

SPEAR STREET SLOPE STABILIZATION BID MANUAL



November 4, 2024

Charlotte Selectboard

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Town of Charlotte

Spear Street Slope Stabilization Project

November 4, 2024

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TOWN OF CHARLOTTE

SPEAR STREET SLOPE STABILIZATION

PROJECT SUMMARY

November 4, 2024

Scope of Work

The project primarily involves the construction of an embankment stabilization using approximately 1,600 CY of stone fill. The work will include tree removal, grubbing, earth excavation with off-site disposal, and the placement of filter and stone fill materials. Additional tasks include applying grubblings on the stone fill embankment, renovating road ditches, restoring the roadway, and completing all related work as specified in the bid plans

Special Conditions/Supplemental Instructions for Bidders

This list represents a quick summary of some of the issues and expectations associated with this project.

1. **Existing Conditions** – The site represents the post-flood conditions from the July 9/10 storm event. Portions of Spear Street have settled well below the original road surface. A group of trees have rotated or have fallen creating a challenging site to access.
2. **Bid Schedule** – Bid are due at 5:30 PM on Tuesday, November 19, 2024. The Bid Proposal Page and the Unit Price schedule can be emailed to Nate Bareham, Town Administrator, at townadmin@townofCharlotte.com. Hard copies are to be mailed thereafter. The Town asks that the bidders reserve time on Wednesday, November 20, 2024 between 5:30 PM and 7:00 PM to answer any questions about the submitted information. This can be in-person or via Zoom.
3. **Pre-bid Conference** - A pre-bid conference will be held at the Charlotte Town Hall at Ferry Road in Charlotte, VT on Tuesday, October 15, 2024, at 9:00 AM. The pre-bid conference is not mandatory and prospective bidders are strongly encouraged to visit the site prior to bidding.
4. **Bid Bond** – A bid bond will not be required. Performance and Payment Bonds will be required.
5. **Project Schedule** - The project schedule calls for project award approximately six (6) calendar days after the bid opening (estimated at November 25, 2024). Construction substantial completion is set for April 6, 2025 (132 days) after award of the project. The goal is to complete as much of the work prior to the April 6, 2025 Federal Highway funding completion date.

Work anticipated to be accelerated prior to the April 6, 2025 funding date includes:

- I. Dormant seeding of the grubblings placed on the stone fill embankment.
- II. Plantings of trees along the edge of the road

Work anticipated to be completed after April 6, 2025 includes:

- a. Final Paving and striping of the roadway
- b. Grow-in of the dormant seeded areas.

6. **Coordination with the Town of Charlotte and abutting Property Owners** - Only a portion of the project is located within the existing 66-foot right-of-way. A major portion of the project extends in beyond the right-of-way on the west side of the roadway. The Charlotte Land Trust controls the development rights on the west side of Spear Street. All other requirements, not specifically listed, are embedded within the contract documents.
7. **Work Adjacent to Stream** – Placement of the Stone Fill Buttress will require that work be undertaken adjacent to Mud Hollow Brook. Measures shall be implemented to avoid any work which disturbs the existing embankment of the stream.
8. **Dewatering** – Special provisions are to be employed by the Contractor as it relates to any dewatering required for the proposed construction improvements so as to avoid discharge of sediment laden water to the nearby Mud Hollow Brook. Allowable discharge characteristics are to be limited to not more than 25 NTU. Means and methods are to be implemented by the Contractor to meet this standard.
9. **Temporary Construction Access** – A potential access route from Spear Street into the work area at the base of the embankment is depicted on the plans. The method of constructing this access is at the Contractor's discretion. This access way shall be fully restored and stabilized to reflect the predevelopment conditions. Each tree greater than 4" DBH diameter shall be replaced with a 2.5" caliper tree of similar species or 6' high tree for evergreens.
10. **Construction Laydown Area** – There is no identified laydown area specific to this project.
11. **Embankment Vegetation** - Grubbings shall be placed atop the newly constructed stone fill embankment in a consistent, even layer. Material shall consist of organic matter, including cleared vegetation, roots, and topsoil remnants, free of any large rocks or debris exceeding 8 inches in diameter. The grubblings layer is to be spread to promote natural integration with the stone fill, aiding in erosion control and supporting vegetative regrowth. Placement is to

avoid compaction to maintain permeability. All grubblings must be arranged to prevent runoff and soil displacement, with slopes stabilized as necessary to withstand anticipated weather conditions until vegetation takes hold.

12. **Seeding** – The proposed overseeding of the Grubbings placed on the embankment includes not only liming, fertilization and mulch placement, but also a slope seed formulization which combined equal parts of Oliver Seed companies “Bank Mix” and the “New Hampshire Slope 44” sed mix. These breakouts are included on Sheet C6.1 and in the Special Conditions section of the Bid Manual.
13. **Foundation Drain and Backflow Prevention** – The Stone Fill Buttress at the base the embankment is to be outfitted with a foundation drain coupled with a structure which houses a proprietary backflow prevention device. Information is depicted on Sheet C5.0 and in the Special Conditions section of the Bid Manual.
14. **Measurement & Payment Section Information** – A M&P section is embedded within the bid documents, it provides a work description in addition to the means of measurement and what the scope of the payment includes. The work description is intended to be a controlling component of the bid and construction documents.
15. **Road Closure for Paving:** As soon as the guard rails are in place and the road surface is passable; the road will be temporarily opened for traffic. However, once the conditions support the final paving of the road, the road will then be temporarily closed to enable the paving of the road in the most efficient manner.

The adjacent Culvert Replacement project will provide the temporary signage to warn the travelers in the area of the temporary closure.
16. **Metal Guardrail Posts** – Are to be the standard 6-foot length.
17. **Guard Rail End Section** – At the south end the railing replacement shall utilize a radial termination as detailed in VTrans standard drawings G-1D.
18. **Temporary Office Trailer** -There is no requirements for a temporary office for the duration of the project.
19. **Material Testing** – Will be the responsibility of the Owner.
20. **Line Striping** – Line striping is to be included in the cost of the line item for Pavement Placement.
21. **Davis-Bacon Wage Rates** – The requirements for Chittenden County Highway Work are attached.

22. **Weather Delays and Time Extensions-** The Owner will grant time extensions for adverse weather conditions to be eligible for a time extension due to weather, the weather conditions need to be unusually severe and unforeseeable. Criteria to be used in considering a time extension request include:
- a. Severity: The weather must be significantly worse than what is typical for the area and time of year.
 - b. Unforeseeability: The weather event couldn't have been reasonably anticipated.
 - c. Impact on Work: The adverse weather must have directly impacted the critical path of the project, causing delays.
 - d. Documentation: The contractor must provide evidence that the weather conditions were abnormal and had an adverse effect on the construction schedule.
23. **DBE/WBE Requirements** – There are no DBE/WBE goals for this project.
24. **Project Questions** – All questions during the bid, bid review, award and Construction Phase shall be directed to the Engineer, David Marshall, P.E dmarshall@cea-vt.com (802) 864-2323 x310 who will address any questions regarding project during the bid phase and will act as the clearing house for all Addenda. contract executions, submittals, requisition review and change orders.
25. **Tax Exempt Status** – All materials purchased for the Town of Charlotte as part of this project are tax exempt. The supporting information will be provided to the bidder awarded the project.

END OF PROJECT SUMMARY

ADVERTISEMENT FOR BIDS
TOWN OF CHARLOTTE
SPEAR STREET SLOPE STABILIZATION

General Notice

The Town of Charlotte (Owner) is requesting Bids for the construction of the following Project:

SPEAR STREET SLOPE STABILIZATION

Bids for the construction of the Project will be received at the Town Administrator's Office directed to Nate Bareham by email at townadmin@townofcharlottevt.com until **Tuesday, November 19, 2024 at 5:30 PM** local time. At that time the Bids received will be publicly opened and read aloud. Four (4) paper copies of the bid shall be postmarked no later than the above bid date and mailed to PO Box 159, Charlotte, VT 05445, attention Nate Bareham, Town Administrator. Paper mailings should be clearly marked, "Spear Street Slope Stabilization".

The Project includes the following Work:

Construction of an embankment stabilization using approximately 1,600 CY of stone fill. The work will include tree removal, grubbing, earth excavation with off-site disposal, and the placement of filter and stone fill materials. Additional tasks include applying grubblings on the stone fill embankment, renovating road ditches, restoring the roadway, and completing all related work as specified in the bid plans

Bid Documents

The Contract Documents, including Bid Documents and Drawings, may be examined at the Charlotte Town Offices (802-425-3533) located at 159 Ferry Road, Charlotte, Vermont, and at Civil Engineering Associates, Inc. (802-864-2323), 10 Mansfield View Lane, South Burlington, Vermont, every weekday, between the hours of 8:00 A.M. and 4:00 P.M.

Bid Documents will be distributed by Civil Engineering Associates, Inc. for \$40 or will be distributed at no cost via e-mail in PDF format. Costs associated with mailing documents is the responsibility of the requesting party.

A non-mandatory pre-bid conference will be held at the Charlotte Town Hall at Ferry Road in Charlotte, VT on **Tuesday, November 12, 2024, at 9:00 AM**. The pre-bid conference is not mandatory and prospective bidders are strongly encouraged to visit the site prior to bidding.

Instructions to Bidders.

For all further requirements regarding bid submittal, qualifications, procedures, and contract information, and award details, refer to the Instructions to Bidders that are included in the Bidding Documents.

This Advertisement is issued by:

Owner: Town of Charlotte
By: Nate Bareham
Title: Town Administrator
Date: **November 4, 2024**

EJCDC® C-111, Advertisement for Bids for Construction Contract.

INSTRUCTIONS TO BIDDERS FOR CONSTRUCTION CONTRACT

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ARTICLE 1—QUALIFICATIONS OF BIDDERS

- 1.01 Bidder is to submit the following information with its Bid to demonstrate Bidder’s qualifications to perform the Work:
- A. Written evidence establishing its qualifications such as previous experience, present commitments and ability to complete this project in a timely manner.
 - B. A written statement that Bidder is authorized to do business in the state of Vermont, or a written certification that Bidder will obtain such authority prior to the Effective Date of the Contract.
 - C. Bidder’s state or other contractor license number, if applicable.
 - D. Provide at least two references for projects of similar scale and scope. References shall include name, email, and phone number.
 - E. Provide evidence of inclusion on VTrans list of pre-qualified Bidders list for Roads and Highway Construction.
- 1.02 A Bidder’s failure to submit required qualification information may disqualify Bidder from receiving an award of the Contract.
- 1.03 No requirement in this Article to submit information will prejudice the right of Owner to seek additional pertinent information regarding Bidder’s qualifications.

ARTICLE 2—INTERPRETATIONS AND ADDENDA

- 2.01 Owner on its own initiative may issue Addenda to clarify, correct, supplement, or change the Bidding Documents.
- 2.02 Bidder shall submit all questions about the meaning or intent of the Bidding Documents to Engineer in writing by email to Dave Marshall, Principal Engineer at dmarshall@cea-vt.com.
- 2.03 Interpretations or clarifications considered necessary by Owner in response to such questions will be issued by Addenda delivered to all registered plan holders. Questions received less than two (2) business days prior to the date for opening of Bids may not be answered.
- 2.04 Only responses set forth in an Addendum will be binding. Oral and other interpretations or clarifications will be without legal effect. Responses to questions are not part of the Contract Documents unless set forth in an Addendum that expressly modifies or supplements the Contract Documents.

ARTICLE 3—BID SECURITY & BONDING

- 3.01 Bid security is not required. Payment and Performance bonding is required.

ARTICLE 4—CONTRACT TIMES

- 4.01 The number of days within which the Work is to be substantially completed will be 155 calendar days from the Notice to Proceed or as set forth in the Agreement between the Owner and the successful bidder. The Contractor is encouraged to complete the work during low-flow time. Contract completion shall be on or before April 6, 2025.

- 4.02 The Contractor shall recognize that work will also be simultaneously being undertaken on a slope failure repair just to the north of the project site. The Contractor shall account for this constraint in the preparation of the bid. Contractor shall work with the Owner to develop a detour plan prior to implementation.

ARTICLE 5—BASIS OF BID

5.01 *Unit Price*

- A. Bidders must submit a Bid on a unit price basis for each item of Work listed in the unit price section of the Bid Form.
- B. The “Bid Price” (sometimes referred to as the extended price) for each unit price Bid item will be the product of the “Estimated Quantity”, which Owner or its representative has set forth in the Bid Form, for the item and the corresponding “Bid Unit Price” offered by the Bidder. The total of all unit price Bid items will be the sum of these “Bid Prices”; such total will be used by Owner for Bid comparison purposes.
- C. Discrepancies between the multiplication of units of Work and unit prices will be resolved in favor of the unit prices. Discrepancies between the indicated sum of any column of figures and the correct sum thereof will be resolved in favor of the correct sum.

ARTICLE 6—EVALUATION OF BIDS AND AWARD OF CONTRACT

- 6.01 Owner reserves the right to reject any or all Bids, including without limitation, nonconforming, nonresponsive, unbalanced, or conditional Bids. Owner also reserves the right to waive all minor Bid informalities not involving price, time, or changes in the Work.
- 6.02 Owner will reject the Bid of any Bidder that Owner finds, after reasonable inquiry and evaluation, to not be responsible.
- 6.03 If Bidder purports to add terms or conditions to its Bid, takes exception to any provision of the Bidding Documents, or attempts to alter the contents of the Contract Documents for purposes of the Bid, whether in the Bid itself or in a separate communication to Owner or Engineer, then Owner will reject the Bid as nonresponsive.
- 6.04 If Owner awards the contract for the Work, such award will be to the responsible Bidder submitting the lowest responsive Bid.
- 6.05 The Town/Owner reserves the right to negotiate with the lowest responsible bidder, modifications to the presented contract form, prior to entering into a final contract with the successful bidder, based on the specific terms, provisions and requirements of the project and bid documents.
- 6.06 *Evaluation of Bids*
- A. In evaluating Bids, Owner will consider whether the Bids comply with the prescribed requirements, and such alternates, unit prices, and other data, as may be requested in the Bid Form or prior to the Notice of Award.
 - B. For the determination of the apparent low Bidder when unit price bids are submitted, Bids will be compared on the basis of the total of the products of the estimated quantity of each item and unit price Bid for that item, together with any lump sum items.

- 6.07 In evaluating whether a Bidder is responsible, Owner will consider the qualifications of the Bidder.
- 6.08 Owner may conduct such investigations as Owner deems necessary to establish the responsibility, qualifications, and financial ability of Bidders and any proposed Subcontractors or Suppliers.
- 6.09 The Bidders shall reserve time between 5:30 PM and 6:30 PM on Wednesday November 27th, 2024 to be available to answer any questions by the Owner.

ARTICLE 7—CONTRACTS TO BE ASSIGNED

- 7.01 The Contractor, prior to being awarded a contract, shall apply for registration with the Vermont Secretary of State's Office to do business in the State of Vermont, if not already so registered. The registration form may be obtained from the Vermont Secretary of State, 128 State Street Montpelier, VT 05633-1101, PH: 802-828-2363, Toll-free: 800-439-8683; Vermont Relay Service – 711; web site: <https://www.sec.state.vt.us/>. The contract will not be executed until the Consultant is registered with the Secretary of State's Office. The successful Contractor will be expected to execute sub-agreements for each sub-contractor named in the proposal upon award of this contract.
- 7.02 Deleted
- 7.03 David-Bacon Wage Rates will be required to be complied with for this project.
- 7.04 Prior to beginning any work, the Contractor will execute the project Contract, provide a W-9, evidence of Workers Compensation insurance and certificate of insurance in accordance with the attached contract requirement package.
- 7.05 If the award of the contract aggrieves any firms, they may appeal in writing to the Town of Charlotte Selectboard, P.O. Box 159. Charlotte, VT 05445. The appeal must be post-marked within seven (7) calendar days following the date of written notice to award the contract. Any decision of the Town Selectboard is final and is not appealable.
- 7.06 All bids upon submission become the property of Town. The cost of preparing and submitting the bid is the sole expense of the firm. The Town reserves the right to reject any and all bids received as outlined in Article 6 or to cancel this Request for Bids in part or in its entirety if it is in the best interests of the Town. This Request for Bids in no way obligates the Town to award a contract.

ARTICLE 8—CONSTRUCTION OBSERVATION

- 8.01 The Owner will engage an Engineer to provide observation services during the active construction period of the Contract. The Engineer will provide observation of the conduct of the construction and be able to state that the work is generally being performed in substantial accordance with the Contract Documents. The Engineer shall report to the Town and the Contractor work that is unsatisfactory, faulty, or defective or does not conform to the Contract Documents.
- 8.02 The Engineer shall not undertake any of the responsibilities of the Contractor, subcontractors or the Contractor's superintendent, or expedite the Work, and shall not advise on any issue relative to safety, OSHA regulations, or the means, methods or procedures of construction.

BID PROPOSAL
FOR
SPEAR STREET SLOPE STABILIZATION

Due Date: November 19, 2024, 5:30 PM

Proposal from: _____
hereinafter called "Bidder"

"a corporation" of the State of _____

"a partnership," registered in the State of _____
(Check proper box)

Acknowledgement of Addendum #1 _____, Date Received November ____, 2024
#2 _____, Date Received November ____, 2024

To Town of Charlotte, Vermont:

Women and Gentlemen:

The Bidder, in compliance with the invitation for bids for the Spear Street Culvert Replacement Project, having examined the Plans and Specifications with related documents and the site of the proposed work, and being familiar with all of the conditions surrounding the construction of the proposed project including the availability of materials and labor, hereby proposes to furnish all labor, materials and supplies, and to construct the project in accordance with the Contract Documents, within the time set forth therein, and at the prices stated below. These prices are to cover all expenses incurred in performing the work required under the Contract Documents, of which this proposal is a part.

Bidder hereby agrees to commence work under this Contract on or before a date to be specified in written NOTICE TO PROCEED of the OWNER and to reach substantial completion of the project by April 6, 2025 (within 132 days of receipt of the Notice of Award (Estimated at November 25, 2024)).

The undersigned hereby certifies that he is able to furnish labor that can work in harmony with all other elements of labor employed or to be employed on the work.

The undersigned hereby acknowledges that he has read this proposal in its entirety and understands and agrees to all provisions contained herein.

Respectfully Submitted:

(Firm Name)

By _____
(Signature)

UNIT PRICE SCHEDULE

November 4, 2024

Town of Charlotte Spear Street Slope Stabilization

Bidder Name: _____
Address: _____
Phone: _____ Fax _____
Contact Person: _____
E-mail: _____

Base Bid (Items 1-25) - Per Plans and Project Manual

TOTAL AMOUNT IN FIGURES: \$ _____

TOTAL AMOUNT IN WORDS

UNIT PRICE SCHEDULE

The Owner requests that the Bidder fill in their estimated quantities for each item in addition to the unit price. Lump sum items are to be filled in for the Owner's use in comparing bids and confirming the understanding of the scope of work.

