE-CONSTRUCTION CLEARING AND GRUBBING.
3. ALL CONTROL MEASURES SHALL BE MAINTAINED AND UPGRADED AS REQUIRED TO ACHIEVE PROPER SEDIMENT CONTROL THROUGHOUT THE CONSTRUCTION PERIOD AND UNTIL DISTURBED AREAS HAVE BEEN THOROUGHLY STABILIZED.
4. NO CONTROL MEASURES SHALL BE REMOVED WITHOUT APPROVAL FROM THE ENGINEER.
5. ADDITIONAL CONTROL MEASURES SHALL BE INSTALLED DURING THE CONSTRUCTION PERIOD IF DEEMED NECESSARY BY THE ENGINEER.
6. THE LIMITS OF CLEARING, GRADING AND DISTURBANCE, AS SHOWN ON THE PLAN(S), SHALL BE KEPT TO A MINIMUM WITHIN THE APPROVED AREA OF CONSTRUCTION. ALL AREAS OUTSIDE THE LIMITS OF CLEARING SHALL REMAIN TOTALLY INDISTURBED.
7. ANY CONTROL MEASURES RETAINING SEDIMENT OVER 1/2 THEIR HEIGHT SHALL HAVE THE SEDIMENT IMMEDIATELY REMOVED, AND ALL DAMAGED CONTROL MEASURES SHALL BE REMOVED AND REPLACED.
8. ALL NEW AND EXISTING CATCH BASINS LOCATED WITHIN THE PROJECT LIMITS SHALL BE PROTECTED WITH A SEDIMENTATION CONTROL SYSTEM IN GRASSED AREAS OR WITH A SEDIMENTATION CONTROL SACK IN PAVED AREAS UNTIL ALL DISTURBED AREAS HAVE BEEN THOROUGHLY STABILIZED.
9. SEDIMENT REMOVED FROM CONTROL MEASURES AND DRAINAGE FACILITIES SHALL BE DISPOSED OF IN A MANNER THAT IS CONSISTENT WITH STATE AND LOCAL REGULATIONS.
10. THE PLANTING SEASONS FOR THE SPECIFIED SEED MIXTURE SHALL BE AS DEFINED IN THE 2002 CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL, UNLESS DIRECTED OTHERWISE BY THE TOWN ENVIROMENTAL PLANNER. OUTSIDE OF THESE SPECIFIED DATES, AREAS WILL BE STABILIZED WITH HAYBALE CHECK DAMS, FILTER FABRIC, OR WOODCHIP MULCH AS REQUIRED TO CONTROL EROSION.



ACF ENVIRONMENTAL
Superior Ground Environmental Contractor
2831 Cardwell Road
Richmond, VA 23234
WWW.ACFENVIRONMENTAL.COM

SEDIMENT CONTROL SYSTEM
AT CATCH BASIN
N.T.S.

DRAWING ISSUE STATUS		
1.	--------	----
NO.	DESCRIPTION	DATE

PW-1908

SCALE: AS SHOWN	DATE:
DRAWN BY: GJM	10/2019
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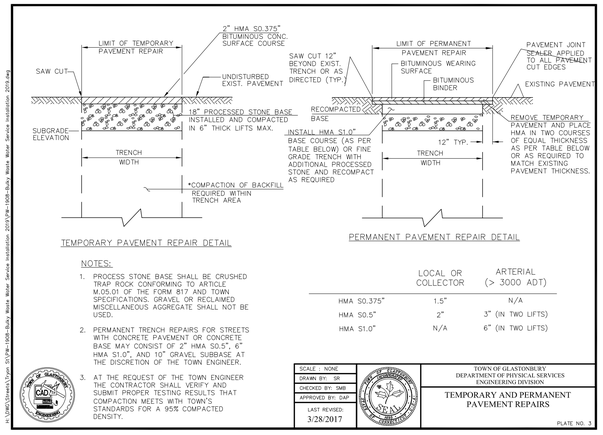
GRID NORTH

TOWN OF GLASTONBURY
BULKY WASTE
WATER SERVICE INSTALLATION
LOCATED ON
1145 TRYON STREET
GLASTONBURY, CONNECTICUT

SHEET NO. 3 OF 4



TEMPORARY PAVEMENT REPAIR DETAIL

PERMANENT PAVEMENT REPAIR DETAIL

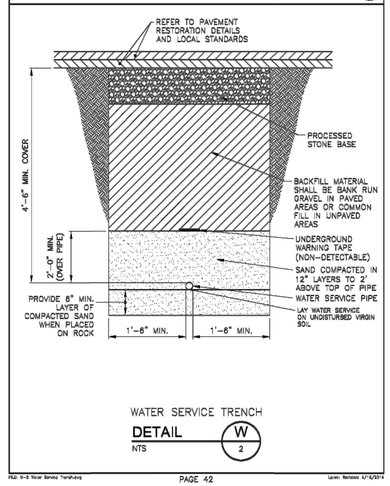
NOTES:

1. PROCESS STONE BASE SHALL BE CRUSHED TRAP ROCK CONFORMING TO ARTICLE M.05.01 OF THE FORM 817 AND TOWN SPECIFICATIONS. GRAVEL OR RECLAIMED MISCELLANEOUS AGGREGATE SHALL NOT BE USED.
2. PERMANENT TRENCH REPAIRS FOR STREETS WITH CONCRETE PAVEMENT OR CONCRETE BASE MAY CONSIST OF 2" HMA S0.5", 6" HMA S1.0", AND 10" GRAVEL SUBBASE. AT THE DISCRETION OF THE TOWN ENGINEER.
3. AT THE REQUEST OF THE TOWN ENGINEER THE CONTRACTOR SHALL VERIFY AND SUBMIT PROPER TESTING RESULTS THAT COMPACTION MEETS WITH TOWN'S STANDARDS FOR A 95% COMPACTED DENSITY.

	LOCAL OR COLLECTOR	ARTERIAL (> 3000 ADT)
HMA S0.375"	1.5"	N/A
HMA S0.5"	2"	3" (IN TWO LIFTS)
HMA S1.0"	N/A	6" (IN TWO LIFTS)

SCALE: NONE	TOWN OF GLASTONBURY DEPARTMENT OF PHYSICAL SERVICES ENGINEERING DIVISION
DRAWN BY: SR	
CHECKED BY: SMB	TEMPORARY AND PERMANENT PAVEMENT REPAIRS
APPROVED BY: DAP	
LAST REVISED: 3/28/2017	PLATE NO. 3

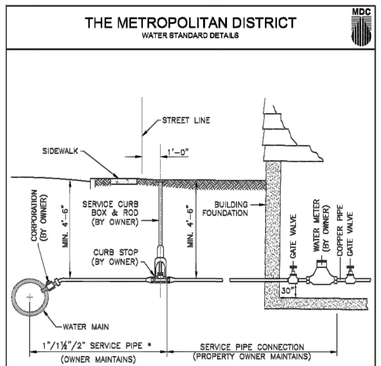
THE METROPOLITAN DISTRICT
WATER STANDARD DETAILS



WATER SERVICE TRENCH
DETAIL W 2
NTS

PAGE 42

THE METROPOLITAN DISTRICT
WATER STANDARD DETAILS



* 1-¼" PIPE IS NOT PERMITTED

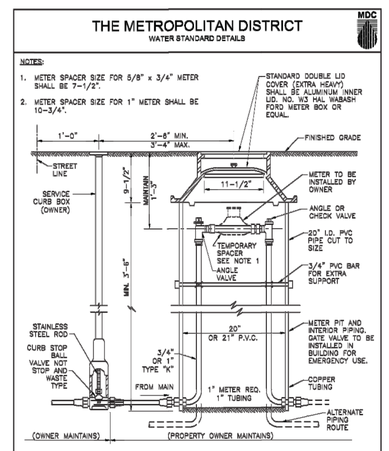
COPPER WATER SERVICE
DETAIL W 3
NTS

PAGE 43

THE METROPOLITAN DISTRICT
WATER STANDARD DETAILS

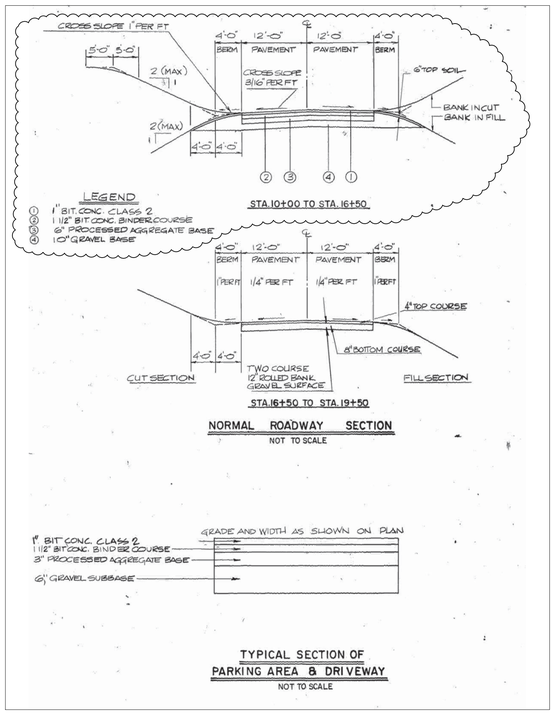
NOTES:

1. METER SPACER SIZE FOR 5/8" x 3/4" METER SHALL BE 7-1/2".
2. METER SPACER SIZE FOR 1" METER SHALL BE 10-3/4".



METER BOX FOR 1" SERVICE AND 5/8" x 3/4" TO 1" METER
DETAIL W 34
NTS

PAGE 74



NORMAL ROADWAY SECTION
NOT TO SCALE

TYPICAL SECTION OF
PARKING AREA & DRIVEWAY
NOT TO SCALE

DRAWING ISSUE STATUS		
1.	--------	----
NO.	DESCRIPTION	DATE

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GRID NORTH

TOWN OF GLASTONBURY
BULKY WASTE
WATER SERVICE INSTALLATION
LOCATED ON
1145 TRYON STREET
GLASTONBURY, CONNECTICUT

SHEET NO. 4 OF 4

OCCUPATIONAL & PROFESSIONAL TRADES

WELL ABANDONMENT, VERIFICATION OF WORK COMPLETED

Procedures followed: **All procedures used to abandon a well shall follow regulations established under Section 25-128-56 and 25-128-57 of the State of Connecticut Well Drilling Board Regulations (see attachment). These regulations require that a registered well drilling contractor perform the work.**

For water supply wells attach completed form to Well Permit. For non-water supply wells attach sketch of well location to completed form. Distribution: Department of Consumer Protection, Department of Environmental Protection, Property Owner, Well Drilling Contractor, Local Director of Health.

Well information:

Town: _____ **Date work completed:** _____

Name of Owner: _____

Address: _____

Location of well (if different from above): _____

Type of well (drilled, point, dug, etc.): _____**Depth of well:** _____

Diameter of well: _____ **Length of casing:** _____

Work details and other information:

Name of registered well drilling contractor performing work: _____

Registered well drilling contractor's license type & #: W1-# W3-# Permit # (if applicable)

Materials Used: **amount of sand** _____

amount and type(s) of grout _____

_____

Description of work completed: _____

_____

_____

_____

Signed: _____**(Well Drilling Contractor)**

REGULATIONS FOR WELL ABANDONMENT

(Regulations of Connecticut State Agencies)

Sec. 25-128-56: Abandonment of wells, responsibility

Any well that is abandoned shall not be a source or cause of contamination or pollution of ground water resources. Abandonment procedures shall be performed or directed only by a registered well driller. The registered well drilling contractor who performs the work of abandonment shall be responsible for compliance with the procedure of abandonment of the well, as provided in this part and shall notify the local health authority of the abandonment of the well.

(Effective May 21, 1993)

Sec. 25-128-57. Procedure of abandonment

In the event of abandonment of any water well or other type of well the proper procedure and materials shall be used as follows:

(a) The well shall be plugged to prevent the entrance of surface water, circulation of water between or among producing zones, or any other process resulting in the contamination or pollution of ground water resources.

(b) In the event of temporary abandonment or discontinuance of the use of any well, the well shall be sealed with a watertight cap or seal, as provided by Section 25-128-42 (c).

(c) The well shall be chlorinated prior to abandonment using a chlorine solution with a minimum concentration of one hundred fifty parts per million (150 ppm) of chlorine. This is equivalent to 5.5 quarts of bleach at 2.25% available chlorine to five hundred (500) gallons of water or three hundred thirty-three (333) feet of six (6) inch diameter well.

(d) The well shall be checked from land surface to the entire depth of the well before it is sealed, to insure against the presence of any obstruction that will interfere with sealing operations.

(e) The well bore shall be filled and sealed with any of the following materials: heat cement grout, sand cement grout, bentonite clay grout, or sand clay or bentonite cement grout.

(f) The grout material shall be placed in such a way to prevent voids in the grout or dilution of the grout.

(g) Any well constructed in a consolidated rock formation, may be filled with fine sand in the zone or zones of consolidated rock. The top of the sand fill shall be at least ten (10) feet below the bottom of the casing, and the remaining portions of the well shall be filled with any of the materials specified in subsection (e).

(h) Any test well or bore shall be abandoned in such a manner that it does not become a channel for the vertical movement of water or other substance to the potable ground water resources.

(i) Deep waste disposal or oil wells with casings free of any breaks, and extending below the potable ground water zones, may be sealed with a water tight cap or welded plate.

(j) Upon completion of abandonment of the well, the top of the casing or grout material may be terminated at least four (4) feet below the ground surface.

(Effective May 21, 1993)

SKETCH OF WELL LOCATION
Sketch exact location of well with distances to at least two permanent landmarks
 **Indicate North**

Holiday Schedule 2020

Date	Holiday 2020	Transfer Station	Bulky Waste
Monday, January 20	Martin Luther King Day	Closed *	Closed
Monday, February 17	President's Day	Closed *	Closed
Friday, April 10	Good Friday	Closed	Closed
Monday, May 25	Memorial Day	Closed *	Closed
Saturday, July 4	Independence Day	Closed	Closed
Monday, September 7	Labor Day	Closed *	Closed
Monday, October 12	Columbus Day	Closed *	Closed
Wednesday, November 11	Veteran's Day	Closed	Closed
Thursday, November 26	Thanksgiving	Closed	Closed
Friday, November 27	Day after Thanksgiving	Closed	Closed
Friday, December 25	Christmas Day	Closed	Closed
Friday, January 1, 2021	New Year's Day	Closed	Closed

* Transfer Station normally Closed on Mondays