<u>Item</u>	<u>Description</u>	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Amount</u>
General					
1.	Mobilization & Demobilization	1	LS	_____	_____
2.	Performance & Payment Bonds	1	LS	_____	_____
Site Preparation					
3.	Temporary Access Road Const.	1	LS	_____	_____
4.	Site Clearing	0.20	Acres	_____	_____

See Next Page

5. Site Grubbing 300 CY _____

Embankment Stabilization

6. Excavation and Disposal 470 CY _____

7. Granular Cushion 8,050 SF _____

8. Geotextile Separation Fabric 510 SY _____

9. Stone Fill Buttress 540 CY _____

10. Foundation Drain and Backflow 1 LS _____

11. 6' Stone Fill Blanket 560 CY _____

12. 4' Stone Fill Blanket 430 CY _____

13. Dense Graded Crushed Stone 150 Tons _____

14. Type I Stone Fill Filter 70 Tons _____

15. Grubbings Placement 200 CY _____

Road Reconstruction

16. Road Base/Subbase 170 SY _____

17. Pavement Placement 38 Tons _____

18. Road Ditch Renovation 190 LF _____

19. 4" Aggregate Shoulders 100 SY _____

20. Guardrail Removal and Replacement 160 LF _____

EPSC and Site Clean-up

21. EPSC Implementation 1 LS _____

22. Temp. Access Road Restoration 1 LS _____

23. Embankment Overseeding 8,050 SF _____

24. Deciduous Trees – Large 4 EA _____

25. Evergreen Trees – Large 2 EA _____

MEASUREMENT AND PAYMENT

PART 1 – GENERAL

1.1 SUMMARY

- A. This Section specifies administrative and procedural requirements for the measurement and payment of Contract pay items.

1.2 SUBMITTALS

- A. Provide the following submittals.
 - 1. Field notes of all measurements for payment purposes.

1.3 SCHEDULING

- A. Notify Engineer as far in advance as possible of pay item measurements a minimum of three days prior to submission of the application for payment.
- B. Allow for and afford Engineer ample time, space, and equipment to observe and verify measurements.

1.4 DESCRIPTION

- A. For unit price items, the Contractor shall be paid for the actual amount of work accepted and for the actual amount of materials in place during the period of construction. After the work is completed and before final payment is made, the Engineer shall make final measurements to determine the quantities of the various items of work accepted as the basis for final payment.
- B. For lump sum items, the Contractor shall be paid on the basis of actual work accepted until the work item is completed. Upon completion of the item, 100 percent of the lump sum price may be paid, subject to the terms of the General Conditions or Supplemental Conditions.
- C. All units of measurement shall be standard United States convention as applied to the specific items of work by tradition and as interpreted by the Engineer.

1.5 MEASUREMENT REQUIREMENTS

- A. Where payments are to be made on a unit price or adjustment item unit price basis, notify Engineer so that they may observe existing conditions and the status of work-in-place and may witness measurements being made. Where Engineer has not witnessed required measurements and cannot verify or substantiate quantities, they may not recommend payment for same.

- B. Maintain complete and legible field notes for all measured items. Notes shall contain spaces for Contractor's and Engineer's signatures plus additional space for comments. An original and copy shall be made for all notes with the copy being submitted to Engineer. The Engineer's signature shall not be construed as an acceptance of the Work or the measurements made but shall mean the Engineer was present when the measurements were made.
- C. The Owner reserves the right to reject the Contractor's measurement of work-in-place and to have this Work measured by the Engineer or independent party acceptable to the Contractor at the Owner's expense.

1.6 LIMITS OF PAYMENT

- A. Payments will be made for the quantities installed and accepted in accordance with the Contract. Upon completion of construction, if actual quantities are different than the quantities estimated in the Bid, the Contract unit prices will still prevail, except as follows. When alterations in the quantities of work not requiring Change Orders are ordered and performed, the Contractor shall accept payment in full at the Contract price for the actual quantities of work done. No allowance will be made for anticipated profits. Increased or decreased work involving Change Orders will be paid for as stipulated in such Change Orders.
- B. The Contractor shall accept as full payment for furnishing all materials, labor, tools, equipment, and incidentals necessary to complete the work and for performing all work; also for all loss or damage arising from the nature of the Work, or from the action of the elements, or from any unforeseen difficulties which may be encountered during the prosecution of the work. No extra payment shall be made to the Contractor for any delays caused by defective workmanship or rescheduling of work by others.

1.7 WORK ELIMINATED FROM CONTRACT

- A. Should any work be deleted from the Contract a Change Order shall be issued.

1.8 PARTIAL PAYMENTS

- A. Partial payments shall be made monthly as the work progresses. All partial invoices and payments shall be subject to correction in the final quantity invoice and payment. No monthly payment shall be required to be made when, in the judgment of the Engineer, the Work is not proceeding in accordance with the provisions of the Contract.
- B. No partial payment shall be made upon fuels, supplies, lumber, false work, or other materials, or on temporary structures of any kind which are not a permanent part of the Contract.

- C. Each subsequent Application for Payment shall include an affidavit of the Contractor stating that all previous progress payments received on account of the Work have been applied to discharge in full all of the Contractor's obligations reflected in prior Applications for Payment. The Owner shall have the right to deduct from the next progress payment an amount equal to payment for said material and/or equipment if reasonable and adequate proof is not submitted.

1.9 FINAL PAYMENT

- A. The Contractor will prepare a final payment requisition for review by the Engineer for the work performed. Upon approval by the Engineer, the Owner will pay the entire sum found to be due less any retainage provided for in the Agreement and any previous payments.

1.11 PAYMENT FOR MATERIALS DELIVERED

- A. Payment may be made for all or part of the value of materials stored on site. The application for payment shall be accompanied by a summary of materials stored on site that will establish the Owner's title to the materials and protect the Owner's interest therein, including insurance. The amount thus paid by the Owner shall reduce the estimated amounts due the Contractor as the material is incorporated into the Work. Materials stored on site, that have been paid for by the Owner, shall become the property of the Owner and, in the event of default on the part of the Contractor, the Owner may use these materials in the construction of the Work. The Contractor shall be responsible for any damage to, or loss of, any materials.

PART 2 – PRODUCTS

2.1 GENERAL

- A. Provide all labor, materials, facilities, measuring devices and all other equipment necessary to perform all measurements for payment purposes.

PART 3 – EXECUTION

3.1 GENERAL

- A. Perform all measuring required by this Section.
- B. No separate payments will be made for Work under this Contract except for the pay items stipulated in this Part 3. All costs in connection with the Work shall be included in one or more of the pay items as appropriate.
- C. The names of pay items in this Section, the Schedule of Values, or the Bid Form may be abbreviated or non-comprehensive and are for general identification purposes of the item only. The names shall not be construed to represent a complete description of all the Work

included under each pay item. Refer to the subsequent paragraphs of this Section for more complete descriptions of Work to be included under each Contract pay item.

3.2 LUMP SUM PRICE PAY ITEMS

- A. Measurement - no measurements will be made.
- B. Payment shall be on a lump sum basis, based on the percentage of work completed and accepted by the Engineer for each lump sum pay item.

3.3 UNIT PRICE PAY ITEMS

- A. Measurement and payment shall be made by the unit.

3.4 DESCRIPTION OF PAY ITEMS

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

Item 1 – GENERAL CONDITIONS, MOBILIZATION, AND MISCELLANEOUS WORK

- A. Measurement: Mobilization shall consist of preparatory work and operations including but not limited to, the following items:
 - 1. Control of water including all temporary measures required to complete the work
 - 2. Testing not paid for by the Owner
 - 3. Equipment delivery
 - 4. Sanitary facilities
 - 5. Traffic control including traffic control plan, signage, maintenance of signage
 - 6. Furnishing of insurance not covered under other items.
 - 7. Dust control
 - 8. Removal and disposal of existing structures (unless otherwise provided for)
 - 9. Deleted - Removal and salvage of existing structures to the Owner's yard
 - 10. Survey/layout
 - 11. Clearing, grubbing, stripping (unless otherwise provided for)
 - 12. Clean-up
 - 13. Construction signs/ (no) project signs
 - 14. Steel and/or wood sheeting as required
 - 15. Installation and removal of temporary facilities both on and off-site.
 - 16. Project record drawings
 - 17. Submittals
- B. Payment - Payment shall be made at the contract lump sum price, which price shall be full compensation for all costs incurred in furnishing labor, tools, materials and equipment and incidental work item costs for the preparatory work and operations described in the above measurement section for this item.

For the purpose of computing payments, the adjusted contract price shall include all contract unit price and lump sum items except the contract lump sum price for the item General Conditions, Mobilization, and Demobilization.

Payments shall be made as follows:

- a. First payment of fifty percent (50%) of the contract lump sum price for Mobilization or 2.5 percent of the adjusted contract price, whichever is less, will be made not later than payment of the first application for payment following the completion of five percent (5%) of the total contract price.
- b. Second payment of twenty five percent (25%) of the contract lump sum price for Mobilization or 1.2 percent of the adjusted contract price, whichever is less, will be made not later than payment of the first application for payment following the completion of fifty percent (50%) of the total contract price.
- c. Upon substantial completion of all work on the project, payment of the remainder of the contract lump sum price for Mobilization will be paid.

Item No. 2 – PERFORMANCE & PAYMENT BONDS

Description - This work involves the provision of performance and payment bonds as required by the contract documents. The performance bond ensures the faithful performance of the contract, while the payment bond guarantees the payment of all labor and materials used in the execution of the work.

The Contractor shall furnish performance and payment bonds as required by the contract. These bonds must be executed by a surety company authorized to do business in the jurisdiction where the project is located and listed in the U.S. Department of the Treasury Circular 570.

The performance and payment bonds shall be in the amount of 100% of the original contract price. This bond ensures the completion of the project in accordance with the contract terms and conditions.

The bonds must be submitted to the Contracting Officer within the time specified in the contract, but no later than the commencement of work.

- A. Measurement – Performance and Payment Bonds will be measured on a lump sum basis. The measurement will cover all costs associated with obtaining and maintaining the bonds throughout the duration of the contract.
- B. Payments: Payment for Performance and Payment Bonds shall be made at the lump sum price specified in the bid proposal. This payment shall cover all costs associated with the procurement of the performance bond and payment bond, Any fees, premiums, or associated costs incurred in obtaining the bonds, maintenance of the bonds for the duration of the contract period.

Payment of 100% of the lump sum bid price will be made with the first requisition.

This item does not include payment for any costs related to bond claims or disputes arising from the Contractor's failure to comply with the contract requirements. No additional payment will be made for costs associated with the Contractor's failure to maintain the bonds or for any penalties or fees imposed by the surety.

Item No. 3 – TEMPORARY ACCESS ROAD CONSTRUCTION

Description - This work includes the construction of a temporary access road whose location is generally depicted on the plans, providing access from Spear Street into the work area at the base of the embankment. The Contractor has the discretion to determine the method of construction for this access road. This item includes site clearing as necessary to accomplish the means and methods. Certain trees shown on the plans are to be protected during construction and use of the temporary access road. Upon completion of the work, the temporary access road shall be fully restored and stabilized to reflect predevelopment conditions. That restoration work will be paid for under a separate item.

- A. Measurement – Temporary Access Road Construction will be measured on a lump sum basis for all work required to construct the temporary access road, including all materials, labor, and equipment necessary for the completion of the work.
- B. Payment - Payment for Temporary Access Road Construction shall be made at the lump sum price specified in the bid proposal. This payment shall cover all costs associated with the design and construction of the temporary access road, including grading, drainage, and erosion control, furnishing and placing all materials necessary for the construction of the access road. Restoration and stabilization of the access area to reflect predevelopment conditions will be paid for under a separate item.

Payments shall be made as follows:

- a. First payment of fifty percent (50%) of the contract lump sum price for Temporary Access Road Construction or 5.0 percent of the adjusted contract price, whichever is less, will be made not later than payment of the first application for payment.
- b. Upon substantial completion of all work on the item, payment of the remainder of the contract lump sum price for Mobilization will be paid.

This item does not include payment for any additional work required due to unforeseen conditions or changes in project scope beyond the original agreement. No additional payment will be made for rework or restoration needed due to improper construction practices by the Contractor.

Item No. 4 – SITE CLEARING

Description of Work - Site clearing involves the removal of vegetation, trees, shrubs and other above ground matter from the embankment area. Clearing should be conducted to prepare the embankment site for subsequent grubbing of the pre-existing organic and topsoil surface materials. Stumps 4” or smaller are to be cut off no higher than one foot above the existing grade so as to

more readily enable those root balls to be used in the grubbing placement on the stone fill embankment.

- A. Measurement – Proportional to the percentage of work installed and accepted by the Engineer. Site clearing of the embankment area will be measured in Acres of the actual surface area cleared, within the limits indicated on the drawings or as specified by the Engineer. Measurement will be restricted to areas marked or otherwise identified in the contract documents. Any clearing beyond these specified limits, performed at the Contractor's discretion, will not be measured for payment.
- B. Payment - Payment for site clearing will be made at the contract unit price per Acre for "Site Clearing". The unit price shall include full compensation for all materials, labor, equipment, and tools necessary for clearing, cutting, and removing vegetation, loading, hauling, and disposal of debris; and protecting adjacent areas from damage. Any additional work, such as grubbing or excavation or grading following the clearing operation, will be paid for under their respective pay items.

Unauthorized clearing beyond the specified limits will not be compensated, and any damage to adjoining areas or protected vegetation must be restored at the Contractor's expense.

Item No. 5 – SITE GRUBBING

Description of Work – Site Grubbing involves the removal and proper stockpiling of roots, stumps (4" diameter or less), and other below-ground organic material from the existing embankment. This work is to be carried out on an embankment that has already been cleared of surface vegetation under a separate item, as directed by the Engineer. The grubbings shall be stored for re-use except for stumps which are to be separated for disposal off property. Stumps with tree diameters of greater than 4" at the cut line shall be disposed of off-site. The intent is to capture the forest duff, all of the C horizon of soil and the upper 6 inches of B horizon soil for a total excavation depth of 12 inches. Wood chips can be used as an insulation layer for the stockpiled grubbings. Those wood chips can be mixed with the Grubbings during subsequent loading under Item 15 – Grubbings Placement.

- A. Measurement - Site Grubbing will be measured by the actual area in Acres where the removal of roots, stumps, and other below-ground obstructions has been completed, within the limits shown on the project drawings or as specified by the Engineer. Measurement will be limited to areas designated for grubbing as indicated on the project drawings or directed by the Engineer. Any grubbing beyond the specified limits will not be measured for payment. Grubbing will typically be measured to a depth of 1.0 feet below the ground surface. Deeper removal of roots or stumps will only be measured and paid for if specified by the Engineer or in accordance with additional pay items.
- B. Payment – Payment for Site Grubbing will be made at the contract unit price per Acre for "Site Grubbing". The unit price shall cover all costs associated with labor, materials, equipment, and tools needed to complete the grubbing operation. This includes removing stumps greater than 4", as well as loading, hauling, and proper storing of grubbed material with a means of minimizing freezing or loss of material for subsequent placement on the

stone fill embankment (paid for under a separate pay item). Surface clearing previously performed on the embankment and paid for under a separate item will not be included in this pay item. Additionally, any excavation or grading required following the grubbing operation will be paid for under their respective items. Unauthorized grubbing outside specified areas will not be compensated, and any restoration required due to unauthorized grubbing or damage to adjacent areas will be at the Contractor's expense.

Item No. 6 – EARTH EXCAVATION AND DISPOSAL

Description of Work - Earth Excavation and Disposal work consists of removing all specified materials from the embankment area. This work shall be free of any grubbing, debris, or material previously paid for under separate items. It includes the safe disposal of the excavated material offsite at an unspecified location or as otherwise directed in the contract documents.

- A. Measurement: Earth Excavation and Disposal shall be measured by the cubic yard (CY) of material removed as calculated from the lines and grades shown on the plans, or as directed by the Engineer. Measurements will be based on cross-sectional surveys of the excavation area before and after the work, with any over-excavation beyond plan limits not measured for payment.
- B. Payment – Payment for Earth Excavation and Disposal shall be made at the contract unit price per cubic yard. The unit price shall include all labor, equipment, tools, and incidental items necessary to complete the work in accordance with the project specifications. Payment for this item will include: Excavation and removal of material as specified; Proper disposal of excavated material at a location approved by the Engineer. Maintaining safe site conditions during excavation and disposal operations. This item does not include payment for removal of grubbing materials, which shall be paid for under a separate item. No additional payment will be made for over-excavation unless authorized in writing by the Engineer.

Item No. 7 – GRANULAR CUSHION

Description - The work consists of placing a specified layer of Granular Cushion material on the prepared excavated subgrade, to provide a stable base and filter for the subsequent placement of stone fill. The material shall be placed and compacted in accordance with the plans and specifications or as directed by the Engineer.

- A. Measurement – The Granular Cushion shall be measured by the square foot of material installed on the subgrade, based on the dimensions shown in the plans or as directed by the Engineer. Only the in-place, compacted area within the plan limits will be measured for payment.
- B. Payment - Payment for the Granular Cushion shall be made at the contract unit price per square foot of installed material. This payment shall cover: Furnishing and transporting the Granular Cushion material; Placement, spreading, and compaction of the material to the specified thickness and density; Maintaining the installed material in good condition until covered by stone fill. No separate payment will be made for the preparation of the subgrade or for any

rework required due to contamination or displacement of the material prior to stone fill placement.

Item No. 8 – GEOTEXTILE SEPARATION FABRIC

Description - This work consists of furnishing, placing, and securing Geotextile Separation Fabric on a steep clay surface as shown on the plans, to provide separation between the native clay layer and the stone fill. The fabric prevents mixing of materials and ensures stability of the installed stone fill.

- A. Measurement – The Geotextile Separation Fabric will be measured by the square yard of fabric placed and accepted in the final position. Measurement shall be based on the area covered as shown on the plans or as directed by the Engineer. Overlaps required for installation will not be measured for additional payment.
- B. Payment - The Geotextile Separation Fabric will be measured by the square yard of fabric placed and accepted in the final position. Measurement shall be based on the area covered as shown on the plans or as directed by the Engineer. Overlaps required for installation will not be measured for additional payment. No additional payment will be made for replacement or repair of fabric damaged due to contractor activities or inadequate protection prior to stone placement.

Item No. 9 – STONE FILL BUTTRESS

Description - This work consists of furnishing and placing Type III stone fill to create a buttress for slope support. The stone fill shall be placed on a prepared granular cushion or against a vertical surface lined with geotextile fabric, as specified in the plans or directed by the Engineer.

- A. Measurement – Stone Fill Buttress will be measured by the cubic yard of Type III stone fill placed and accepted in the final position. The measurement will be based on the dimensions shown on the plans or as directed by the Engineer. This payment item also covers the transition stone fill placed on both the north and south ends of the buttress as an extension of the buttress installation.
- B. Payment - Payment for Stone Fill Buttress shall be made at the contract unit price per cubic yard of Type III stone fill placed. This payment shall include: Furnishing, placing, and shaping of Type III stone fill; Protecting the geotextile fabric or granular cushion during installation. Any minor adjustments to the fill placement needed to achieve the specified buttress profile. Payment for this item does not include the cost of the granular cushion or geotextile fabric, which will be paid for under separate items. No additional payment will be made for replacement or repair of materials damaged due to contractor activities or failure to adhere to specified placement requirements.

Item No. 10 – FOUNDATION DRAIN AND BACKFLOW

Description of Work - Foundation Drain and Backfill work consists of the installation of a backflow dimension device housed in a precast concrete vault with 4" schedule 80 PVC pipe to drain the embankment buttress toe stone fill.

- A. Measurement: Foundation Drain and Backfill will be measured on a lump sum basis for all work required to construct and install the foundation drain pipe and the backflow prevention device and associated vault including all materials, labor, and equipment necessary for the completion of the work.
- B. Payment – Foundation Drain and Backfill shall be made at the lump sum price specified in the bid proposal.. The lump sum price shall include all labor, equipment, tools, and incidental items necessary to complete the work in accordance with the project details and specifications. Payment for this item will include: Excavation and placement of the vault and piping, installation of the backflow prevention device per the manufacturers recommendations, maintaining safe site conditions during excavation and disposal operations and final site stabilization.

Item No. 11 – 6’ STONE FILL BLANKET

Description - This work includes furnishing, placing, and shaping of a 6-foot thick stone fill blanket using Type II stone fill on a prepared granular cushion layer, as shown in the plans or as directed by the Engineer.

- A. Measurement – The 6' Stone Fill Blanket will be measured by the cubic yard of Type II stone fill placed and accepted in its final position. Measurement will be based on the dimensions specified in the plans or as directed by the Engineer. This payment item also covers the transition stone fill placed on both the north and south ends of the full depth portion of the 6’ Stone Fill Blanket buttress as an extension of the blanket installation.
- B. Payment - Payment for the 6' Stone Fill Blanket shall be made at the contract unit price per cubic yard of Type II stone fill placed. This payment shall include all costs for furnishing, transporting, and placing Type II stone fill; Shaping and adjusting the stone fill to achieve the specified thickness and uniformity; Protecting the granular cushion layer during stone fill installation. This item does not include payment for the granular cushion layer, which is paid for under a separate item.

Item No. 12 – 4’ STONE FILL BLANKET

Description - This work includes furnishing, placing, and shaping of a 6-foot thick stone fill blanket using Type I or Type II stone fill on a prepared granular cushion layer, as shown in the plans or as directed by the Engineer.

- A. Measurement – The 4' Stone Fill Blanket will be measured by the cubic yard of Type I or Type II stone fill placed and accepted in its final position. Measurement will be based on the dimensions specified in the plans or as directed by the Engineer. This payment item also covers

the transition stone fill placed on both the north and south ends of the full depth portion of the 4' Stone Fill Blanket buttress as an extension of the blanket installation.

- B. Payment - Payment for the 6' Stone Fill Blanket shall be made at the contract unit price per cubic yard of Type I or Type II stone fill placed. This payment shall include all costs for furnishing, transporting, and placing the stone fill; Shaping and adjusting the stone fill to achieve the specified thickness and uniformity; Protecting the granular cushion layer during stone fill installation. This item does not include payment for the granular cushion layer, which is paid for under a separate item.

Item No. 13 – DENSE GRADED CRUSHED STONE

Description - This work consists of furnishing, placing, and compacting dense graded crushed stone as a transition layer between the stone fill embankment and the subbase for the roadway reconstruction. The dense graded crushed stone will be placed over a prepared granular cushion, or geotextile separation fabric which are paid under a separate item.

- A. Measurement – The quantity of Dense Graded Crushed Stone to be measured for payment will be the number of tons of material in place in the complete and accepted work, as determined from the load tickets submitted to the Engineer on a daily basis. Only material placed and accepted in the final position will be measured for payment.
- B. Payment - The accepted quantity of Dense Graded Crushed Stone will be paid for at the Contract unit price per ton for the type specified. Payment will be full compensation for furnishing, blending, transporting, testing, placing, grading, and compacting the material specified and for furnishing all labor, tools, equipment, and incidentals necessary to complete the work.. This item does not include payment for the granular cushion, which is paid for under a separate item. No additional payment will be made for replacement or rework of the dense graded crushed stone due to contamination, over-compaction, or improper installation.

Item No. 14 – TYPE I STONE FILL FILTER

Description - This work consists of furnishing, placing, and shaping Type I stone fill to cap the top of the Type III stone fill buttress and any Type II stone blanket use don't he project.. The Type I stone fill filter creates a suitable layer for the subsequent placement of grubbings over the top of the buttress, as specified in the plans or directed by the Engineer.

- A. Measurement – The Type I Stone Fill Filter will be measured by the ton, based on certified load tickets provided by the supplier and submitted daily to the Engineer. Only material placed and accepted in the final position will be measured for payment.
- B. Payment - Payment for Type I Stone Fill Filter shall be made at the contract unit price per ton. This payment shall cover all costs associated with Furnishing, transporting, and placing Type I stone fill, shaping the stone fill to achieve the specified coverage and uniformity, any adjustments required to prepare the surface for the placement of grubbings. This item does not include payment for the underlying Type III stone fill buttress or Type II Stone Fill Blanket, which has been paid for under a separate item.

Item No. 15 – GRUBBINGS PLACEMENT

Description - This work consists of placing stockpiled grubblings (roots, small stumps, organic debris and portions of the C and B horizons of the native soil previously removed and paid for under a separate item) onto a prepared stone fill surface with an installed depth of 8 inches. Any excess grubblings not used in the placement on the stone embankment will be required to be disposed of.

- A. Measurement – Grubbings Placement will be measured by the square foot of grubblings placed and accepted in its final position with a thickness of 8 inches. Measurement shall be based on the area covered as directed by the Engineer.

- B. Payment - Payment for Grubbings Placement shall be made at the contract unit price per square foot of grubblings placed. This payment shall include transporting and placing stockpiled grubblings on the prepared stone fill surface, spreading and shaping the grubblings to achieve the specified coverage, any adjustments necessary to maintain the stability of the placed material. This item includes the disposal of any excess stored grubblings not used in the placement on the stone fill embankment originally created in Item 5 – Grubbings. This item does not include payment for the initial clearing and stockpiling of grubblings, which has been paid for under a separate item. No additional payment will be made for rework or replacement of grubblings disturbed or displaced after placement.

Item No. 16 – ROAD BASE/SUBBASE

Description - This work shall consist of furnishing and placing one or more courses of approved gravel, crushed gravel, dense graded crushed stone, or other proportioned material on a prepared surface or at other locations for the reconstruction of the roadway.

- A. Measurement – Compute square yardage of the combined road base/subbase on the basis of in place installed area of material as specified below.

- B. Payment - Payment shall be per square yard of material placed and compacted for both the base and subbase components of the road reconstruction. Payment includes VTrans Item 706.05A Crushed Gravel, Fine Graded, and 706.05B Crushed Gravel, Course Graded geotextile fabric as noted on the plans, and all work incidental to the satisfactory completion of the item for which payment is not provided under other items.

The payment limits will include the placement of base/subbase under the shoulder areas of the roadway.

Item No. 17 – BIT. CONC. PAVEMENT PLACEMENT

Description: This work shall consist of constructing one or more courses of bituminous concrete pavement on a prepared foundation in accordance with these specifications and in conformance with the lines, grades, thicknesses, and typical cross-sections shown on the Plans or established by the Engineer.

- A. Measurement –The quantity of Bituminous Concrete Pavement to be measured for payment will be the number of tons of mixture complete in-place in the accepted work as determined from the weigh tickets.
- B. Payment - The accepted quantity of Bituminous Concrete Pavement will be paid for at the Contract unit price per ton. Payment will be full compensation for furnishing, mixing, hauling, and placing the material specified, including hand placement when payment is not otherwise provided for in the Contract, and for furnishing all labor, tools, equipment, and incidentals necessary to complete the work.

The costs of double yellow line striping, milling, emulsified asphalt, cleaning existing paved surfaces, and filling joints, cracks, and holes will not be paid for directly, but will be considered incidental to Bituminous Concrete Pavement. When not specified as items in the Contract, the costs of sweeping and cleaning existing paved surfaces and tacking of utility structures, curbing, gutters, and other contact surfaces will not be paid for directly but will be incidental to the appropriate Bituminous Concrete Pavement pay item.

Item No. 18 – ROAD DITCH RENOVATION

Description - This work includes the excavation of the existing roadside ditch on the east side of Spear Street, installation of a clay liner, placement of filter fabric, and the installation of Type I stone fill armoring along the ditch. The work is intended to minimize infiltration of the stormwater runoff into the surrounding area, prevent erosion, and to stabilize the ditch side slopes as shown in the plans or as directed by the Engineer.

- A. Measurement – Road Ditch Renovation will be measured by the linear foot of renovated ditch, from the beginning to the end of the work as defined in the plans or as directed by the Engineer. This measurement will include the total length of excavation, clay liner, filter fabric, and Type I stone fill armoring installed.
- B. Payment - Payment for Road Ditch Renovation shall be made at the contract unit price per linear foot. This payment shall cover all costs associated with excavation of the existing ditch, placement and compaction of the clay liner, installation of filter fabric, placement of Type I stone fill armoring and all site stabilization of the adjacent areas. This item does not include payment for additional erosion control measures or restoration of disturbed areas outside the defined limits of the ditch renovation. No additional payment will be made for rework or replacement of materials due to improper installation or damage during construction.

Item No. 19 – AGGREGATE SHOULDERS

Description - This work shall consist of furnishing, placing, and compacting material for aggregate shoulders on a prepared surface.

- A. Measurement – Compute square yardage of aggregate shoulders in place on the basis of in place area of material as specified below.
- B. Payment - Payment shall be per square yard of material placed and compacted. Payment includes aggregate shoulders placed beyond the limits of the final pavement surface.as

called for on the contract plans and all work incidental to the satisfactory completion of the item for which payment is not provided under other items.

Item No. 20 – GUARDRAILREMOVAL AND REPLACEMENT

Description - This work includes the removal of existing guardrail and posts that have been disturbed or damaged, followed by the installation of new guardrail and posts along the rebuilt shoulder of the roadway. The work is intended to ensure safety and compliance with current standards for roadway guardrails

- A. Measurement – Guardrail Removal and Replacement will be measured by the linear foot of guardrail installed. Measurement will include the total length of new guardrail and posts installed along the rebuilt shoulder as directed by the Engineer.
- B. Payment - Payment for Guardrail Removal and Replacement shall be made at the contract unit price per linear foot of guardrail installed. This payment shall cover all costs associated with removal and disposal of existing guardrail and posts, preparation of the site for new guardrail installation, furnishing, transporting, and installing new guardrail and posts, all necessary hardware, fittings, and connections.

This item does not include payment for any additional work required due to unforeseen conditions, such as extensive site repairs or additional materials needed beyond what is specified. No additional payment will be made for delays or rework caused by improper removal or installation practices.

Item No. 21 – EPSC IMPLEMENTATION

Description - This work includes the implementation of Erosion and Pollution Control (EPSC) measures as required by the project specifications and applicable regulations.

- A. Measurement – EPSC Implementation will be measured on a lump sum basis for all work Required to meet the EPSC plan as specified in the contract documents. This includes all materials, labor, and equipment necessary for implementation, maintenance, and monitoring.
- B. Payment - Payment for EPSC Implementation shall be made at the lump sum price specified in the bid proposal. This payment shall encompass all costs associated with: Installation and maintenance of EPSC measures; Monitoring and reporting activities throughout the duration of the project.

This item does not include payment for any additional work or measures required due to unforeseen conditions or changes in project scope beyond the approved EPSC plan. This is a dynamic component of the project that needs to follow the means and methods of the contractor. This item covers all of those costs for the implementation of suitable EPSC measures triggered by the actions of the Contractor. No additional payment will be made for rework or modifications to the EPSC measures resulting from the Contractor's failure to implement the measures correctly or to maintain them as required.. Payment shall be full compensation for furnishing, installing, and maintaining all necessary erosion control measures

(and removing such measures upon stabilization), and all work incidental to the satisfactory completion of the item.

Item No. 22 – TEMPORARY ACCESS ROAD RESTORATION

Description - This work includes the removal of the temporary access road constructed for the project and the restoration of the site to conditions as close as possible to the pre-existing conditions prior to the placement of the temporary road. The work is intended to mitigate any impacts caused by the temporary road and ensure the area is suitable for future use or natural restoration.

- A. Measurement – Temporary Access Road Restoration will be measured on a lump sum basis for all work required to remove the temporary access road and restore the site to as near as possible to its pre-existing conditions.
- B. Payment - Payment for Temporary Access Road Restoration shall be made at the lump sum price specified in the bid proposal. This payment shall cover all costs associated with the removal of the temporary access road and associated materials, restoration of the site, including regrading and removal of debris, any necessary revegetation or stabilization measures, final inspection and coordination with the Engineer. Separate payment of the placement of replacement trees will be completed under a separate pay item.

This item does not include payment for any additional work required due to unforeseen conditions or changes in project scope beyond the original agreement. No additional payment will be made for rework or further restoration needed due to improper removal or restoration practices by the Contractor.

Item No. 23 – EMBANKMENT OVERSEEDING

Description - This work includes the overseeding of the grubblings placed on the embankment. The purpose of overseeding is to promote vegetation growth, enhance erosion control, and improve the aesthetic quality of the embankment area.

- A. Measurement – Embankment Overseeding will be measured by the square foot of overseeded area as determined by the Engineer. Measurement will be based on the actual area overseeded and accepted.
- B. Payment - Payment for Embankment Overseeding shall be made at the contract unit price per square foot. This payment shall cover all costs associated with preparing the surface for overseeding, furnishing and applying the seed mixture, watering and maintaining the seeded area until establishment.

This item does not include payment for the initial planting of vegetation or any work required for site preparation outside the designated overseeding area. No additional payment will be made for rework or replacement of seed due to poor germination resulting from the Contractor's failure to meet the specified requirements.

Item No. 24 – DECIDUOUS TREE – LARGE

Description - This work shall consist of furnishing, transporting, planting various types and sizes of trees.

- A. Measurement – The quantity of Deciduous Trees, Large to be measured for payment will be the number of each of the specified types and sizes furnished and planted or transplanted in the complete and accepted work. Only living plants in healthy condition at the completion of the establishment and maintenance period, as defined in VTrans Subsection 656.09, will be accepted.
- B. Payment - The accepted quantity of Deciduous Trees, Large will be paid for at the Contract unit price for each for the specified types, sizes, and kinds. All seedlings, trees, shrubs, ground covers and vines, and perennials that have died, failed to grow, or otherwise have proven unsatisfactory to the Engineer during the establishment period shall be replaced with healthy stock of the same type or approved substitute at the Contractor’s expense.

Payment for these items will be full compensation for testing, furnishing, transporting, handling, and placing plants, fertilizer, mycorrhizal fungi, mulch, wire rodent guards, and all incidental materials; for excavation, pruning, guying, staking, mulching, water basin formation, cleanup, restoration, and plant maintenance establishment work and care, including replacement; and for furnishing all labor, tools, equipment, and incidentals necessary to complete the work. Weed separator fabric, water bags, or any other item necessary to complete the work will be considered incidental to the appropriate Contract items.

Partial payments for these items will be made as follows:

- (a) The initial 95% of the Contract unit price will be paid after the initial planting.
- (b) The remaining 5% of the Contract unit price will be paid upon completion of the establishment and maintenance period, as defined in VTrans Subsection 656.09.

Item No. 25 – EVERGREEN TREE – LARGE

Description - This work shall consist of furnishing, transporting, planting various types and sizes of trees.

- A. Measurement – The quantity of Evergreen Trees, Large to be measured for payment will be the number of each of the specified types and sizes furnished and planted or transplanted in the complete and accepted work. Only living plants in healthy condition at the completion of the establishment and maintenance period, as defined in VTrans Subsection 656.09, will be accepted.
- B. Payment - The accepted quantity of Evergreen Trees, Large will be paid for at the Contract unit price for each for the specified types, sizes, and kinds. All seedlings, trees, shrubs, ground covers and vines, and perennials that have died, failed to grow, or otherwise have proven unsatisfactory to the Engineer during the establishment period shall be replaced with healthy stock of the same type or approved substitute at the Contractor’s expense.

Payment for these items will be full compensation for testing, furnishing, transporting, handling, and placing plants, fertilizer, mycorrhizal fungi, mulch, wire rodent guards, and all incidental materials; for excavation, pruning, guying, staking, mulching, water basin formation, cleanup, restoration, and plant maintenance establishment work and care, including replacement; and for furnishing all labor, tools, equipment, and incidentals necessary to complete the work. Weed separator fabric, water bags, or any other item necessary to complete the work will be considered incidental to the appropriate Contract items.

Partial payments for these items will be made as follows:

- (a) The initial 95% of the Contract unit price will be paid after the initial planting.
- (b) The remaining 5% of the Contract unit price will be paid upon completion of the establishment and maintenance period, as defined in VTrans Subsection 656.09.

End of Section

CONTRACT FOR CONSTRUCTION OF A SMALL PROJECT

This Contract is by and between The Town of Charlotte, VT (Owner)
and

TO BE DETERMINED (Contractor).

Owner and Contractor hereby agree as follows:

ARTICLE 1 - THE WORK

1.01 Work

- A. Work includes all labor, materials, equipment, services, and documentation necessary to construct the Project defined herein. The Work may include related services such as testing, start-up, and commissioning, all as required by the Contract Documents.
- B. The Contractor shall complete all Work as specified or indicated in the Contract Documents. The Project is generally described as follows:
 - 1. **Spear Street Slope Stabilization** which includes installation of twin 10-foot diameter culverts with cast-in-place concrete headwalls and wingwalls, debris deflector, road reconstruction and all associated work as outlined in the bid plans.
 - 2. The Site of the Work includes designated work areas described in greater detail in the Contract Documents but generally located **at 1129 Spear Street, 1300 feet north of the intersection with Carpenter Road, in the Town of Charlotte, VT.**

ARTICLE 2 - CONTRACT DOCUMENTS

2.01 Intent of Contract Documents

- A. It is the intent of the Contract Documents to describe a functionally complete project. The Contract Documents do not indicate or describe all of the Work required to complete the Project. Additional details required for the correct installation of selected products are to be provided by the Contractor and coordinated with the Owner and Engineer. This Contract supersedes prior negotiations, representations, and agreements, whether written or oral. The Contract Documents are complementary; what is required by one part of the Contract Documents is as binding as if required by other parts of the Contract Documents.
- B. During the performance of the Work and until final payment, Contractor and Owner shall submit all matters in question concerning the requirements of the Contract Documents, or relating to the acceptability of the Work under the Contract Documents to the Engineer. Engineer will be the initial interpreter of the requirements of the Contract Documents, and judge of the acceptability of the Work thereunder.
- C. Engineer will render a written clarification, interpretation, or decision on the issue submitted, or initiate a modification to the Contract Documents.

- D. Contractor, and its subcontractors and suppliers, shall not have or acquire any title to or ownership rights to any of the Drawings, Specifications, or other documents (including copies or electronic media editions) prepared by Engineer or its consultants.

2.02 Contract Documents Defined

- A. The Contract Documents consist of the following documents:
 - 1. This Contract.
 - 2. Performance bond.
 - 3. Payment bond.
 - 4. Specifications listed in the Table of Contents.
 - 5. Drawings as listed on the Drawing Sheet Index.
 - 6. Addenda.
 - 7. Exhibits to this Contract (enumerated as follows):
 - a. **Attachment A – Contract Plans by Civil Engineering Associates, Inc.**
 - b. **Attachment B – Bid Form**
 - c. **Attachment C - Measurement and Payment**
 - 8. The following which may be delivered or issued on or after the Effective Date of the Contract:
 - a. Work Change Directives (EJCDC C-940).
 - b. Change Orders (EJCDC C-941).
 - c. Field Orders.

ARTICLE 3 - ENGINEER

3.01 Engineer

- A. The Engineer for this Project is **Civil Engineering Associates, Inc.**

ARTICLE 4 - CONTRACT TIMES

4.01 Contract Times

- A. The Work will be substantially completed on or before **April 6, 2025**, and completed and ready for final payment on or before **May 6, 2025**.
- ~~B. The Work will be substantially completed within **[Number of Days]** days after the Effective Date of the Contract and completed and ready for final payment within **[Number of Days]** days after the Effective Date of the Contract.~~

4.02 Liquidated Damages - Deleted

4.03 Delays in Contractor's Progress

- A. If Owner, Engineer, or anyone for whom Owner is responsible, delays, disrupts, or interferes with the performance or progress of the Work, then Contractor shall be entitled to an equitable adjustment in the Contract Times and Contract Price. Contractor's entitlement to

an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times.

- B. Contractor shall not be entitled to an adjustment in Contract Price or Contract Times for delay, disruption, or interference caused by or within the control of Contractor or their subcontractors or suppliers.
- C. If Contractor's performance or progress is delayed, disrupted, or interfered with by unanticipated causes not the fault of and beyond the control of Owner, Contractor, and those for which they are responsible, then Contractor shall be entitled to an equitable adjustment in Contract Times.
- D. Contractor shall not be entitled to an adjustment in Contract Price or Contract Times for any delay, disruption, or interference if such delay is concurrent with a delay, disruption, or interference caused by or within the control of Contractor or Contractor's subcontractors or suppliers.

4.04 Progress Schedules

- A. Contractor shall develop a progress schedule and submit to the Engineer for review and comment before starting Work on the Site. The Contractor shall modify the schedule in accordance with the comments provided by the Engineer.
- B. The Contractor shall update and submit the progress schedule to the Engineer each month. The Owner may withhold payment if the Contractor fails to submit the schedule.

ARTICLE 5 - CONTRACT PRICE

5.01 Payment

- A. ~~Owner shall pay Contractor in accordance with the Contract Documents, the lump sum amount of \$[Contract Price] for all Work.~~
- B. Owner shall pay Contractor in accordance with the Contract Documents at the following unit prices for each unit of Work completed: **Refer to the bid form and measurement and payment attached as Attachment B and C.**

Payment will be made in an amount equal to the total of all extended prices for actual Work completed. The extended price is determined by multiplying the unit price times the actual quantity of that Work item completed. Actual quantities installed will be determined by the Engineer.

ARTICLE 6 - BONDS AND INSURANCE

6.01 Bonds

- A. Before starting Work, Contractor shall furnish a performance bond and a payment bond from surety companies that are duly licensed or authorized to issue bonds in the required amounts in the jurisdiction in which the Project is located. Each bond shall be in an amount equal to the Contract Price, as security for the faithful performance and payment of all of Contractor's obligations under the Contract. These bonds shall remain in effect until the completion of ~~the correction period specified in Paragraph 7.12 but, in any case, not less than one year after~~ the date when final payment becomes due.

6.02 Insurance

A. Before starting Work, Contractor shall furnish evidence of insurance from companies that are duly licensed or authorized in the jurisdiction in which the Project is located with a minimum AM Best rating of A-VII or better. Contractor shall provide insurance in accordance with the following:

1. Contractor shall provide coverage for not less than the following amounts, or greater where required by Laws and Regulations:

a. Workers' Compensation:

State:	<u>Statutory</u>
Employer's Liability:	
Bodily Injury, each Accident	\$ <u>100,000</u>
Bodily Injury By Disease, each Employee	\$ <u>100,000</u>
Bodily Injury/Disease Aggregate	\$ <u>500,000</u>

b. Commercial General Liability:

General Aggregate	\$ <u>5,000,000</u>
Products – Completed Operations Aggregate	\$ <u>1,000,000</u>
Personal and Advertising Injury	\$ <u>1,000,000</u>
Each Occurrence (Bodily Injury and Property Damage)	\$ <u>1,000,000</u>

c. Automobile Liability herein:

Bodily Injury:	
Each Person	\$ <u>1,000,000</u>
Each Accident	\$ <u>1,000,000</u>
Property Damage:	
Each Accident	\$ <u>1,000,000</u> -
Combined Single Limit of:	\$ <u>1,000,000</u>

d. Excess or Umbrella Liability:

Per Occurrence	\$ <u>5,000,000</u>	-
General Aggregate	\$ <u>5,000,000</u>	-

e. Contractor's Pollution Liability:

Each Occurrence	\$ <u>2,000,000</u>	-
General Aggregate	\$ <u>2,000,000</u>	-

B. All insurance policies required to be purchased and maintained will contain a provision or endorsement that the coverage afforded will not be canceled or materially changed or renewal refused until at least 10 days prior written notice has been given to the insured and additional insured.

- C. Automobile liability insurance provided by Contractor shall provide coverage against claims for damages because of bodily injury or death of any person or property damage arising out of the ownership, maintenance, or use of any motor vehicle. The automobile liability policy shall be written on an occurrence basis.
- D. Contractor's commercial general liability policy shall be written on a 1996 or later ISO commercial general liability occurrence form and include the following coverages and endorsements:
 - 1. Products and completed operations coverage maintained for three years after final payment;
 - 2. Blanket contractual liability coverage to the extent permitted by law;
 - 3. Broad form property damage coverage; and
 - 4. Severability of interest; underground, explosion, and collapse coverage; personal injury coverage.
- E. The Contractor's commercial general liability and automobile liability, umbrella or excess, and pollution liability policies shall include and list Owner and Engineer and the respective officers, directors, members, partners, employees, agents, consultants, and subcontractors of each as additional insureds; and the insurance afforded to these additional insureds shall provide primary coverage for all claims covered thereby (including as applicable those arising from both ongoing and completed operations) on a non-contributory basis.
 - 1. Additional insured endorsements will include both ongoing operations and products and completed operations coverage through ISO Endorsements CG 20 10 10 01 and CG 20 37 10 01 (together). If Contractor demonstrates to Owner that the specified ISO endorsements are not commercially available, then Contractor may satisfy this requirement by providing equivalent endorsements.
 - 2. Contractor shall provide ISO Endorsement CG 20 32 07 04, "Additional Insured—Engineers, Architects or Surveyors Not Engaged by the Named Insured" or its equivalent for design professional additional insureds.
- F. Umbrella or excess liability insurance shall be written over the underlying employer's liability, commercial general liability, and automobile liability insurance. Subject to industry-standard exclusions, the coverage afforded shall be procured on a "follow the form" basis as to each of the underlying policies. Contractor may demonstrate to Owner that Contractor has met the combined limits of insurance (underlying policy plus applicable umbrella) specified for employer's liability, commercial general liability, and automobile liability through the primary policies alone, or through combinations of the primary insurance policies and an umbrella or excess liability policy.
- G. The Contractor shall provide property insurance covering physical loss or damage during construction to structures, materials, fixtures, and equipment, including those materials, fixtures, or equipment in storage or transit.
- H. If Contractor has failed to obtain and maintain required insurance, Owner may exclude the Contractor from the Site, impose an appropriate set-off against payment, and exercise Owner's termination rights under Article 15.

ARTICLE 7 - CONTRACTOR'S RESPONSIBILITIES

7.01 Supervision and Superintendence

- A. Contractor shall supervise and direct the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract Documents. Contractor shall be solely responsible for the means, methods, techniques, sequences, safety, and procedures of construction.
- B. Contractor shall assign a competent resident superintendent who is to be present at all times during the execution of the Work. This resident superintendent shall not be replaced without written notice to and approval by the Owner and Engineer except under extraordinary circumstances.
- C. Contractor shall at all times maintain good discipline and order at the Site.
- D. Except as otherwise required for the safety or protection of persons or the Work or property at the Site or adjacent thereto, and except as otherwise stated in the Contract Documents, all Work at the Site shall be performed during regular working hours, Monday through Friday.

7.02 Other Work at the Site

- A. In addition to and apart from the Work of the Contractor, other work may occur at or adjacent to the Site. Contractor shall take reasonable and customary measures to avoid damaging, delaying, disrupting, or interfering with the work of Owner, any other contractor, or any utility owner performing other work at or adjacent to the Site.

7.03 Services, Materials, and Equipment

- A. Unless otherwise specified in the Contract Documents, Contractor shall provide and assume full responsibility for all services, materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities, and all other facilities and incidentals necessary for the performance, testing, start up, and completion of the Work, whether or not such items are specifically called for in the Contract Documents.
- B. All materials and equipment incorporated into the Work shall be new, of good quality and shall be stored, applied, installed, connected, erected, protected, used, cleaned, and conditioned in accordance with instructions of the applicable supplier, except as otherwise may be provided in the Contract Documents.

7.04 Subcontractors and Suppliers

- A. Contractor may retain subcontractors and suppliers for the performance of parts of the Work. Such subcontractors and suppliers must be acceptable to Owner.

7.05 Quality Management

- A. Contractor is fully responsible for the managing quality to ensure Work is completed in accordance with the Contract Documents.

7.06 Licenses, Fees and Permits

- A. Contractor shall pay all license fees and royalties and assume all costs incident to performing the Work or the incorporation in the Work of any invention, design, process, product, or device which is the subject of patent rights or copyrights held by others.

- B. Contractor shall obtain and pay for all construction permits and licenses unless otherwise provided in the Contract Documents.

7.07 Laws and Regulations; Taxes

- A. Contractor shall give all notices required by and shall comply with all local, state, and federal Laws and Regulations applicable to the performance of the Work. Except where otherwise expressly required by applicable Laws and Regulations, neither Owner nor Engineer shall be responsible for monitoring Contractor's compliance with any Laws or Regulations.
- B. Contractor shall bear all resulting costs and losses, and shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages if Contractor performs any Work or takes any other action knowing or having reason to know that it is contrary to Laws or Regulations.
- C. This project is a Vermont Tax Exempt Project. Otherwise the Contractor shall pay all applicable sales, consumer, use, and other similar taxes Contractor is required to pay in accordance with Laws and Regulations.

7.08 Record Documents

- A. Contractor shall maintain one printed record copy of all Drawings, Specifications, Addenda, Change Orders, Work Change Directives, Field Orders, written interpretations and clarifications, and approved shop drawings in a safe place at the Site. Contractor shall annotate them to show changes made during construction. Contractor shall deliver these record documents to Engineer prior to final payment for the Work.

7.09 Safety and Protection

- A. Contractor shall be solely responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the Work.
- B. Contractor shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury, or loss to:
 - 1. All persons on the Site or who may be affected by the Work;
 - 2. All the Work and materials and equipment to be incorporated therein, whether in storage on or off the Site; and
 - 3. Other property at the Site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, other work in progress, utilities, and underground facilities not designated for removal, relocation, or replacement in the course of construction.
- C. All damage, injury, or loss to any property caused, directly or indirectly, in whole or in part, by Contractor, or anyone for whose acts the Contractor may be liable, shall be remedied by Contractor at its expense (except damage or loss attributable to the fault of Contract Documents or to the acts or omissions of Owner or Engineer and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of Contractor).
- D. Contractor shall be responsible for coordinating any exchange of material safety data sheets or other hazard communication information required to be made available to or exchanged between or among employers at the Site in accordance with Laws or Regulations.

- E. In emergencies affecting the safety or protection of persons or the Work or property at the Site or adjacent thereto, Contractor shall act to prevent threatened damage, injury, or loss. Contractor shall give Engineer prompt written notice if Contractor believes that any significant changes in the Work or variations from the Contract Documents have been caused thereby or are required as a result thereof. If Engineer determines that a change in the Contract Documents is required because of the action taken by Contractor in response to such an emergency, a Work Change Directive or Change Order will be issued.

7.10 Shop Drawings, Samples, and Other Submittals

- A. Contractor shall review and coordinate the shop drawing and samples with the requirements of the Work and the Contract Documents and shall verify all related field measurements, quantities, dimensions, specified performance and design criteria, installation requirements, materials, catalog numbers, and similar information.
- B. Each submittal shall bear a stamp or specific written certification that Contractor has satisfied Contractor's obligations under the Contract Documents with respect to Contractor's review of that submittal, and that Contractor approves the submittal.
- C. With each submittal, Contractor shall give Engineer specific written notice, in a communication separate from the submittal, of any variations that the shop drawing or sample may have from the requirements of the Contract Documents.
- D. Engineer will provide timely review of shop drawings and samples.
- E. Engineer's review and approval will not extend to means, methods, techniques, sequences, or procedures of construction or to safety precautions or programs.
- F. Engineer's review and approval of a separate item does not indicate approval of the assembly in which the item functions.
- G. Contractor shall make corrections required by Engineer and shall return the required number of corrected copies of shop drawings and submit, as required, new samples for review and approval. Contractor shall direct specific attention in writing to revisions other than the corrections called for by Engineer on previous submittals.
- H. Shop drawings are not Contract Documents.

7.11 Warranties and Guarantees

- A. Contractor warrants and guarantees to Owner that all Work will be in accordance with the Contract Documents and will not be defective. Engineer and its officers, directors, members, partners, employees, agents, consultants, and subcontractors shall be entitled to rely on Contractor's warranty and guarantee.

7.12 Correction Period

- A. If within one year after the date of substantial completion, any Work is found to be defective, or if the repair of any damages to the Site, adjacent areas that Contractor has arranged to use through construction easements or otherwise, and other adjacent areas used by Contractor as permitted by Laws and Regulations, is found to be defective, then Contractor shall promptly and without cost to Owner, correct such defective Work.

7.13 Indemnification

- A. To the fullest extent permitted by Laws and Regulations, and in addition to any other obligations of Contractor under the Contract or otherwise, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners,

employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to the performance of the Work, provided that any such claim, cost, loss, or damage is attributable to bodily injury, sickness, disease, or death, or to injury to or destruction of tangible property (other than the Work itself), including the loss of use resulting therefrom but only to the extent caused by any negligent act or omission of Contractor, any subcontractor, any supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work or anyone for whose acts they may be liable.

ARTICLE 8 - OWNER'S RESPONSIBILITIES

8.01 Owner's Responsibilities

- A. Except as otherwise provided in the Contract Documents, Owner shall issue all communications to Contractor through Engineer.
- B. Owner shall make payments to Contractor as provided in this Contract.
- C. Owner shall provide Site and easements required to construct the Project.
- D. If Owner intends to contract with others for the performance of other work at or adjacent to the Site, unless stated elsewhere in the Contract Documents, Owner shall have sole authority and responsibility for such coordination.
- E. The Owner shall be responsible for performing inspections and tests required by applicable codes.
- F. The Owner shall not supervise, direct, or have control or authority over, nor be responsible for, Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Owner will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.
- G. While at the Site, Owner's employees and representatives shall comply with the specific applicable requirements of Contractor's safety programs of which Owner has been informed.
- H. Owner shall furnish copies of any applicable Owner safety programs to Contractor.

ARTICLE 9 - ENGINEER'S STATUS DURING CONSTRUCTION

9.01 Engineer's Status

- A. Engineer will be Owner's representative during construction. The duties and responsibilities and the limitations of authority of Engineer as Owner's representative during construction are set forth in this Contract.
- B. Neither Engineer's authority or responsibility under this Article 9 or under any other provision of the Contract, nor any decision made by Engineer in good faith either to exercise or not exercise such authority or responsibility or the undertaking, exercise, or performance of any authority or responsibility by Engineer, shall create, impose, or give rise to any duty in contract, tort, or otherwise owed by Engineer to Contractor, any subcontractor, any supplier, any other individual or entity, or to any surety for or employee or agent of any of them.

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- C. Engineer will make visits to the Site at intervals appropriate to the various stages of construction. Engineer will not be required to make exhaustive or continuous inspections on the Site to check the quality or quantity of the Work.
- D. Engineer has the authority to reject Work if Contractor fails to perform Work in accordance with the Contract Documents.
- E. Engineer will render decisions regarding the requirements of the Contract Documents, and judge the acceptability of the Work.
- F. Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Engineer will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.

ARTICLE 10 - CHANGES IN THE WORK

10.01 Authority to Change the Work

- A. Without invalidating the Contract and without notice to any surety, Owner may, at any time or from time to time, order additions, deletions, or revisions in the Work.

10.02 Change Orders

- A. Owner and Contractor shall execute appropriate Change Orders covering:
 - 1. Changes in the Contract Price or Contract Times which are agreed to by the parties, including any undisputed sum or amount of time for Work actually performed in accordance with a Work Change Directive;
 - 2. Changes in the Work which are: (a) ordered by Owner or (b) agreed to by the parties or (c) resulting from the Engineer's decision, subject to the need for Engineer's recommendation if the change in the Work involves the design (as set forth in the Drawings, Specifications, or otherwise), or other engineering or technical matters; and
 - 3. Changes in the Contract Price or Contract Times or other changes which embody the substance of any final binding results under Article 12.
- B. If the provisions of any bond require notice to be given to a surety of any change affecting the general scope of the Work or the provisions of the Contract Documents (including, but not limited to, Contract Price or Contract Times), the giving of any such notice will be Contractor's responsibility. The amount of each applicable bond will be adjusted to reflect the effect of any such change.

ARTICLE 11 - DIFFERING SUBSURFACE OR PHYSICAL CONDITIONS

11.01 Differing Conditions Process

- A. If Contractor believes that any subsurface or physical condition including but not limited to utilities or other underground facilities that are uncovered or revealed at the Site either differs materially from that shown or indicated in the Contract Documents or is of an unusual nature, and differs materially from conditions ordinarily encountered and generally recognized as inherent in Work of the character provided for in the Contract Documents then Contractor shall, promptly after becoming aware thereof and before further disturbing the subsurface or physical conditions or performing any Work in connection therewith (except in an emergency), notify Owner and Engineer in writing about such condition. Contractor shall not further disturb such condition or perform any Work in connection therewith (except with respect to an emergency) until receipt of a written statement permitting Contractor to do so.
- B. After receipt of written notice, Engineer will promptly:
 - 1. Review the subsurface or physical condition in question;
 - 2. Determine necessity for Owner obtaining additional exploration or tests with respect to the condition;
 - 3. Determine whether the condition falls within the differing site condition as stated herein;
 - 4. Obtain any pertinent cost or schedule information from Contractor;
 - 5. Prepare recommendations to Owner regarding the Contractor's resumption of Work in connection with the subsurface or physical condition in question and the need for any change in the Drawings or Specifications; and
 - 6. Advise Owner in writing of Engineer's findings, conclusions, and recommendations.
- C. After receipt of Engineer's written findings, conclusions, and recommendations, Owner shall issue a written statement to Contractor regarding the subsurface or physical condition in question, addressing the resumption of Work in connection with such condition, indicating whether any change in the Drawings or Specifications will be made, and adopting or rejecting Engineer's written findings, conclusions, and recommendations, in whole or in part.

ARTICLE 12 - CLAIMS AND DISPUTE RESOLUTION

12.01 Claims Process

- A. The party submitting a claim shall deliver it directly to the other party to the Contract and the Engineer promptly (but in no event later than 10 days) after the start of the event giving rise thereto.
- B. The party receiving a claim shall review it thoroughly, giving full consideration to its merits. The two parties shall seek to resolve the claim through the exchange of information and direct negotiations. All actions taken on a claim shall be stated in writing and submitted to the other party.
- C. If efforts to resolve a claim are not successful, the party receiving the claim may deny it by giving written notice of denial to the other party. If the receiving party does not take action on the claim within 45 days, the claim is deemed denied.

- D. If the dispute is not resolved to the satisfaction of the parties, Owner or Contractor shall give written notice to the other party of the intent to submit the dispute to a court of competent jurisdiction unless the Owner and Contractor both agree to an alternative dispute resolution process.

ARTICLE 13 - TESTS AND INSPECTIONS; CORRECTION OF DEFECTIVE WORK

13.01 Tests and Inspections

- A. Owner and Engineer will have access to the Site and the Work at reasonable times for their observation, inspection, and testing. Contractor shall provide them proper and safe conditions for such access.
- B. Contractor shall give Engineer timely notice of readiness of the Work for all required inspections and tests, and shall cooperate with inspection and testing personnel to facilitate required inspections and tests.
- C. If any Work that is to be inspected, tested, or approved is covered by Contractor without written concurrence of Engineer, Contractor shall, if requested by Engineer, uncover such Work for observation. Such uncovering shall be at Contractor's expense.

13.02 Defective Work

- A. Contractor shall ensure that the Work is not defective.
- B. Engineer has the authority to determine whether Work is defective, and to reject defective Work.
- C. Prompt notice of all defective Work of which Owner or Engineer has actual knowledge will be given to Contractor.
- D. The Contractor shall promptly correct all such defective Work.
- E. When correcting defective Work, Contractor shall take no action that would void or otherwise impair Owner's special warranty and guarantee, if any, on said Work.
- F. If the Work is defective or Contractor fails to supply sufficient skilled workers or suitable materials or equipment, or fails to perform the Work in such a way that the completed Work will conform to the Contract Documents, then Owner may order Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated.
- G. If the defective work is not corrected in a timely manner, the Owner may complete the corrective Work and shall deduct the cost of such work from subsequent payments to the Contractor.

ARTICLE 14 - PAYMENTS TO CONTRACTOR

14.01 Progress Payments

- A. The Contractor shall prepare a schedule of values that will serve as the basis for progress payments. The schedule of values will be in a form of application for payment acceptable to Engineer. The unit price breakdown submitted with the bid will be used for unit price work. Break lump sum items into units that will allow for measurement of Work in progress.

14.02 Applications for Payments:

- A. Contractor shall submit an application for payment in a form acceptable to the Engineer, no more frequently than monthly, to Engineer. Applications for payment will be prepared and signed by Contractor. Contractor shall provide supporting documentation required by the Contract Documents. Payment will be paid for Work completed as of the date of the application for payment.
- B. Beginning with the second application for payment, each application shall include an affidavit of Contractor stating that all previous progress payments received on account of the Work have been applied on account to discharge Contractor's legitimate obligations associated with prior applications for payment.

14.03 Retainage

- A. The Owner shall retain 10% of each progress payment for the first 50% of the Contract value and will hold this value until the Work is substantially complete.

14.04 Review of Applications

- A. Within 10 days after receipt of each application for payment, the Engineer will either indicate in writing a recommendation for payment and present the application for payment to Owner or return the application for payment to Contractor indicating in writing Engineer's reasons for refusing to recommend payment. The Contractor will make the necessary corrections and resubmit the application for payment.
- B. Engineer will recommend reductions in payment (set-offs) which, in the opinion of the Engineer, are necessary to protect Owner from loss because the Work is defective and requires correction or replacement.
- C. The Owner is entitled to impose set-offs against payment based on any claims that have been made against Owner on account of Contractor's conduct in the performance of the Work, incurred costs, losses, or damages on account of Contractor's conduct in the performance of the Work, or liquidated damages that have accrued as a result of Contractor's failure to complete the Work.

14.05 Contractor's Warranty of Title

- A. Contractor warrants and guarantees that title to all Work, materials, and equipment furnished under the Contract will pass to Owner free and clear of (1) all liens and other title defects, and (2) all patent, licensing, copyright, or royalty obligations, no later than seven days after the time of payment by Owner.

14.06 Substantial Completion

- A. The Contractor shall notify Owner and Engineer in writing that the Work is substantially complete and request the Engineer issue a certificate of substantial completion when

Contractor considers the Work ready for its intended use. Contractor shall at the same time submit to Owner and Engineer an initial draft of punch list items to be completed or corrected before final payment.

- B. Engineer will make an inspection of the Work with the Owner and Contractor to determine the status of completion. If Engineer does not consider the Work substantially complete, Engineer will notify Contractor and Owner in writing giving the reasons therefor.
- C. If Engineer considers the Work substantially complete or upon resolution of all reasons for non-issuance of a certificate identified in 14.06.B, Engineer will deliver to Owner a certificate of substantial completion which shall fix the date of substantial completion and include a punch list of items to be completed or corrected before final payment.

14.07 Final Inspection

- A. Upon written notice from Contractor that the entire Work is complete, Engineer will promptly make a final inspection with Owner and Contractor and will notify Contractor in writing of all particulars in which this inspection reveals that the Work, or agreed portion thereof, is incomplete or defective. Contractor shall immediately take such measures as are necessary to complete such Work or remedy such deficiencies.

14.08 Final Payment

- A. Contractor may make application for final payment after Contractor has satisfactorily completed all Work defined in the Contract, including providing all maintenance and operating instructions, schedules, guarantees, bonds, certificates or other evidence of insurance, certificates of inspection, annotated record documents and other documents.
- B. The final application for payment shall be accompanied (except as previously delivered) by:
 - 1. All documentation called for in the Contract Documents;
 - 2. Consent of the surety to final payment;
 - 3. Satisfactory evidence that all title issues have been resolved such that title to all Work, materials, and equipment has passed to Owner free and clear of any liens or other title defects, or will so pass upon final payment;
 - 4. A list of all disputes that Contractor believes are unsettled; and
 - 5. Complete and legally effective releases or waivers (satisfactory to Owner) of all lien rights arising out of the Work, and of liens filed in connection with the Work.
- C. The Work is complete (subject to surviving obligations) when it is ready for final payment as established by the Engineer's written recommendation of final payment.

14.09 Waiver of Claims

- A. The making of final payment will not constitute a waiver by Owner of claims or rights against Contractor.
- B. The acceptance of final payment by Contractor will constitute a waiver by Contractor of all claims and rights against Owner other than those pending matters that have been duly submitted.

ARTICLE 15 - SUSPENSION OF WORK AND TERMINATION

15.01 Owner May Suspend Work

- A. At any time and without cause, Owner may suspend the Work or any portion thereof for a period of not more than 60 consecutive days by written notice to Contractor and Engineer. Such notice will fix the date on which Work will be resumed. Contractor shall resume the Work on the date so fixed. Contractor shall be entitled to an adjustment in the Contract Price or an extension of the Contract Times, or both, directly attributable to any such suspension.

15.02 Owner May Terminate for Cause

- A. Contractor's failure to perform the Work in accordance with the Contract Documents or other failure to comply with a material term of the Contract Documents will constitute a default by Contractor and justify termination for cause.
- B. If Contractor defaults in its obligations, then after giving Contractor and any surety ten days written notice that Owner is considering a declaration that Contractor is in default and termination of the Contract, Owner may proceed to:
 - 1. Declare Contractor to be in default, and give Contractor and any surety notice that the Contract is terminated; and
 - 2. Enforce the rights available to Owner under any applicable performance bond.
- C. Owner may not proceed with termination of the Contract under Paragraph 15.02.B if Contractor within seven days of receipt of notice of intent to terminate begins to correct its failure to perform and proceeds diligently to cure such failure.
- D. Subject to the terms and operation of any applicable performance bond, if Owner has terminated the Contract for cause, Owner may exclude Contractor from the Site, take possession of the Work, incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere, and complete the Work as Owner may deem expedient.
- E. In the case of a termination for cause, if the cost to complete the Work, including related claims, costs, losses, and damages, exceeds the unpaid contract balance, Contractor shall pay the difference to Owner.

15.03 Owner May Terminate for Convenience

- A. Upon seven days written notice to Contractor, Owner may, without cause and without prejudice to any other right or remedy of Owner, terminate the Contract. In such case, Contractor shall be paid for, without duplication of any items:
 - 1. Completed and acceptable Work executed in accordance with the Contract Documents prior to the effective date of termination, including fair and reasonable sums for overhead and profit on such Work;
 - 2. Expenses sustained prior to the effective date of termination in performing services and furnishing labor, materials, or equipment as required by the Contract Documents in connection with uncompleted Work, plus fair and reasonable sums for overhead and profit on such expenses; and
 - 3. Other reasonable expenses directly attributable to termination, including costs incurred to prepare a termination for convenience cost proposal.

- B. Contractor shall not be paid on account of loss of anticipated overhead, profits, or revenue, or other economic loss arising out of or resulting from such termination.

15.04 Contractor May Stop Work or Terminate

- A. If, through no act or fault of Contractor, (1) the Work is suspended for more than 90 consecutive days by Owner or under an order of court or other public authority, or (2) Owner fails for 30 days to pay Contractor any sum finally determined to be due, then Contractor may, upon seven days written notice to Owner, and provided Owner does not remedy such suspension or failure within that time, either stop the Work until payment is received, or terminate the Contract and recover payment from the Owner.

ARTICLE 16 - CONTRACTOR'S REPRESENTATIONS

16.01 Contractor Representations

- A. Contractor makes the following representations when entering into this Contract:
 - 1. Contractor has examined and carefully studied the Contract Documents, and any data and reference items identified in the Contract Documents.
 - 2. Contractor has visited the Site, conducted a thorough visual examination of the Site and adjacent areas, and become familiar with and is satisfied as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work.
 - 3. Contractor is familiar with and is satisfied as to all Laws and Regulations that may affect cost, progress, and performance of the Work.
 - 4. Contractor has considered the information known to Contractor itself; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Contract Documents; and the Site-related reports and drawings identified in the Contract Documents, with respect to the effect of such information, observations, and documents on:
 - a. The cost, progress, and performance of the Work;
 - b. The means, methods, techniques, sequences, and procedures of construction to be employed by Contractor; and
 - c. Contractor's safety precautions and programs.
 - 5. Based on the information and observations referred to in the preceding paragraph, Contractor agrees that no further examinations, investigations, explorations, tests, studies, or data are necessary for the performance of the Work at the Contract Price, within the Contract Times, and in accordance with the other terms and conditions of the Contract.
 - 6. Contractor is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Contract Documents.
 - 7. Contractor has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Contractor has discovered in the Contract Documents, and the written resolution thereof by Engineer is acceptable to Contractor.
 - 8. The Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.

9. Contractor's entry into this Contract constitutes an incontrovertible representation by Contractor that, without exception, all prices in the Contract are premised upon performing and furnishing the Work required by the Contract Documents.

ARTICLE 17 - MISCELLANEOUS

17.01 Cumulative Remedies

- A. The duties and obligations imposed by this Contract and the rights and remedies available hereunder to the parties hereto are in addition to, and are not to be construed in any way as a limitation of, any rights and remedies available to any or all of them which are otherwise imposed or available by Laws or Regulations, by special warranty or guarantee, or by other provisions of the Contract. The provisions of this paragraph will be as effective as if repeated specifically in the Contract Documents in connection with each particular duty, obligation, right, and remedy to which they apply.

17.02 Limitation of Damages

- A. Neither Owner, Engineer, nor any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, shall be liable to Contractor for any claims, costs, losses, or damages sustained by Contractor on or in connection with any other project or anticipated project.

17.03 No Waiver

- A. A party's non-enforcement of any provision shall not constitute a waiver of that provision, nor shall it affect the enforceability of that provision or of the remainder of this Contract.

17.04 Survival of Obligations

- A. All representations, indemnifications, warranties, and guarantees made in, required by, or given in accordance with the Contract, as well as all continuing obligations indicated in the Contract, will survive final payment, completion, and acceptance of the Work or termination or completion of the Contract or termination of the services of Contractor.

17.05 Contractor's Certifications

- A. Contractor certifies that it has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for or in executing the Contract.

17.06 Controlling Law

- A. This Contract is to be governed by the law of the State of Vermont.

IN WITNESS WHEREOF, Owner and Contractor have signed this Contract.

This Contract will be effective on _____(which is the Effective Date of the Contract).

OWNER:

CONTRACTOR:

Town of Charlotte

By: _____

By: _____

Title: Seletboard Chair

Title: _____

(If Contractor is a corporation, a partnership, or a joint venture, attach evidence of authority to sign.)

Attest: _____

Attest: _____

Title: _____

Title: _____

Address for giving notices:

Address for giving notices:

Town of Charlotte, PO Box 159, Charlotte, VT 05445

License No.: _____

(where applicable)

(If Owner is a corporation, attach evidence of authority to sign. If Owner is a public body, attach evidence of authority to sign and resolution or other documents authorizing execution of this Contract.

SPECIAL CONDITIONS

1. David Bacon Wage Rates
2. Backwater Valve Sales Sheet
3. Noritz Bird Screen
4. Oliver Seed Catalog
5. Test Boring and Soil Information

"General Decision Number: VT20240059 01/05/2024

Superseded General Decision Number: VT20230059

State: Vermont

Construction Type: Highway

County: Chittenden County in Vermont.

HIGHWAY CONSTRUCTION PROJECTS (excluding tunnels, building structures in rest area projects & railroad construction; bascule, suspension & spandrel arch bridges designed for commercial navigation, bridges involving marine construction; and other major bridges).

Note: Contracts subject to the Davis-Bacon Act are generally required to pay at least the applicable minimum wage rate required under Executive Order 14026 or Executive Order 13658. Please note that these Executive Orders apply to covered contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but do not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(1).

If the contract is entered into on or after January 30, 2022, or the contract is renewed or extended (e.g., an option is exercised) on or after January 30, 2022:	<ul style="list-style-type: none">. Executive Order 14026 generally applies to the contract.. The contractor must pay all covered workers at least \$17.20 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in 2024.
If the contract was awarded on or between January 1, 2015 and January 29, 2022, and the contract is not renewed or extended on or after January 30, 2022:	<ul style="list-style-type: none">. Executive Order 13658 generally applies to the contract.. The contractor must pay all covered workers at least \$12.90 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on that contract in 2024.

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

** Workers in this classification may be entitled to a higher minimum wage under Executive Order 14026 (\$17.20) or 13658 (\$12.90). Please see the Note at the top of the wage determination for more information. Please also note that the minimum wage requirements of Executive Order 14026 are not currently being enforced as to any contract or subcontract to which the states of Texas, Louisiana, or Mississippi, including their agencies, are a party.

Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at <https://www.dol.gov/agencies/whd/government-contracts>.

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

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of ""identifiers"" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate

(weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than ""SU"" or ""UAVG"" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the ""SU"" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in

the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- * an existing published wage determination
- * a survey underlying a wage determination
- * a Wage and Hour Division letter setting forth a position on a wage determination matter
- * a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour National Office because National Office has responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

=====

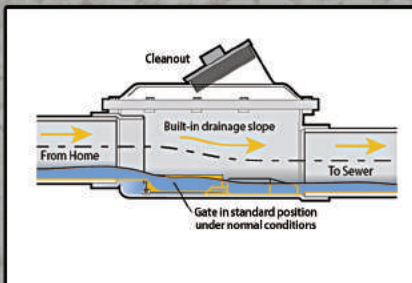
END OF GENERAL DECISION"

FULLPORT BACKWATER VALVE

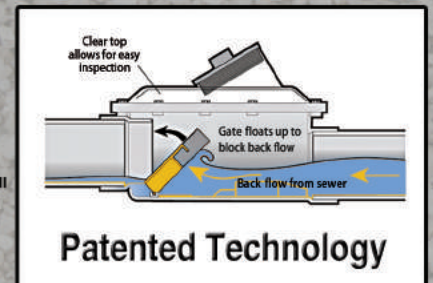
The only backwater valve with a clear cover that allows for easy inspection



THE ULTIMATE BACKWATER VALVE



- Built-in main sewer cleanout
- Normally-open gate allows free circulation of air through plumbing system
- Zero-flow restriction "eliminates blockages"
- Ideal for new and retrofit installations



Patented Technology

MAINLINE
BACKFLOW PRODUCTS

www.backwatervalve.com

MAINLINE

BACKFLOW PRODUCTS

SUBMITTAL SHEET

Part Description:

4" ABS Fullport Backwater Valve w/ Sewer Cleanout

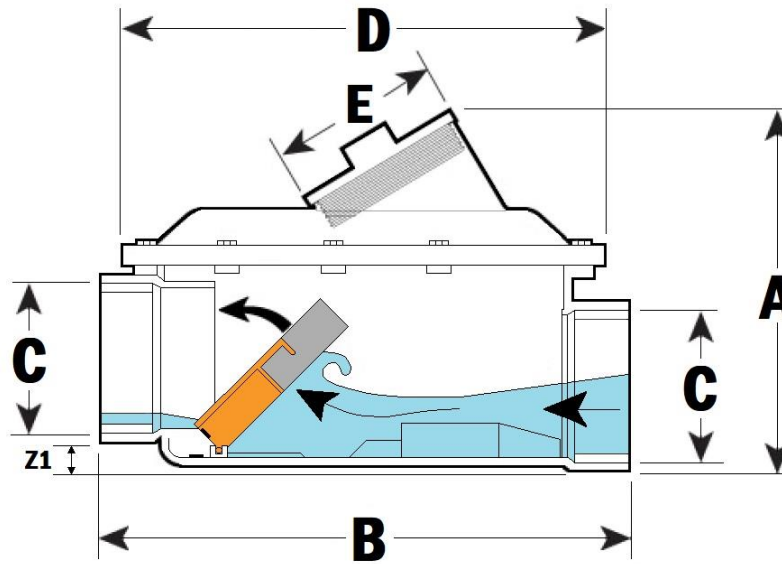
4" PVC Fullport Backwater Valve w/ Sewer Cleanout

Part Number:

ML-4963A (ABS – DWV MODEL)

ML-4963P (PVC – DWV MODEL)

Approvals and Listings maintained by:
Mainline Backflow Products
 Tel: 780-413-7204 Toll Free: 1-877-734-8691



Dimensions (inches)	
A	11 1/2"
B	15 1/4"
C	4"
D	13 1/2"
E	5"
Z1	3/4"

ITEM # SUBMITTED _____
 JOB NAME SPEAR STREET SLOPE STABILIZATION
 LOCATION CHARLOTTE, VERMONT USA
 ENGINEER CIVIL ENGINEERING ASSOCIATES, INC.
 CONTRACTOR _____
 PO# _____ TAG _____

Part Number:	Material/Color:	Weight (lbs):	Ctn Qty:	Skid Qty:
ML-4963A	ABS - BLACK	7	4	96
ML-4963P	PVC - WHITE	8	4	96

JUST NEED ONE



Tools & Home Improvement > Building Supplies > HVAC > Ducting

Sponsored

Noritz VT4-S Straight Bird Screen Horizontal Vent Termination, Stainless Steel

Brand: Noritz

\$33⁵⁴

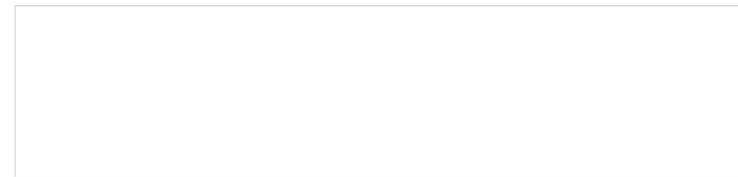
Apply now and get a \$10 Amazon Gift Card upon approval of the Amazon Store Card, or see if you pre-qualify with no impact to your credit bureau score.

Color: **Stainless Steel**

- Type: Vent Pipe - AL29-4C
- Material: Stainless Steel
- Finish: Stainless Steel
- Series: 4 Inch SUS

[See more product details](#)

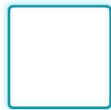
[Report an issue with this product or seller](#)



Sponsored



Click image to open expanded view



\$33⁵⁴

FREE delivery **November 6 - 7.**
[Details](#)

[Delivering to Nashville 37217 - Update location](#)

In Stock

Quantity: 1

Add to Cart

Buy Now

Ships from **Buildcom**
 Sold by **Buildcom**
 Returns **Returnable until Jan 31, 2025**
 Payment **Secure transaction**

Add to List

Other sellers on Amazon

New (4) from \$33⁵⁰ & **FREE Shipping**

Buy it with



Total price: \$52.36

Add all 3 to Cart

These items are shipped from and sold by different sellers.

Technical Details

Manufacturer	Noritz
Part Number	VT4-S
Item Weight	1 pounds
Product Dimensions	1 x 1 x 1 inches
Item model number	VT4-S
Size	4
Color	Stainless Steel
Finish	Stainless Steel
Material	stainless steel
Item Package Quantity	1

Additional Information

ASIN	B008XZF60I
Best Sellers Rank	#1,738,598 in Tools & Home Improvement (See Top 100 in Tools & Home Improvement) #4,706 in HVAC Ducting
Date First Available	March 20, 2012

Warranty & Support

Amazon.com Return Policy: **Amazon.com Voluntary 30-Day Return Guarantee:** You can return many items you have purchased within 30 days following delivery of the item to you. Our Voluntary 30-Day Return Guarantee does not affect your legal right of withdrawal in any way. You can find out more about the exceptions and conditions [here](#).

Product Warranty: For warranty information about this product, please [click here](#)

Feedback

Would you like to [tell us about a lower price?](#)

Videos

Help others learn more about this product by uploading a video!

Upload your video

Product Description

The VT4-S 4 in. diameter straight stainless steel terminating adds a professional and important component to your vent pipe termination. This straight bird screen termination helps protect your piping and tankless water heater from the elements while adding a strong durable component to a location susceptible to damage. N-Vent: Not only is the Noritz N-Vent easy to install and known for its tight seals, but it is approved for tankless and boiler stainless steel exhaust installations, enabling you to know you've made the right choice in both form and function. Features: High temperature rated stainless steel Easy to install Quick-snap connection Unique gasket enables tight seal Introducing the latest advancements in tankless water heater technology for your home, Noritz tankless hot water heaters are both eco-friendly and energy efficient, providing savings up to 40% in utility costs. Their gas water heaters warm water on demand, which means you'll always have hot water and it will never run out.

Products related to this item

Sponsored ⓘ

L.D. OLIVER SEED CO., INC.

WHOLESALE CATALOG



EST. 1971

L.D. OLIVER SEED CO., INC.
P. O. BOX 156, 26 SUNSET AVE.
MILTON, VT 05468
TELEPHONE: (802) 893-1241
FAX: (802) 893-2194



WEBSITE: www.ldoliverseed.com

CATAMOUNT SPECIALTY SEED MIXES

BANK MIX - A fast germinating, coarse-seeded mix well suited for sites with minimum preparation. As its name implies, for use on banks and other high erosion sites. Seed at 112 lbs. per acre.

FORMULA:

- 87% WINTER RYE
- 5% CREEPING RED FESCUE
- 4% PERENNIAL RYEGRASS
- 4% MEDIUM RED CLOVER

Available size: 50 lb. Item #BANK050

HORSE LAWN - Want to let your horses graze on your lawn? Use this endophyte-free lawn mix. Seed at 5-6# per 1000 sq. ft.

FORMULA:

- 40% DUO FESTULOLIUM
- 25% CREEPING RED FESCUE
- 20% KENTUCKY BLUEGRASS
- 10% FEAST II ANNUAL-TET RYEGRASS
- 5% HIGHLAND BENTGRASS



Available sizes: 50 lb. Item #HORSE050
25 lb. Item #HORSE025

NEW HAMPSHIRE SLOPE 44 - Provides quick cover and dense sod for establishing slopes and controlling erosion. Will tolerate acidic soils with medium fertility, and prefers well drained conditions. Not recommended for grazing or forage. Seed at 60 lbs. per acre.

FORMULA:

- 43% CREEPING RED FESCUE
- 33% PERENNIAL RYEGRASS
- 8% REDTOP
- 8% ALSIKE CLOVER
- 8% EMPIRE BIRDSFOOT TREFOIL

Available size: 50 lb. Item #NHSL44050

EARLY GREEN - A quick germinating mix which establishes rapidly. Seed at 5 lbs. per 1000 sq. ft.

FORMULA:

- 50% PERENNIAL RYEGRASS
- 25% CREEPING RED FESCUE
- 15% KENTUCKY BLUEGRASS
- 10% ANNUAL RYEGRASS



Available sizes: 50 lb. Item #EAGR050
25 lb. Item #EAGR025
7 lb. Item #EAGR007
3 lb. Item #EAGR003

STATE OF VERMONT CERTIFIED MIXES - available in 50 lb. bags:

VT AOT Low Grow Mix	Item #VTAOTLG050
VT AOT Rural Conservation Mix	Item #VTAOTRU050
VT AOT Urban Conservation Mix	Item #VTAOTUR050



Please call prior to pick up for these mixes.

Description and Classification of Soil

1. Density or Consistency: The density or consistency of a soil sample is based on the Standard Penetration Test N-value according to the following table:

Density of Granular Soil	SPT N-Value		Consistency of Cohesive Soil
Very Loose	0-4	<2	Very Soft
Loose	5-10	2-4	Soft
Medium Dense	11-30	5-8	Medium Stiff
Dense	31-50	9-15	Stiff
Very Dense	>50	16-30	Very Stiff
		>30	Hard

The Standard Penetration Resistance, or N-value in blows per foot, is the sum of the blows recorded over the second and third 6-inch interval.

A number followed by "/3" indicates the distance that the sampler advanced. For example, "100/4" indicates that 100 blows of a 140-pound hammer falling 30 inches advanced the sampler 4 inches. "WOR/24" indicates the weight of the drilling rods without the hammer caused the sampler to advance 24 inches.

"WOH" indicates the static weight of the 140-pound hammer and the drilling rods attached to the split spoon sampler were sufficient to cause the sampler to advance.

"WOR" indicates the static weight of the drilling rods attached to the split spoon sampler was sufficient to cause the sampler to advance.

2. Color: The color of a soil sample is based on visual observation.

3. Soil Components

- A. Description: The components of a soil sample are described by visually estimating the percentage of each component by weight of the total sample using a Modified Burmister System.

- i. Major Component: The major soil component is written with upper case letters for granular soil (e.g., SAND, GRAVEL) and a combination of upper- and lower-case letters for fine grained soil (e.g., Silty CLAY, Clayey SILT).

- ii. Minor Component: The minor soil components are written with the first letter of each soil type in upper case, and the remaining letters in lower case (e.g., Gravel, Silt). The minor components are identified and prefaced in the description based on the following percentages:

Preface	Percentage
and	35-50
some	20-35
little	10-20
trace	0-10

- iii. Note: The actual percentages of gravel soil may differ from that measured when sampling with a standard split spoon sampler because of the relatively small sampler diameter. Also, it is not possible to identify the presence of boulders and cobbles using a standard split spoon sampler.

B. Definitions

- i. Granular Soil: A granular soil sample is defined by the following particle sizes as referenced to a standard sieve:

Material	Description	Standard Sieve Limit	
		Upper	Lower
Boulders	C-sized	--	36 inch
	B-sized	36 inch	24 inch
	A-sized	24 inch	12 inch
Cobbles	--	12 inch	3 inch
Gravel	coarse	3 inch	3/4 inch
	fine	3/4 inch	No. 4
Sand	coarse	No. 4	No. 10
	medium	No. 10	No. 40
	fine	No. 40	No. 200

- ii. Fine Grained Soil: The degree of plasticity of fine-grained soils is defined as follows:

Material	Degree of Plasticity	Plasticity Index (PI)	Smallest Thread Diameter (in.)
SILT	Non-Plastic	0	None
Clayey SILT	Slight	1 to 5	1/4
SILT & CLAY	Low	5 to 10	1/8
CLAY & SILT	Medium	10 to 20	1/16
Silty CLAY	High	20 to 40	1/32
CLAY	Very High	40+	1/64

- iii. Organic Soil: An organic soil sample is classified by observation of the sample structure as follows:

Material	Description
TOPSOIL	Surficial soils that support plant life and which contain organic matter.
SUBSOIL	Soil underlying the topsoil which may contain roots or plant fibers.
PEAT	Deposits of plant remains in which the original plant fibers or root structure are visible.
ORGANIC SILT	Deposit of plant remains in which the original plant fibers or root structure have decomposed.

- iv. Non-Soil Constituents: Non-soil constituents (artificial or anthropogenic material, organic materials, cobbles and boulders) are described as follows:

The following terminology is used to denote size ranges of non-soil constituents such as man-made objects or fill material:

Descriptive Term	Size Range	Comparative Term
Specks	< No. 200 Sieve	Silt and Clay fines
Particles	No. 200 Sieve to No. 4 Sieve	Sand
Fragments	No. 4 Sieve to 3 in.	Gravel
Pieces	3 in. to 12 in.	Cobbles
Blocks	> 12 in.	Boulders

The following terminology is used to describe the frequency that a non-soil constituent is observed by estimating the percentage of the constituent by weight of the total sample:

Descriptor	Percentage
very few	0-5
few	5-10
common	10-20
frequent	20-35
numerous	35-50

4. Moisture Content: The moisture content of a soil sample is based on the observable presence of water according to the following table:

Dry	Moisture is not apparent, dusty.
Moist	No visible water.
Wet	Visible free water.

5. Other Pertinent Characteristics: Pertinent characteristics observed in a soil sample should be noted according to the following table:

Soil Structure Produced by Deposition of Sediments	
Stratified	Random soil deposits of varying components of color.
Varved	Alternating soil deposits of varying thickness (i.e., clays or silts).
Stratum	Soil deposit > 12 inches thick.
Layer	Soil deposit 3 inches to 12 inches thick.
Seam	Soil deposit 1/8 inch to 3 inches thick.
Parting/Lens	Soil deposit <1/8 inch thick.



Project: Spear Street Slope Evaluation
 Location: Charlotte, Vermont
 Project No.: 6388.000

Log of Boring SH-1

Ground Elevation: 264.6 ± feet
 Datum: NAVD 1988

Sanborn, Head & Associates, Inc.

Drilling Method: Geoprobe® 7822 Track-Mounted Drill Rig - Rotary Wash w/ HW (4") Casing
 Sampling Method: 1-3/8" I.D. Split-Barrel Sampler, Automatic Hammer

Groundwater Readings

Date	Time	Depth to Water	Ref. Pt.	Depth of Casing	Depth of Hole	Stab. Time
09/17/24	08:30	19.5'	Ground Surface	4'	52' (Collapsed)	16 hrs.

Drilling Company: Platform, LLC

Foreman: M. Jordan

Date Started: 09/16/24

Date Finished: 09/16/24

Logged By: A. Lulias

Checked By: A. Coen

BORING LOG \\CONSERV\1\SHDATA\6300S\6388.000\WORK\LOGS\6388.00 LOGS.GPJ, 2017 SANBORN HEAD V1.GLB, 2017 SANBORN HEAD V1.GDT, 10/16/24

Depth (ft)	Sample Information				Stratum		Geologic Description	Remarks
	Sample No.	Depth (ft)	Spoon Blows per 6 in	Pen/ Rec (in)	Field Testing Data	Log Description		
0						---0'--- ASPHALT	(0 to 1.2') ASPHALT.	
2	S-1	1.2 - 3.2	13 18 11 3	24/18		---1.2'--- FILL	S-1 (1.2 to 3.2'): Medium dense, brown, fine to coarse SAND, little Gravel, little Silt, few Asphalt fragments. Moist. FILL.	
4	S-2	3.2 - 5.2	2 3 4 4	24/12			S-2 (3.2 to 5.2'): Medium stiff, brown, Silty CLAY. Moist. FILL.	
6	S-3	5.2 - 7.2	3 2 2 1	24/18		---5.2'--- SILTY CLAY	S-3 (5.2 to 7.2'): Soft, brown, Silty CLAY, trace Sand. Moist.	
8	S-4	7.2 - 9.2	1 1 1 1	24/14			S-4 (7.2 to 9.2'): Soft, brown, Silty CLAY, trace Gravel. Moist. Approximate 3-inch Sand seam within sample.	
10	S-5	9.2 - 11.2	WOH 1 1 2	24/24			S-5 (9.2 to 11.2'): Soft, brown, Silty CLAY, little Sand, trace Gravel. Moist.	
12	S-6	11.2 - 13.2	1 2 2 3	24/24			S-6 (11.2 to 13.2'): Soft, brown, Silty CLAY. Moist.	
14	S-7	14 - 16	WOH/12 1 2	24/24			S-7 (14 to 16'): Very soft, brown, Silty CLAY. Moist.	
20	S-8	19 - 21	1 1 1 2	24/22			S-8 (19 to 21'): Soft, brown, Silty CLAY. Wet.	Perched groundwater encountered during drilling at approximately 19 feet below ground surface.



Project: Spear Street Slope Evaluation
 Location: Charlotte, Vermont
 Project No.: 6388.000

Log of Boring SH-1

Ground Elevation: 264.6 ± feet
 Datum: NAVD 1988

Sanborn, Head & Associates, Inc.

Drilling Method: Geoprobe® 7822 Track-Mounted Drill Rig - Rotary
 Wash w/ HW (4") Casing
 Sampling Method: 1-3/8" I.D. Split-Barrel Sampler, Automatic Hammer

Groundwater Readings

Date	Time	Depth to Water	Ref. Pt.	Depth of Casing	Depth of Hole	Stab. Time
09/17/24	08:30	19.5'	Ground Surface	4'	52' (Collapsed)	16 hrs.

Drilling Company: Platform, LLC

Foreman: M. Jordan

Date Started: 09/16/24

Date Finished: 09/16/24

Logged By: A. Lulias

Checked By: A. Coen

BORING LOG \\CONSERV\1\SHDATA\6300S\6388.000\WORK\LOGS\6388.00 LOGS.GPJ, 2017 SANBORN HEAD V1.GLB, 2017 SANBORN HEAD V1.GDT, 10/16/24

Depth (ft)	Sample Information					Stratum		Geologic Description	Remarks
	Sample No.	Depth (ft)	Spoon Blows per 6 in	Pen/ Rec (in)	Field Testing Data	Log	Description		
22									
24	S-9	24 - 26	WOH/12 1 2	24/24				S-9 (24 to 26'): Very soft, gray to brown, Silty CLAY. Moist.	
26									
28									
30	S-10	29 - 31	WOH/24	24/24				S-10 (29 to 31'): Very soft, gray, Silty CLAY. Wet.	
32									
34	S-11	34 - 36	WOH/24	24/24				S-11 (34 to 36'): Very soft, gray, Silty CLAY. Wet.	
36									
38									
40	S-12	39 - 41	1 1 3 2	24/11				S-12 (39 to 41'): Soft, gray, Silty CLAY. Wet. Approximate 4-inch Sand layer at bottom of sample.	
42									
44									



Project: Spear Street Slope Evaluation
 Location: Charlotte, Vermont
 Project No.: 6388.000

Log of Boring SH-1

Ground Elevation: 264.6 ± feet
 Datum: NAVD 1988

Sanborn, Head & Associates, Inc.

Drilling Method: Geoprobe® 7822 Track-Mounted Drill Rig - Rotary
 Wash w/ HW (4") Casing
 Sampling Method: 1-3/8" I.D. Split-Barrel Sampler, Automatic Hammer

Groundwater Readings

Date	Time	Depth to Water	Ref. Pt.	Depth of Casing	Depth of Hole	Stab. Time
09/17/24	08:30	19.5'	Ground Surface	4'	52' (Collapsed)	16 hrs.

Drilling Company: Platform, LLC

Foreman: M. Jordan

Date Started: 09/16/24

Date Finished: 09/16/24

Logged By: A. Lulias

Checked By: A. Coen

BORING LOG \\CONSERV\1\SHDATA\6300S\6388.000\WORK\LOGS\6388.00 LOGS.GPJ, 2017 SANBORN HEAD V1.GLB, 2017 SANBORN HEAD V1.GDT, 10/16/24

Depth (ft)	Sample Information					Stratum		Geologic Description	Remarks
	Sample No.	Depth (ft)	Spoon Blows per 6 in	Pen/ Rec (in)	Field Testing Data	Log	Description		
44	S-13	44 - 46	WOH/12 1 3	24/24				S-13 (44 to 46'): Very soft, gray, Silty CLAY. Wet. Approximate 3-inch Sand seam within sample.	
46							SILTY CLAY		
48									
50	S-14	49 - 51	WOH 8 3 3	24/24			-----49'-----	S-14 (49 to 51'): Stiff, gray, Clayey SILT, little Gravel, trace Sand. Wet.	Slight intermittent rig chatter from approximately 51 to 54 feet below ground surface.
52							CLAYEY SILT		
54	S-15	54 - 56	4 3 4 4	24/24			-----54'-----	S-15 (54 to 56'): Medium stiff, gray, Silty CLAY. Moist.	Slight rig chatter from approximately 56 to 59 feet below ground surface.
56							SILTY CLAY		
58									
60	S-16	59 - 61	4 5 9 8	24/24			-----59'-----	S-16 (59 to 61'): Stiff, gray, Silty CLAY, little Sand, trace Gravel. Wet. GLACIAL TILL.	Relative increase in rig chatter from approximately 61 to 69 feet below ground surface.
62							GLACIAL TILL		
64									
66									



Project: Spear Street Slope Evaluation
 Location: Charlotte, Vermont
 Project No.: 6388.000

Log of Boring SH-1

Ground Elevation: 264.6 ± feet
 Datum: NAVD 1988

Sanborn, Head & Associates, Inc.

Drilling Method: Geoprobe® 7822 Track-Mounted Drill Rig - Rotary Wash w/ HW (4") Casing
 Sampling Method: 1-3/8" I.D. Split-Barrel Sampler, Automatic Hammer

Groundwater Readings

Date	Time	Depth to Water	Ref. Pt.	Depth of Casing	Depth of Hole	Stab. Time
09/17/24	08:30	19.5'	Ground Surface	4'	52' (Collapsed)	16 hrs.

Drilling Company: Platform, LLC

Foreman: M. Jordan

Date Started: 09/16/24

Date Finished: 09/16/24

Logged By: A. Lulias

Checked By: A. Coen

BORING LOG \\CONSERV\1\SHDATA\6300S\6388.000\WORK\LOGS\6388.00 LOGS.GPJ, 2017 SANBORN HEAD V1.GLB, 2017 SANBORN HEAD V1.GDT 10/16/24

Depth (ft)	Sample Information					Stratum		Geologic Description	Remarks
	Sample No.	Depth (ft)	Spoon Blows per 6 in	Pen/ Rec (in)	Field Testing Data	Log	Description		
66									
68							GLACIAL TILL		
70	S-17	69 - 69.3	50/3"	3/3			-----69.3'-----	S-17 (69 to 69.3'): Very dense, gray, fine to coarse GRAVEL, trace Silt, trace Sand. Wet. GLACIAL TILL.	
72								Boring terminated at approximately 69.3 feet below ground surface due to split-spoon refusal.	
74								NOTES: 1. Borehole backfilled with drilling cuttings and finished to existing grade with an asphalt patch upon completion.	
76									
78									
80									
82									
84									
86									
88									



Project: Spear Street Slope Evaluation
 Location: Charlotte, Vermont
 Project No.: 6388.000

Log of Boring SH-2

Ground Elevation: 262 ± feet
 Datum: NAVD 1988

Sanborn, Head & Associates, Inc.

Drilling Method: Geoprobe® 7822 Track-Mounted Drill Rig - Rotary Wash w/ HW (4") Casing
 Sampling Method: 1-3/8" I.D. Split-Barrel Sampler, Automatic Hammer

Groundwater Readings

Date	Time	Depth to Water	Ref. Pt.	Depth of Casing	Depth of Hole	Stab. Time
09/17/24	---	No Reading Taken				

Drilling Company: Platform, LLC

Foreman: M. Jordan

Date Started: 09/17/24

Date Finished: 09/17/24

Logged By: W. Raboin

Checked By: A. Coen

BORING LOG \\CONSERV\1\SHDATA\6300S\6388.000\WORK\LOGS\6388.00 LOGS.GPJ, 2017 SANBORN HEAD V1.GLB, 2017 SANBORN HEAD V1.GDT, 10/16/24

Depth (ft)	Sample Information					Stratum		Geologic Description	Remarks
	Sample No.	Depth (ft)	Spoon Blows per 6 in	Pen/ Rec (in)	Field Testing Data	Log	Description		
0							---0'--- ASPHALT	(0 to 1'): ASPHALT.	
1	S-1	1 - 3	10 8 4 13	24/14			---1'---	S-1 (1 to 3'): Medium dense, brown, fine to coarse SAND, some Silt, some Gravel, trace Clay. Moist. FILL.	
2									
3	S-2	3 - 5	28 13 4 2	24/17			FILL	S-2 (3 to 5'): Medium dense, brown, fine to coarse SAND, some Gravel, some Silt, few Asphalt fragments. Moist. FILL.	
4									
5	S-3	5 - 7	11 5 4 3	24/10			---5'---	S-3 (5 to 7'): Stiff, brown, Silty CLAY, trace Gravel. Moist.	
6									
7	S-4	7 - 9	7 5 5 4	24/7				S-4 (7 to 9'): Stiff, brown, Silty CLAY, trace Sand, trace Gravel. Moist.	
8									Driller noted approximately 40 gallons of water lost when washing out the borehole between approximately 8 to 9 feet below ground surface. No water observed to seep from the adjacent scarp.
9	S-5	9 - 11	2 1 1 1	24/20				S-5 (9 to 11'): Soft, brown, Silty CLAY, trace Sand. Moist.	
10									
11	S-6	11 - 13	2 2 2 2	24/22				S-6 (11 to 13'): Soft, brown, Silty CLAY. Moist.	
12									
13									
14									
15									
16									
17									
18									
19	S-7	19 - 21	WOH/18 1	24/23				S-7 (19 to 21'): Very soft, brown to gray, Silty CLAY. Moist. Approximate 2-inch Sand seam within sample.	
20									Color change at approximately 20.5 feet below ground surface.
21									
22									



Project: Spear Street Slope Evaluation
 Location: Charlotte, Vermont
 Project No.: 6388.000

Log of Boring SH-2

Ground Elevation: 262 ± feet
 Datum: NAVD 1988

Sanborn, Head & Associates, Inc.

Drilling Method: Geoprobe® 7822 Track-Mounted Drill Rig - Rotary
 Wash w/ HW (4") Casing
 Sampling Method: 1-3/8" I.D. Split-Barrel Sampler, Automatic Hammer

Groundwater Readings

Date	Time	Depth to Water	Ref. Pt.	Depth of Casing	Depth of Hole	Stab. Time
09/17/24	---	No Reading Taken				

Drilling Company: Platform, LLC

Foreman: M. Jordan

Date Started: 09/17/24

Date Finished: 09/17/24

Logged By: W. Raboin

Checked By: A. Coen

BORING LOG \\CONSERV\1\SHDATA\6300S\6388.000\WORK\LOGS\6388.00 LOGS.GPJ, 2017 SANBORN HEAD V1.GLB, 2017 SANBORN HEAD V1.GDT, 10/16/24

Depth (ft)	Sample Information					Stratum		Geologic Description	Remarks
	Sample No.	Depth (ft)	Spoon Blows per 6 in	Pen/Rec (in)	Field Testing Data	Log	Description		
22									
24									
26									
28									
29	S-8	29 - 31	WOH/24	24/23			SILTY CLAY		
30								S-8 (29 to 31'): Very soft, gray, SILT & CLAY. Wet.	
32									
34							SILT & CLAY		
36									
38									
39	S-9	39 - 41	WOH/24	24/23					
40								S-9 (39 to 41'): Very soft, gray, CLAY & SILT. Wet.	
42							CLAY & SILT		
44									



Project: Spear Street Slope Evaluation
 Location: Charlotte, Vermont
 Project No.: 6388.000

Log of Boring SH-2

Ground Elevation: 262 ± feet
 Datum: NAVD 1988

Sanborn, Head & Associates, Inc.

Drilling Method: Geoprobe® 7822 Track-Mounted Drill Rig - Rotary Wash w/ HW (4") Casing
 Sampling Method: 1-3/8" I.D. Split-Barrel Sampler, Automatic Hammer

Groundwater Readings

Date	Time	Depth to Water	Ref. Pt.	Depth of Casing	Depth of Hole	Stab. Time
09/17/24	---	No Reading Taken				

Drilling Company: Platform, LLC

Foreman: M. Jordan

Date Started: 09/17/24

Date Finished: 09/17/24

Logged By: W. Raboin

Checked By: A. Coen

BORING LOG \\CONSERV\1\SHDATA\6300S\6388.000\WORK\LOGS\6388.00 LOGS.GPJ, 2017 SANBORN HEAD V1.GLB, 2017 SANBORN HEAD V1.GDT, 10/16/24

Depth (ft)	Sample Information					Stratum		Geologic Description	Remarks
	Sample No.	Depth (ft)	Spoon Blows per 6 in	Pen/ Rec (in)	Field Testing Data	Log	Description		
44									
46							CLAY & SILT		
48									
49	S-10	49 - 51	WOH/12 2 2	24/24				S-10 (49 to 51'): Soft, gray, Silty CLAY. Moist.	
50									
52									
54							SILTY CLAY		
56									
58									Driller indicated probable gravel seam at approximately 58 feet due to drill action.
59	S-11	59 - 61	2 1 WOH/12	24/24				S-11 (59 to 61'): Very soft, gray, Silty CLAY. Moist.	
60									
61									Boring terminated at approximately 61 feet below ground surface. No refusal encountered.
62									NOTES: 1. Borehole backfilled with drilling cuttings and finished to existing grade with an asphalt patch upon completion.
64									
66									

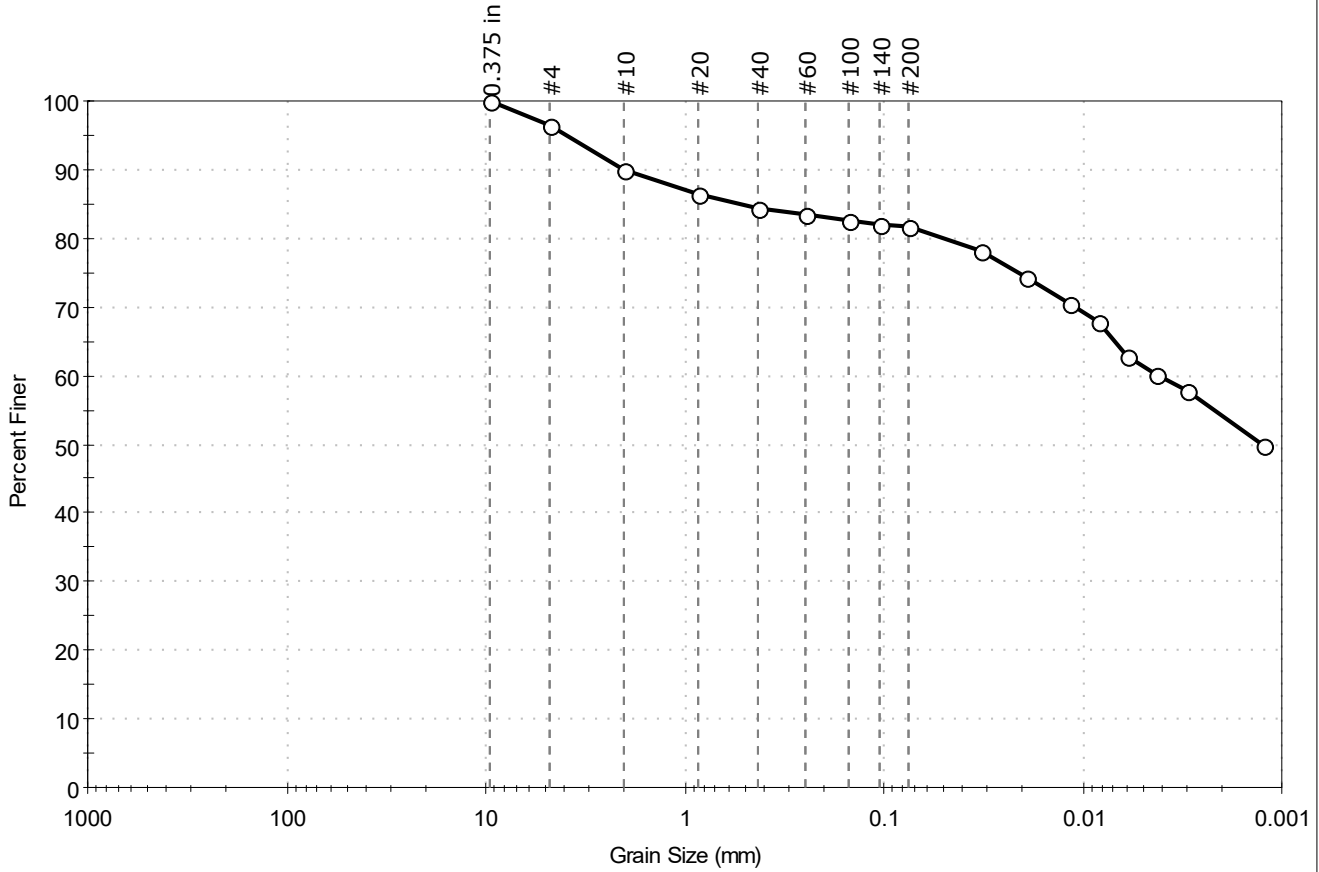
Appendix C

Geotechnical Laboratory Test Results



Client:	Sanborn, Head & Associates, Inc.		
Project:	Spear Street Slope Evaluation		
Location:	Burlington, VT	Project No:	GTX-319880
Boring ID:	SH-1	Sample Type:	Bag
Sample ID:	S-5	Test Date:	10/02/24
Depth:	9.2-11.2	Test Id:	787267
Test Comment:	---		
Visual Description:	Moist, brown clay		
Sample Comment:	---		

Particle Size Analysis - ASTM D6913/D7928



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	3.5	14.9	81.6

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
0.375 in	9.50	100		
#4	4.75	96		
#10	2.00	90		
#20	0.85	86		
#40	0.42	84		
#60	0.25	83		
#100	0.15	83		
#140	0.11	82		
#200	0.075	82		
Hydrometer	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0326	78		
---	0.0192	74		
---	0.0117	71		
---	0.0083	68		
---	0.0060	63		
---	0.0043	60		
---	0.0030	58		
---	0.0012	50		

Coefficients	
D ₈₅ = 0.5084 mm	D ₃₀ = N/A
D ₆₀ = 0.0041 mm	D ₁₅ = N/A
D ₅₀ = 0.0012 mm	D ₁₀ = N/A
C _u = N/A	C _c = N/A

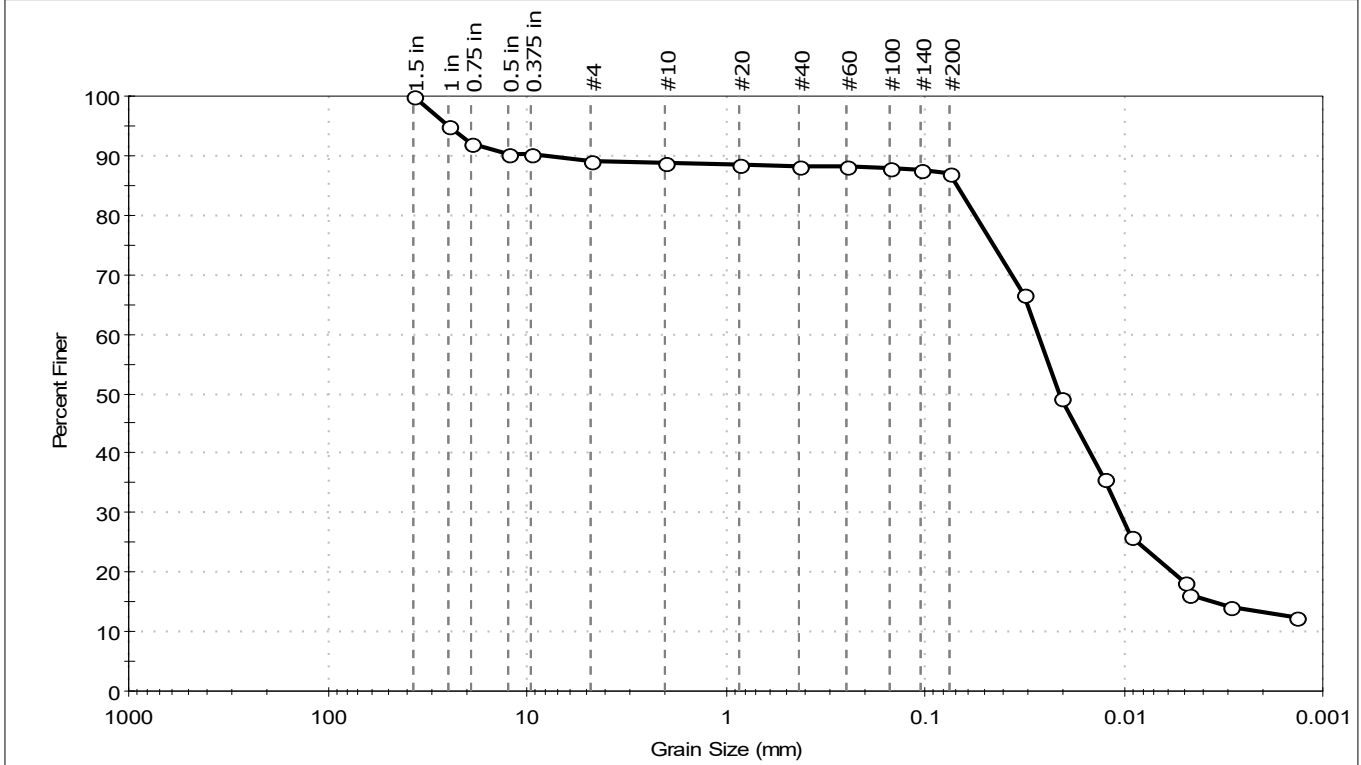
Classification	
ASTM	N/A
AASHTO	Silty Soils (A-4 (0))

Sample/Test Description
Sand/Gravel Particle Shape : ANGULAR
Sand/Gravel Hardness : HARD
Dispersion Device : Apparatus A - Mech Mixer
Dispersion Period : 1 minute
Est. Specific Gravity : 2.65
Separation of Sample: #200 Sieve



Client: Sanborn, Head & Associates, Inc.
 Project: Spear Street Slope Evaluation
 Location: Burlington, VT
 Project No: GTX-319880
 Boring ID: SH-1
 Sample Type: Bag
 Tested By: ajl
 Sample ID: S-14
 Test Date: 10/03/24
 Checked By: ank
 Depth: 49-51
 Test Id: 787268
 Test Comment: ---
 Visual Description: Moist, gray silt
 Sample Comment: ---

Particle Size Analysis - ASTM D6913/D7928



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	10.8	2.0	87.2

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
1.5 in	37.50	100		
1 in	25.00	95		
0.75 in	19.00	92		
0.5 in	12.50	90		
0.375 in	9.50	90		
#4	4.75	89		
#10	2.00	89		
#20	0.85	89		
#40	0.42	88		
#60	0.25	88		
#100	0.15	88		
#140	0.11	88		
#200	0.075	87		
Hydrometer	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0316	67		
---	0.0209	49		
---	0.0125	36		
---	0.0091	26		
---	0.0050	18		
---	0.0047	16		
---	0.0030	14		
---	0.0014	12		

Coefficients

D ₈₅ = 0.0685 mm	D ₃₀ = 0.0104 mm
D ₆₀ = 0.0270 mm	D ₁₅ = 0.0035 mm
D ₅₀ = 0.0213 mm	D ₁₀ = N/A
C _u = N/A	C _c = N/A

Classification

ASTM	N/A
AASHTO	Silty Soils (A-4 (0))

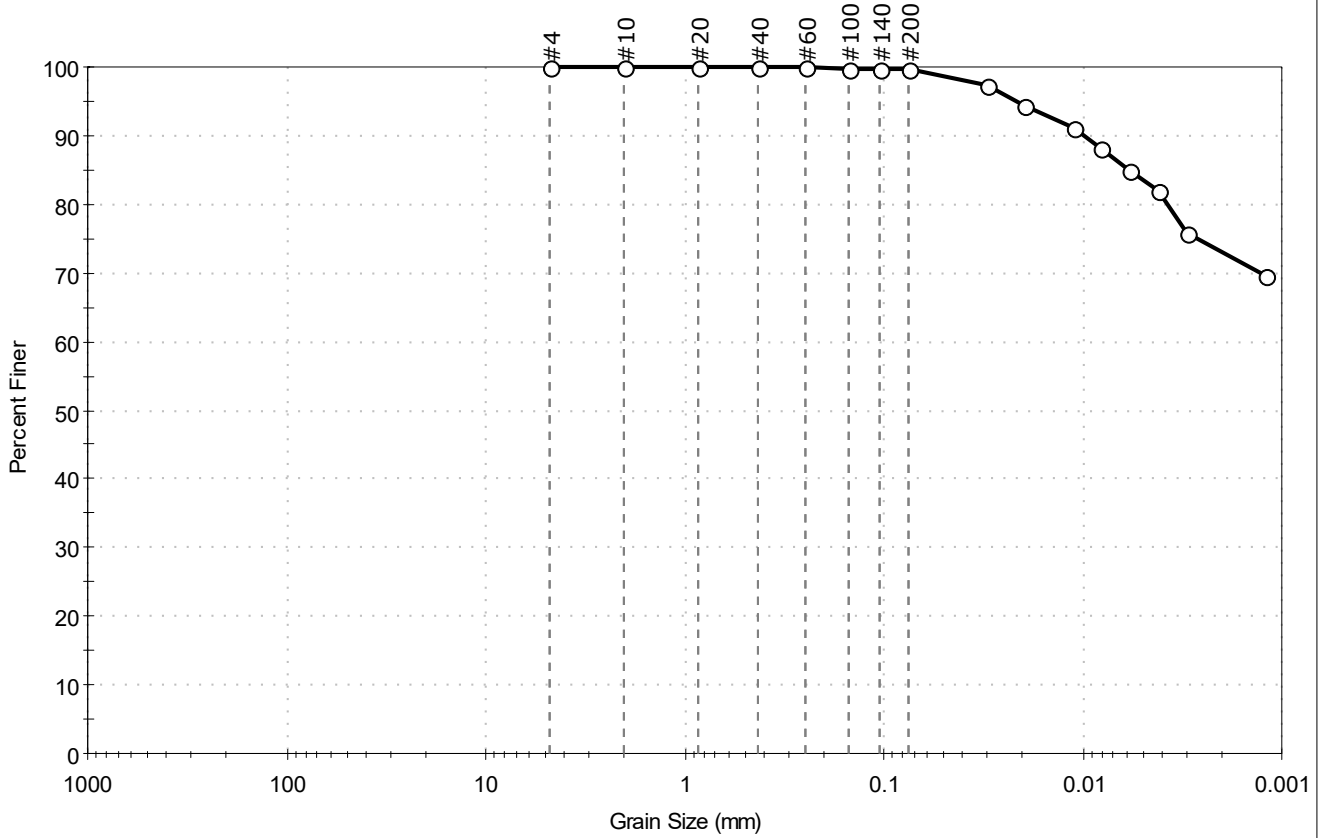
Sample/Test Description

Sand/Gravel Particle Shape : ---
 Sand/Gravel Hardness : ---
 Dispersion Device : Apparatus A - Mech Mixer
 Dispersion Period : 1 minute
 Est. Specific Gravity : 2.65
 Separation of Sample: #200 Sieve



Client: Sanborn, Head & Associates, Inc.	Project No: GTX-319880
Project: Spear Street Slope Evaluation	
Location: Burlington, VT	
Boring ID: SH-2	Sample Type: Bag
Sample ID: S-7	Test Date: 10/02/24
Depth: 19-21	Test Id: 787269
Test Comment: ---	Tested By: ajl
Visual Description: Moist, dark brownish gray clay	Checked By: ank
Sample Comment: ---	

Particle Size Analysis - ASTM D6913/D7928



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	0.4	99.6

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	100		
#60	0.25	100		
#100	0.15	100		
#140	0.11	100		
#200	0.075	100		
Hydrometer	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0304	97		
---	0.0198	94		
---	0.0111	91		
---	0.0082	88		
---	0.0058	85		
---	0.0042	82		
---	0.0030	76		
---	0.0012	70		

Coefficients	
D ₈₅ = 0.0058 mm	D ₃₀ = N/A
D ₆₀ = N/A	D ₁₅ = N/A
D ₅₀ = N/A	D ₁₀ = N/A
C _u = N/A	C _c = N/A

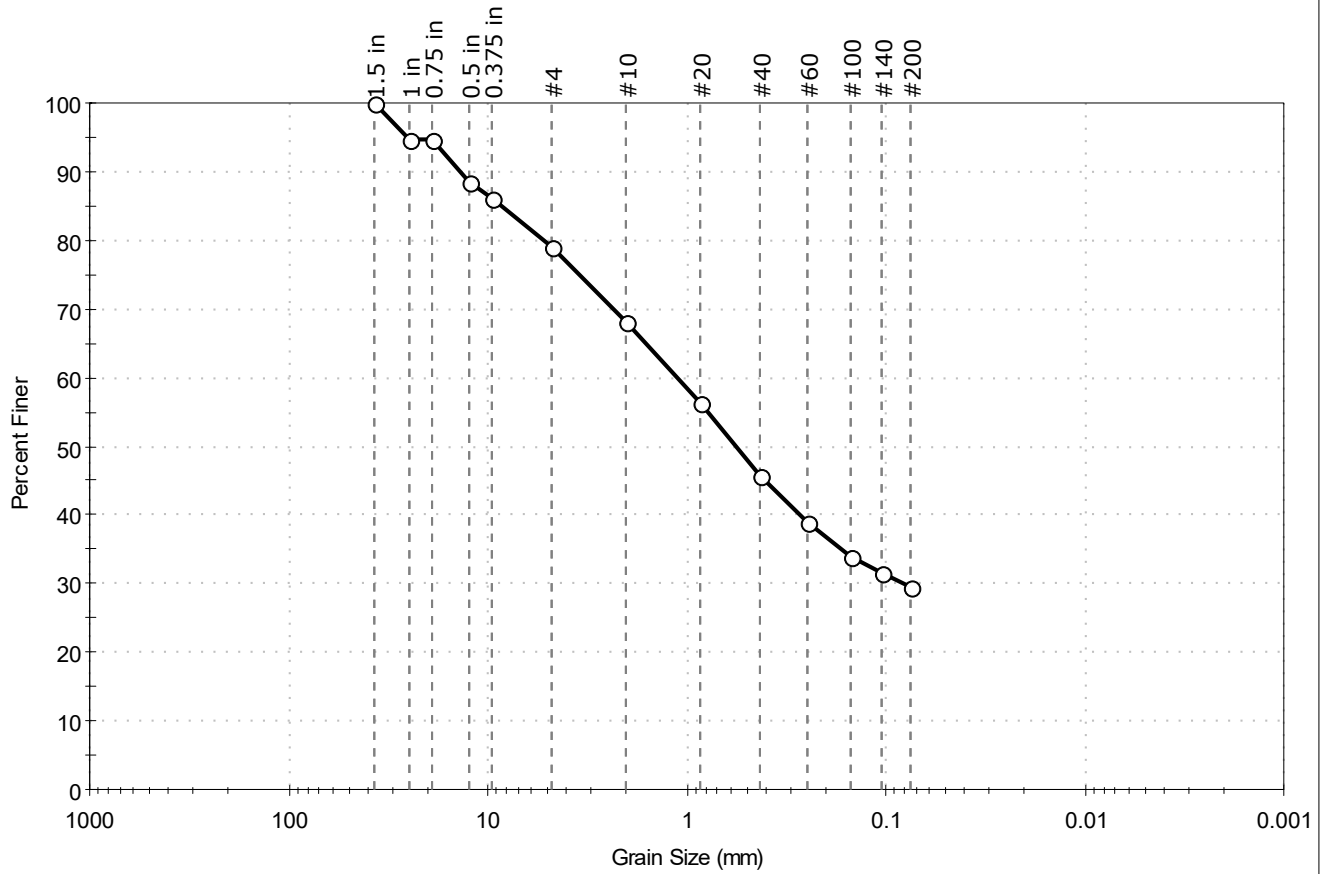
Classification	
ASTM	N/A
AASHTO	Silty Soils (A-4 (0))

Sample/Test Description
Sand/Gravel Particle Shape : ---
Sand/Gravel Hardness : ---
Dispersion Device : Apparatus A - Mech Mixer
Dispersion Period : 1 minute
Est. Specific Gravity : 2.65
Separation of Sample: #200 Sieve



Client: Sanborn, Head & Associates, Inc.	Project No: GTX-319880
Project: Spear Street Slope Evaluation	
Location: Burlington, VT	
Boring ID: SH-2	Sample Type: Bag
Sample ID: S-1	Test Date: 10/03/24
Depth: 1-3	Test Id: 787272
Test Comment: ---	Tested By: ajl
Visual Description: Moist, brown silty sand with gravel	Checked By: ank
Sample Comment: ---	

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	21.0	49.6	29.4

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
1.5 in	37.50	100		
1 in	25.00	95		
0.75 in	19.00	95		
0.5 in	12.50	89		
0.375 in	9.50	86		
#4	4.75	79		
#10	2.00	68		
#20	0.85	56		
#40	0.42	46		
#60	0.25	39		
#100	0.15	34		
#140	0.11	31		
#200	0.075	29		

Coefficients	
D ₈₅ = 8.4368 mm	D ₃₀ = 0.0830 mm
D ₆₀ = 1.1051 mm	D ₁₅ = N/A
D ₅₀ = 0.5589 mm	D ₁₀ = N/A
C _u = N/A	C _c = N/A

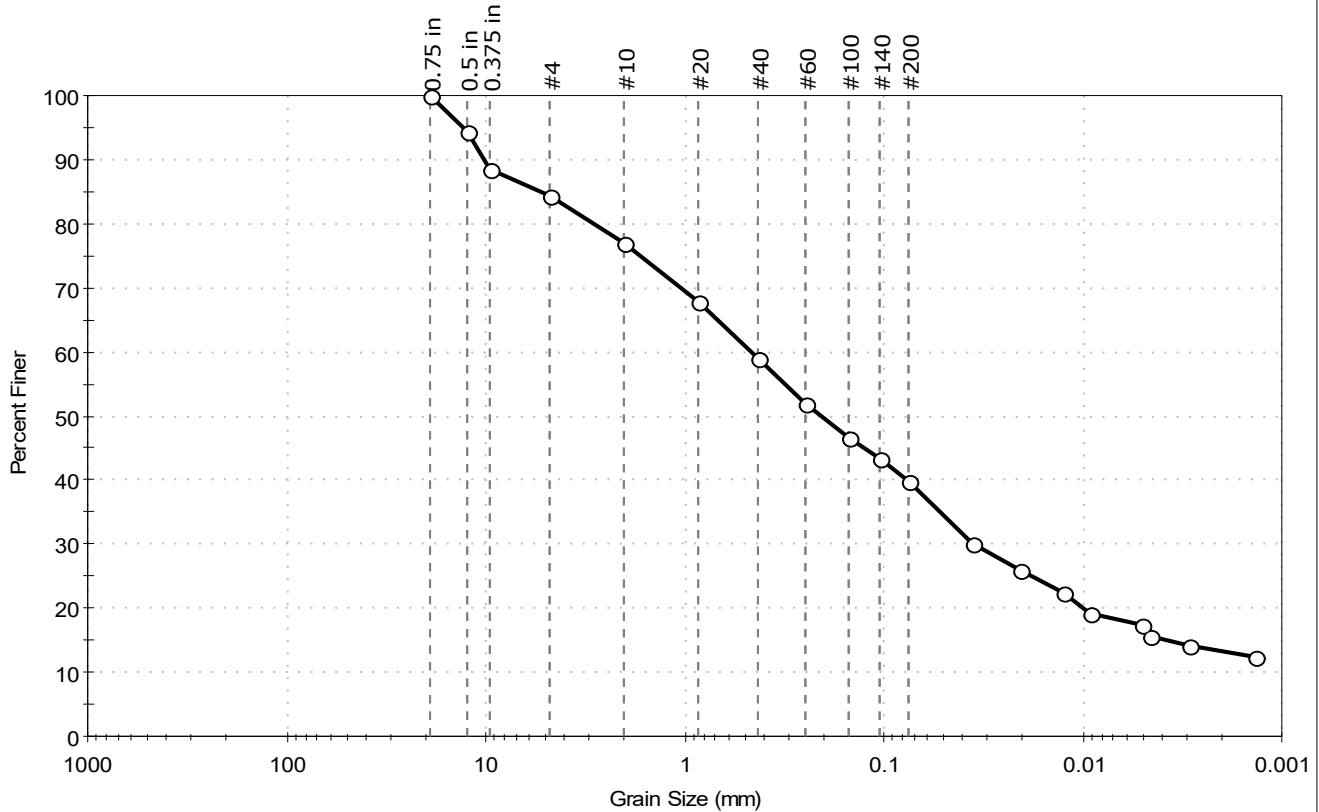
Classification	
ASTM	N/A
AASHTO	Silty Gravel and Sand (A-2-4 (0))

Sample/Test Description
Sand/Gravel Particle Shape : ANGULAR
Sand/Gravel Hardness : HARD



Client: Sanborn, Head & Associates, Inc.
 Project: Spear Street Slope Evaluation
 Location: Burlington, VT
 Project No: GTX-319880
 Boring ID: SH-3
 Sample Type: Bag
 Tested By: ajl
 Sample ID: S-3
 Test Date: 10/03/24
 Checked By: ank
 Depth: 5-7
 Test Id: 787270
 Test Comment: ---
 Visual Description: Moist, brown silty sand with gravel
 Sample Comment: ---

Particle Size Analysis - ASTM D6913/D7928



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	15.6	44.7	39.7

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
0.75 in	19.00	100		
0.5 in	12.50	94		
0.375 in	9.50	89		
#4	4.75	84		
#10	2.00	77		
#20	0.85	68		
#40	0.42	59		
#60	0.25	52		
#100	0.15	47		
#140	0.11	43		
#200	0.075	40		
Hydrometer	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0354	30		
---	0.0207	26		
---	0.0126	23		
---	0.0091	19		
---	0.0050	17		
---	0.0047	16		
---	0.0030	14		
---	0.0014	12		

Coefficients

D ₈₅ = 5.2203 mm	D ₃₀ = 0.0349 mm
D ₆₀ = 0.4592 mm	D ₁₅ = 0.0038 mm
D ₅₀ = 0.2066 mm	D ₁₀ = N/A
C _u = N/A	C _c = N/A

Classification

ASTM N/A

AASHTO Silty Soils (A-4 (0))

Sample/Test Description

Sand/Gravel Particle Shape : ANGULAR

Sand/Gravel Hardness : HARD

Dispersion Device : Apparatus A - Mech Mixer

Dispersion Period : 1 minute

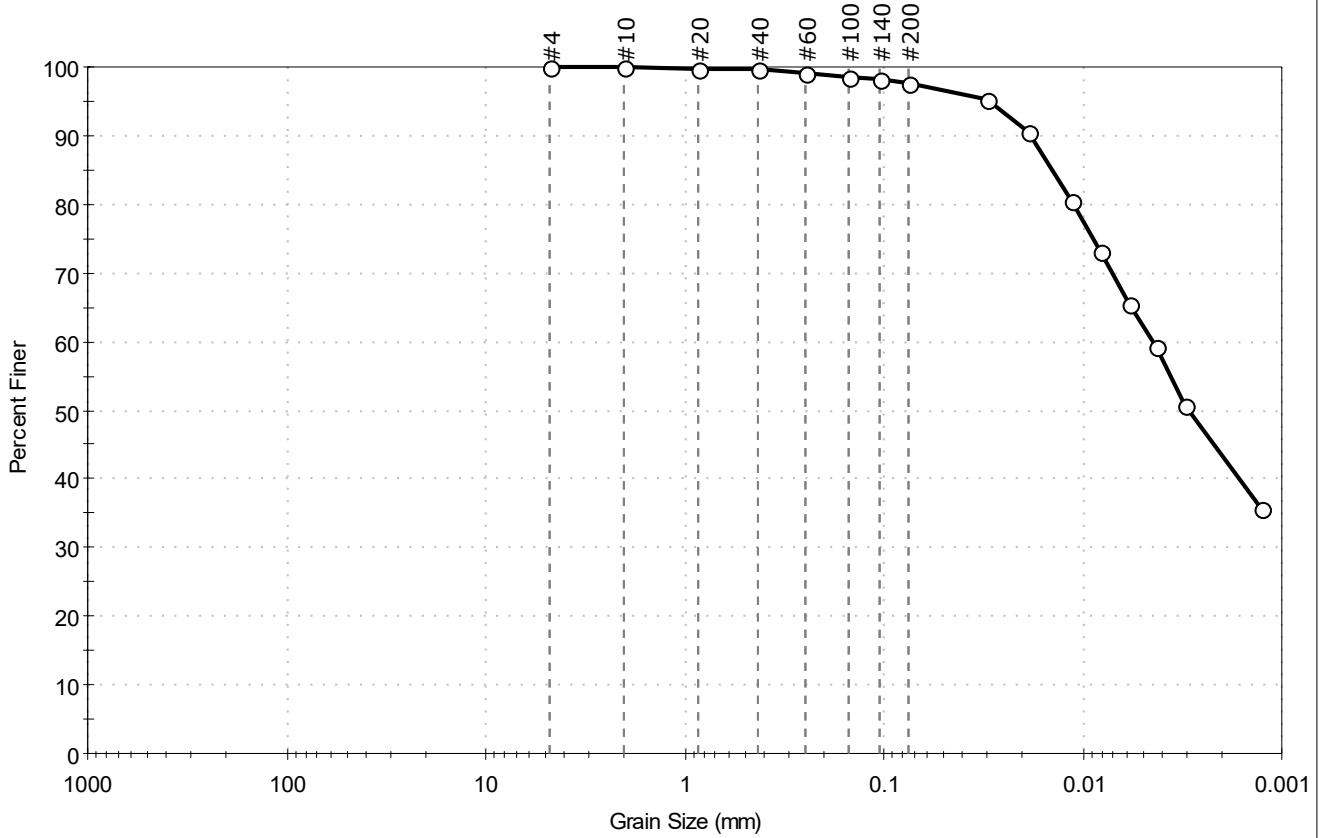
Est. Specific Gravity : 2.65

Separation of Sample: #200 Sieve



Client: Sanborn, Head & Associates, Inc.
 Project: Spear Street Slope Evaluation
 Location: Burlington, VT
 Project No: GTX-319880
 Boring ID: SH-3
 Sample Type: Bag
 Tested By: ajl
 Sample ID: S-5A
 Test Date: 10/02/24
 Checked By: ank
 Depth: 19-19.8
 Test Id: 787271
 Test Comment: ---
 Visual Description: Moist, gray clay
 Sample Comment: ---

Particle Size Analysis - ASTM D6913/D7928



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	2.5	97.5

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	100		
#60	0.25	99		
#100	0.15	99		
#140	0.11	98		
#200	0.075	98		
Hydrometer	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0305	95		
---	0.0190	90		
---	0.0113	80		
---	0.0081	73		
---	0.0059	66		
---	0.0042	59		
---	0.0031	51		
---	0.0013	36		

Coefficients	
D ₈₅ = 0.0143 mm	D ₃₀ = N/A
D ₆₀ = 0.0044 mm	D ₁₅ = N/A
D ₅₀ = 0.0030 mm	D ₁₀ = N/A
C _u = N/A	C _c = N/A

Classification	
ASTM	N/A
AASHTO	Silty Soils (A-4 (0))

Sample/Test Description
Sand/Gravel Particle Shape : ---
Sand/Gravel Hardness : ---
Dispersion Device : Apparatus A - Mech Mixer
Dispersion Period : 1 minute
Est. Specific Gravity : 2.65
Separation of Sample: #200 Sieve